

Modasa Experiment: Distance Teaching Through Cable TV Network System

SOHANVIR S. CHAUDHARY

Reader, School of Education, Indira Gandhi National Open University, New Delhi-110068, India

SHAM BEHARI

DECU/ISRO, Ahmedabad

Developing countries may be suffering from lack of advanced technology for education. But they don't lag behind any country in using technology for entertainment. What is useful in the latter case can be creatively used for educational purposes too. The Modasa experiment as presented by Chaudhary and Behari would stimulate further thinking on using the available technological devices for didactic purposes in India. Modasa is a small town about 120 kms north of Ahmedabad in Gujarat.

1. INTRODUCTION

These days Cable TV (CATV) has become so central an issue that the Central Cabinet Committee of the Government of India met recently to discuss its regulation and came out with a policy guideline to use CATV for national goals. A Bill has been passed by the Parliament to this effect. It is presumed that the regulation would be to control the content of the programmes and not the system or enterprise so that it (CATV) can be used for national goals — socio — cultural and economic upliftment of the public.

CATV — a distribution system — has expanded dramatically all over the world in a relatively short span. Negrine (1985) who examined cable television and its future says:

Cable television systems today have an enormously increased capacity and the more technologically advanced broad band cable systems can even carry a variety of data and interactive services — a single wire network opens up a range of possibilities for mass and interpersonal communication (1985:1) 1.

At present, perhaps like many other countries, CATV in India is becoming a prominent source of entertainment services in urban areas. In other words, CATV has come to India to entertain affluent people. It started with watching video cassettes on hired VCRs (Video Cassette Recorders) to pass time at weekends for many families in the cities. Enterprising people started linking the households in compact areas through cable and feeding the domestic sets. Soon these cable networks mushroomed (Chandrasekhar 1992).

Herein lies the question — are CATV systems essentially for entertainment or are they primarily telecommunication systems which also offer entertainment services? The answer to this question lies in the preferences fixed by the society/country — the way it wants to exploit the potential of the system. There is no doubt that people desire more from CATV systems for

entertainment. At the same time there is no pressure group persuading either CATV operators or the Government to tap its potential for other telecommunication services. Perhaps ignorance about the potential of CATV systems and, of course, lack of initiative from enlightened public to exploit it for other purposes are the major reasons for CATV being used predominantly for entertainment all over the country.

CATV systems in India are owned and operated by the private enterprises without the funds from the government. That is, as they are privately funded, the government has no control or regulation on CATV operators in the country. The liberalisation policy of the present Government of India i.e. non-interventionist philosophy which encourages private enterprise, gave a further boost to CATV networking to spread/expand at a very fast pace in almost all the big cities. The future development of CATV networks in the country however depends on the public demand for communication in general and profit making by the operators in particular.

CATV network has not been exploited much for educational purposes. That is why its main objectives here so far remained to entertain people and to present information on current affairs. Some efforts are however being made in some developed countries to tap its potential for formal education. According to a report in the International Herald Tribune, The University of Maryland (USA) offers a programme for Bachelor's Degree via cable television which students may watch or tape (TOI 1993). The innovation is meant for job holding degree aspirants or those whose family responsibilities interfere with their regular study on campus education.

Unlike many European countries, it is interesting to note, that Japanese see CATV system as part and parcel of development towards the production and distribution of information. The Japanese show relatively less interest in CATV developments as a source of entertainment (Tracy 1985). They are more concerned with the use of CATV system for the creation of **Information Society**.

2. MODASA CATV

Realising the potential of CATV for teaching distance learners, a small experiment was conducted involving about 960 students, 20 academic counsellors and 3000 odd general public of Modasa — a town under Himatnagar Taluka, Sabarkanth district — located about 120 Kms north of Ahmedabad. It has more than forty two thousand population. It is the second largest IGNOU Study Centre in Gujarat region, located in the local college campus a substantial number of students (about 960) is enrolled for the Certificate programme in Food and Nutrition (CFN). An absolute majority of the students are housewives. CATV network was conducted jointly by the Development and Educational Communication Unit of ISRO and the Indira Gandhi National Open University. The CATV network was used in an interactive mode: two-way audio and one-way video communication. While a number of national and regional level educational experiments have been conducted using satellite — based interactive networks, the Modasa experiment is the first experiment in the country conducted on a cable TV network.

It is pertinent to mention here that the cable network operating in Modasa and covering about three thousand households was already transmitting educational programmes produced by IGNOU for its students. It was therefore considered most appropriate to conduct an experiment by augmenting the existing cable network, to provide a teaching-room from where distance teaching (more specifically academic counselling) was conducted by the local academic counsellors engaged by IGNOU for the CFN students. The students spread over the network could ask questions, and discuss their problems through an audio system.

The Modasa cable TV experiment was conducted from April 12-18, 1993 jointly by Development and Educational Committee Unit (DECU) and Indira Gandhi National Open University to examