CHAPTER I

THE PROBLEM

Introduction

The universal surge of progress in the second half of the twentieth century offers to education an inspiring challenge. In fact, manking is passing through profound changes caused by three main factors: the increase of population; explosion of knowledge and advances in technology; and political emancipation. This implies that many more people have to be educated for a continually increasing span of their lives so that they may absorb and benefit from an ever-expanding and changing body of knowledge.

In recent years, countries all over the world have experienced an increasing demand for education and for a better quality of instruction at all levels. The need for a reevaluation and reform of the school system has become particularly acute in developing countries of the Third World. These countries have traditionally used imported educational philosophies and techniques mostly to train relatively small, elite segments of their societies. Urged to make their system more democratic and more responsive to economic and social needs, the

Third World educational planners have attempted to improve their populations' over-all access to schooling and to enhance the quality of that schooling through curriculum reform and the incorporation of modern teaching methods. During the last decade, communication technologies, particularly, radio, films and television have become important in such programmes. They are being used to meet a variety of educational needs in and out of school. Specifically, they are being used to upgrade instruction, to train and orient teachers, to extend school, to support the teaching of literacy and fundamental education, and to offer adult education and community development information.

Among the communication technologies which have been termed as 'new media' by Schramm et al (1967), the most sought after is television. Television offers the greatest opportunity for the advancement of education since the introduction of printing by movable type (Poolock, 1957).

Television was first introduced in the schools of America in the 1940s, and in France and Britain in 1950s, partly because it was already available in the community and partly because there seemed to be a 'prima facie' case for its educational use (Allan,1975).

Within a span of about forty years, television has been utilised by developed as well as the developing countries in their educational system. The developing countries have seen the new media as a way to raise the quality of instruction faster than it could be raised by increasing and upgrading the teacher corps; to supplement even good teaching with learning experience which would otherwise be impossible to create locally; and to extend the reach of education to areas where schools and teachers are not otherwise available. India has also opted for television teachnology to achieve its educational objectives, including the universalisation of elementary education.

In India, television as part of All India Radio, made a beginning on an experimental basis on September 15, 1959 when the first Television Centre was commissioned at Delhi. From the very beginning the Government of India declared that television was to be used as a medium of social education and as an instrument to support the strategy and programmes of social and economic development. Specifically, the objective was to use it as a weapon against illiteracy and ignorance. It was stated, time and again that it would not be allowed to become the rich man's toy as it is in certain countries, but would be used almost

exclusively for the benefit of common man.

During the experimental phase the accent was mainly on education. Hence, social education programmes designed primarily for community viewing were telecast. Later, during January to March, 1960 experimental service for educational television was started. The regular educational service for schools in Delhi was, however, launched on October 22, 1961 by All India Radio in close collaboration with the Directorate of Education and with the financial assistance from Ford Foundation. In about 150 secondary schools, the programmes were viewed by about 20,000 students. The television lessons were so designed that the topic covered on television coincided with the subject area to be covered by the class teacher, during the corresponding week. Thus, all the schools equipped with television sets followed a uniform weekly syllabus, time table, etc. This television centered teaching resulted in many practical difficulties of coordinating the day-to-day activities of the school.

The establishment of a separate TV Branch of Delhi Directorate of Education, marked an important step in making educational television programmes more responsive to the academic needs. The TV Branch served as an important link between the television programme

producers and the academic side of television lessons. It organised work pertaining to planning, preparation, utilisation and evaluation of television lessons. It also provided help and guidance to teachers regarding use of programmes in schools. But the role of the TV Branch was confined to middle and secondary schools only.

For more than a decade, educational television did not see any expansion in any other state. Expansion started from 1972 onwards, when educational television programmes were telecast from Bombay and later by Madras and Srinagar stations of Doordarshan. At present, educational television programmes are also telecast from Jaipur, Raipur, Muzzafarpur, Hydrabad and Sambalpur.

All these years the elementary schools were totally ignored. Television came much later in the elementary schools. It was introduced for the first time in the country in March, 1975, by the Delhi Television Centre.* The educational television at the elementary level deals with enrichment programmes,

*With effect from April 1, 1976, Doordarshan was set up as an independent organisation and designated as Doordarshan, India.

unlike the secondary school programmes, which are curriculum based (All India Radio, 1975). The programmes are telecast twice a week and the duration of these programmes is limited to 20 minutes.

The total duration of the telecasting time for the elementary schools continues to be rather small. From the Delhi Doordarshan, on an average, 45 to 50 programmes are transmitted in a year. If they are shown regularly in the school, the total time works out to 16 to 17 hours. But in the schools, there is under utilisation of the medium (All India Radio, 1975; Delhi Doordarshan, 1982) and hence children's exposure to educational television programmes is rather limited.

A new era in the history of television in India started on August 1, 1975 with the major Space Application Project, Satellite Instructional Television Experiment (SITE), using the Application Technology Satellite 6 (ATS-6). India was the first country to use a direct broadcast satellite to reach remote villages directly with educational information. For one year during 1975-76, India conducted a pilot project, which was designed primarily to provide an opportunity for gaining and sharing expertise in handling daily operational problems related to satellite TV

hardware, programming, costs, and management on a small scale prior to launching its own national satellite for television, telephony, and meterology in future. The Satellite was made available by USA for one year for beaming instructional programmes for four hoursdaily to selected cluster areas comprising about 2400 villages in six states, namely, Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa and Rajasthan. In the morning the programmes were telecast for primary school children of the age group of 5 to 12 and in the evening social education programmes were telecast for adults. The SITE programmes for children were transmitted on each school day, for 22½ minutes. This meant exposure to educational television programmes for a longer duration. These programmes were not based on any school syllabus but were meant to provide general enrichment.

Another programme meant not for elementary school children but for elementary school teachers needs a mention. The SITE facilities were used for the training of elementary school teachers by Centre for Educational Technology of the National Council of Educational Research and Training (NCERT). A multimedia package was developed which aimed at improving the teacher competencies in pedagogy and content of

science (Mulay and Everest, 1975). Besides television, it utilised printed media, discussion and radio. In two such training programmes, about forty-two thousand teachers were trained.

Following the success of SITE in 1975-76, India decided to have a multi-purpose National Satellite of her own. The Indian National Satellite (INSAT-1) system represents India's first step towards this direction. The overall INSAT-1 system covers (1) the space segment and (2) the ground segment.

Space segment: The space segment consists of two identical satellites (Department of Space, 1983), one active and one spare, both in geo-stationary orbit. The first satellite, INSAT-1A, was put in orbit in April, 1982 and was made operational in August, 1982. Unfortunately, after working for a short while, it failed due to some technical snags though it was designed to have a life span of about seven years in orbit. The second satellite, INSAT-1B, was launched on 30th August, 1983. The INSAT-1B has been redesigned to overcome the snags which caused the failure of INSAT-1A. Originally, supposed to be a stand-by, the INSAT-1B will now be used as an active satellite.

Ground Segment: The INSAT-1 system is multi-purpose and has various capabilities, such as, telecommunication,

meterological observations, television and radio network. The television component is to be mainly used for educational purposes. It provides for covering the entire country through a network of Doordarshan Kendras and also by carrying TV programmes directly to remote rural areas by direct reception sets.

The study group of the Ministry of Education has planned the educational component of the INSAT. These programmes, which are presently under production, are intended for rural audience in the less developed areas of the country. The INSAT programmes "would perform the complementary functions to school education, so as to become an alternative system of education" (Working Group, 1980).

Even after the abandonment of the INSAT-1A, the programmes are being telecast through the ground transmission stations at Hyderabad and Sambalpur in Andhra Pradesh and Orissa respectively. Under the new scheme, there are separate programmes for 5-8 and 9-12 year old children, and for the primary school teachers. During SITE, there was a common programme for the children of 5-11 year age-group, and one of the lessons of the SITE was that there could not be a common programme for the children of this wide ranging age-group, and that the children in the younger age-group did not

benefit as much as the children in the older age-group. Also, there was no regular programme for the teachers during the SITE, although two in-service training programmes for the primary school teachers using television as one of the components of multi-media package were successfully organised during autumn and summer vacations in 1975-76. Under the new arrangements during the INSAT and subsequently through the ground transmission, the programmes for the children are daily telecast for five days a week, Monday through Friday, and once a week for the teachers on Saturdays.

From the brief history of television in India, it may be seen that educational television was started as a social education programme for adults. Then came the ETV for the secondary school students, and only recently, the attention has been devoted to elementary school children. Thus the pattern has been from adults to secondary schools and then to elementary schools, that is, from the older age-group to the younger age-group. This may be due to the realization of the great importance attached to elementary education in the recent past. The role of educational television in primary education has been further emphasized by the Working Group on Autonomy for Akashwani and Doordarshan (1978) and by the Working Group on Educational Technology set

up by Govt. of India (1978). According to this group:

> universalization of elementary education has the highest priority in educational plans. This would involve additional enrolment of 30 million children during the next five years, as against the normal addition of one million children per year. It will be difficult to achieve this target unless television is used on a massive scale both inside and outside the school system.

In India, educational television has been in use for more than 20 years and it is obvious that it has a great future. To utilise these media optimally it seems worthwhile to examine the problems of management, utilisation and coordination between producers and users of educational television programmes and analyse various aspects of its further development, especially the obstacles and impediments and how they can be resolved.

The obstacles opposing the development and successful use of educational television could be classified as institutional obstacles, pedagogic obstacles and technical obstacles.

Institutional Obstacles: In most countries the world of television and the world of school ignore ach other when they are not in competition. The structures, organizations and concepts of the two systems, when they do not come under the same authority, produce conflicting situations. A large number of education systems

follow well established school programmes and a compulsory curriculum. School television is frequently allergic to these programmes. It even refuses to adapt itself to this framework which it considers too rigid, too incompatible with its mission. This is where inadequacy applies. The planning of school television often takes place without the cooperation of the school authorities. It follows that two systems live side by side, without interference. A close world lives next to another.

These obstacles are however, less pronounced wherever the school television production organization forms part of the education system. But they do not disappear altogether, because this organisation always tends to form a little world of its own, with its ideas, its tendencies, its claims, and is reluctant to place itself at the service of the education authorities and always tries to achieve greater independence.

Pedagogic Obstacles:

The rigidity of time table: Broadcasts are transmitted on specific days and at specific times, in accordance with a previously published time table. But even in countries where the time table and school programmes are extremely rigid, it is impossible to time

all special subjects so as to coincide with the transmission times. However, this compulsion is less pronounced at the primary school level. Primary school teachers who are the sole masters in their classes, frequently adapt their time table to those of television.

The difficulty of fitting into modern teaching: As television is a one-way channel of communication, it has been criticised for making the children passive. This limitation of television is highlighted when contrasted with the creativity demanded by novel teaching methods. However, this limitation further reinforces the role of the teacher.

The insufficient use made by teachers: Every school broadcast must be prepared prior to viewing, and used afterwards. The accompanying documentation (if available) normally provides advice and suggestions in this matter. But, too often, the set is switched on, one looks and listens, and one passes to another exercise. These practices would not exist, if additional and more detailed training had first been given to enable teachers to learn how to use the media in the classroom.

Insufficiency of accompanying documentation: Some school organizations have a good supporting system. On the other hand, it is possible in some countries to speak of a mono-medium, the broadcast being transmitted

almost without logic support, which is a serious error. If the absence of accompanying documentation is due to financial reasons, it would be preferable to reduce the number of broadcasts and to reinforce the relevant documentation. This is the price one has to pay for the effectiveness of using television.

The lack of feedback: The school television organizations have set up some kind of feedback systems by making use of questionnaires, interviews or meetings with teachers. All these systems are, however, insufficient, and communication from the transmitter to the user is rather limited. Moreover, even if this feedback is relatively satisfactory, the time elapsing between reaction and effect, the modification of products, is far too long. A current series is normally not modified and allowance is only made for the reactions on the occasion of a repeat transmission or of another production. This limitation, in fact, is most serious. The producer and the broadcaster have therefore to be brought nearer to the user.

Technical Obstacles: Last but not the least, are technical problems related to maintenance of television set. In a number of developing countries electricity is not found everywhere. But even if electricity is available maintenance and repairs can in most cases not be performed on the spot. Hence, administrators should make arrangements

for setting up a maintenance and repair network.

There are great many obstacles on the road to useful and effective television but many of these obstacles can be overcome. For example, institutional obstacles can be overcome, if there is coordination between producers and users of school programmes as has been done in Samoa (1967) and Hagerstown (1967). The El Salvador experience (Mayo et at, 1976) with educational television provides an example of advance preparation of teachers in the effective use of television and also sending notes/teacher's guides to teachers before the telecast.

As far as technical obstacles are concerned, they are not so acute in developed countries as in the developing countries. But these obstacles can be overcome. In India during Satellite Instructional Television Experiment (SITE, 1975-76), a network of television repairing facilities was created in all the six clusters. These facilities included quick communication of TV breakdown and the immediate repair of television sets.

As regards, the rigidity of time table, it is already mentioned, that the primary school teachers frequently adapt their time table to those of television. The reason being that the elementary school teacher is

jack-of-all trades and, surprisingly enough, master of many of them. The list of his duties is a staggering one, and it has been said that the elementary school teacher needs the stamina of a mule and the arms of an octopus. Many elementary school teachers spend the day with one class often instructing the students in all the subjects, some of which the teacher may not be interested in or not even particularly suited to teach. Some help has come to such teachers from television (Hadd, 1971).

Primary school teachers do welcome educational television programmes. But for the proper utilisation of programmes, it is important that teachers should be appraised of the nature of telecast and their content in advance because indifference to this simple fundamental principle of television teaching has probably caused more disillusionment with and hostility towards instructional television than any other factor (Gordon, 1965).

Thus, many of the obstacles discussed above can be overcome, making it possible for the effective use of television for educational purposes. The long range effectiveness of educational television will, however, depend on the efforts made in this direction. The present study has been designed keeping in view some of

the above obstacles, especially the pedagogic one's.

Significance of the Study

Television has a dynamic potential for motivating and strengthening the learning process. For many, however, the 'how', 'what' and 'when' remain an enigma. Inspite of extensive experimentation in the use of educational television in the West and the availability of an abundance of written material on the subject, there is little agreement about the role of television in the school programme, the type of programming most desired, and the most effective means of utilising existing programmes.

In India educational television has been in use for more than two decades. But very few research studies have been conducted on effectiveness of educational television and on procedures adopted in utilising television for educational purposes. Hence a good deal of doubt remains as to how their potential is to be fully utilised.

As mentioned earlier, Delhi Television Centre was the first to start educational television programmes for primary school children. So far only two studies have been undertaken and both are status studies on the utilisation of primary school programmes, conducted by

All India Radio (1975) and Doordarshan Kendra, Delhi (1982). Now with the launching of INSAT-1B in August, 1983, it is expected that educational television would be utilised more and more for the education of primary school children. This investigation is undertaken to study the effectiveness of educational television as it is being used and to find out ways and means to improve its effectiveness.

To improve the effectiveness of educational television programmes, the pedagogic obstacles which have been taken care of in this study include; the difficulty of fitting educational television into modern teaching because of its passivity; insufficient use made by teachers; insufficiency of accompanying documentation and lack of feedback. These obstacles have been tackled in this study by training of teachers in the use of educational television, developing guidance notes on each of the programme and sending them to the teachers well in advance and providing feedback to producers and educational administrators for improvement and effective utilisation of educational television programmes.

The main purpose of the study is to give information to educational planners regarding the utility of educational television programmes on the educational development of children and also about the teaching

learning strategies which may reinforce instruction on educational television, to optimise the effect on the educational development of primary school children. This may also bridge the gap between producers and users of the educational television programmes by providing feedback to the producers and educational administrators on different aspects of the programmes for improving their effectiveness and utilisation. The feedback may also help producers to design and produce need-based programmes in future.

Findings of this study may interest teachers also. Their major concern is, students' learning. If such studies show any positive results, and the suggestions given by teachers are also taken care of by producers in the future programmes, it would create a positive attitude towards the educational television programmes. This will also give encouragement to teachers to conduct follow-up activities after the programme; which in turn may increase the effectiveness of these programmes. In this study the focus will be on primary school children and the problem would be stated as follows.

Statement of the Problem:

> "A study of the effectiveness of educational television on the educational development of primary school children."

In this study educational development will be confined to: language development, acquisition of information related to educational television programmes and scholastic achievement of primary school children at the fifth grade level.

Generally classroom activities are geared towards scholastic achievement. In this study besides scholastic achievement, other aspects such as, language development and acquisition of informations related to educational television programmes are also studied.

The basic language behaviour is determined by the family and immediate environment of the child. However, when the child goes to school, language development becomes the area of greater importance, for all learning takes place through language. Development of oral expression, vocabulary, listening comprehension and reading comprehension are important aspects of language acquisition. They help the child to adjust to the fast changing world around him and to social norms in the school, and in later life.

In the present age, there is a explosion of knowledge and the child has to learn to acquire information from different sources. Television is one such source. This study will delineate how much information is acquired through television. It is hoped that

exposure to educational television may contribute to the development of the three aspects mentioned above.

Objectives of the Study:

In the light of the significance of the problem, the objectives of the study were formulated as follows:

1. To study the effect of educational television on the educational development of primary school children in terms of:

- language development,
- acquisition of information related to educational television programmes, and
- scholastic achievement.

2. To study the effect of intervention programmes, that is, pre and post-telecast activities to be conducted by teachers along with educational television on the educational development of primary school children in terms of:

- language development,
- acquisition of information related to educational television programmes, and
- scholastic achievement.

3. To provide feedback to administrators and producers on different aspects of educational television programmes.

Formulation of Hypotheses

Keeping in view the above objectives, corresponding hypotheses were derived. The rationale for each hypothesis is stated below:

Hypothesis 1.1

With the combination of sight and sound, television is the most powerful communication instrument. Language is needed for communication. All television programmes, whether for language teaching or for enrichment of curriculum, provide opportunity for the development of language. Besides, they can also present a model language expression. Hence it was felt that educational television programmes will effect the language development of children. There is some evidence (Schramm et al 1961) that children profited in vocabulary, reading readiness, and scientific interest by viewing television programmes. Sachchidananda et al (1979) also found that the vocabulary of the students increased after viewing television programmes. It is felt that a large vocabulary is helpful in developing listening comprehension and also in understanding any written passage, that is reading comprehension. Taking these into account, it was felt that ETV (educational television) may affect the language development of children, specially, word meaning, verbal fluency, listening comprehension and reading comprehension.

This led to hypothesise:

> Children exposed to ETV programmes in schools will have higher language development than those who are not exposed to such programmes.

Hypothesis 1.2

Children acquire information from different sources but they remember television programmes longer than classroom events. Mc Luhan (1962, 1964) wrote about the difference in experience of receiving information from print or from visual codes. He pointed out that the experience of reading requires a linear input to the senses, as does also the experience of listening to language. Language flows consecutively, symbol after symbol, word after word, or word group after word group. One has to listen to all of a language unit before the total information emerges. Visual information, on the other hand, can be absorbed all at once, but visual impressions can not always be translated into words. What is transmitted to the right hemisphere of the brain (where nonverbal information is believed to be stored, verbal being stored in the left hemisphere) is undoubtedly associated with verbal information also, but the iconic impressions themselves are extremely vivid and resalient to loss. They can often be sharply recalled after many years. Hence, it was visualised that exposure

to ETV programmes would lead to acquisition and retention of information related to ETV programmes. This led to hypothesise:

> Children exposed to ETV programmes in schools will have higher information related to ETV programmes than those who are not exposed to such programmes.

Hypothesis 1.3

Television presents a wide range of novel, interesting auditory visual material to the child and is a rich source of knowledge supplemental to school curriculum. This medium which portrays happenings directly and dramatically, rather than indirectly or symbolically, has a tremendous impact on children. For children it is an exciting, dramatic, appealing, and hence, influential medium. Therefore, the development of this new medium of communication is of crucial significance for education. It can motivate the child, the key to learning. The educational television programmes telecast for primary school children were enrichment programmes which touch upon the common core of primary school syllabus. It was expected that these programmes would widen the horizon of the children, motivate and make them interested to learn more, which will be reflected in their achievement in school, in subjects like, Hindi, science and social studies.

Teaching is vastly facilitated by the medium of language, which is a medium of exchange. It was felt that the language development will also effect the scholastic achievement of children. This led to hypothesise:

> Children exposed to ETV programmes in schools will have higher scholastic achievement than those who are not exposed to such programmes.

Hypotheses 2.1, 2.2, 2.3

As is known from experience, the overall results and effectiveness of the instructional lessons are in the hands of classroom teachers. Utilisation of television lessons is a very important facet of the total learning situation. The classroom teacher is wholly responsible for the regular operation of the school television. He controls the channel at the receiving end. He decides if the lesson will be viewed or discarded, and through his attitude, student attitudes will be formed.

Lessons can be viewed with no classroom follow-up and be ineffective, or the classroom teacher can reinforce the televised materials on the level of individual student needs. Therefore, effectiveness of televised instructions depends largely on the cooperation and resourcefulness of classroom teacher. A mediocre TV lesson can be made effective through good classroom utilisation, just as a good television lesson can be weakened

by poor utilisation. Neither the classroom teacher nor television can be expected to maintain a consistently high level of performance, and each will have good and bad days. In combination, however, instructional television and the class teacher can reinforce one another and enhance the quality of learning (Mayo et al, 1976).

To achieve the best possible use of all kinds of interrelated learning experiences in terms of goals to be achieved, the medium has to be properly utilised at the receiving end. For this purpose the importance of sending advance information about the ETV programmes to teachers, advice as to how they should prepare the children for the programme and to follow it up has been emphasized by Schramm et al (1967), Shukla and Kumar (1977), Working Group (1978) and Gore (1979). Pre-telecast activities conducted by the teachers with students motivate the children before the programme and post-telecast activities reinforce the knowledge, skills and values, conveyed in the programme. According to Tarbet (1961):

> If the class has been prepared for viewing, many questions have been answered by the telecast. Others have been raised. The discussion may therefore be used to clarify points which have been presented. It may also be used to lead the students into new areas of thinking concerning the topic. The telecast may also furnish the students with ideas for various class projects. Very often the telecast may furnish the students with a new approach to the study of a problem and with new sources of information.

The teachers of experimental group II, that is, ETV group with intervention programmes were given brief training in the use of ETV programmes and guidance notes were sent to them for each of the programme by the investigator. These schools were also visited by her to see that the pre and post-telecast activities are conducted. It was felt that this will lead to proper utilisation of ETV programmes and there was a likelihood that this will effect language development, acquisition of information related to ETV programmes and scholastic achievement of children more than only viewing ETV programmes without any pre and post-telecast discussion, that is without intervention programmes. This led to hypothesise:

2.1 Children exposed to ETV programmes in schools along with intervention programmes will have higher language development than those who are exposed to ETV programmes without intervention.

2.2 Children exposed to ETV programmes along with intervention programmes will have higher acquisition of information related to ETV programmes than those who are exposed to ETV programmes without intervention programmes.

2.3 Children exposed to ETV programmes with intervention programmes will have higher scholastic achievement than those who are exposed to ETV programmes without intervention.

Hypotheses 2.4, 2.5, 2.6

The hypotheses 2.4, 2.5 and 2.6 were derived on the basis of first six hypotheses. It was felt that exposure to ETV programmes with intervention programmes would effect the language development, acquisition of information related to ETV programmes and scholastic achievement of children more as compared to non-exposure to ETV programmes. This led to hypothesise:

2.4 Children exposed to ETV programmes along with intervention programmes will have higher language development than those who are not exposed to ETV programmes.

2.5 Children exposed to ETV programmes along with intervention programmes will have higher acquisition of information related to ETV programmes than those who are not exposed to ETV programmes.

2.6 Children exposed to ETV programmes along with intervention programmes will have higher scholastic achievement than those who are not exposed to ETV programmes.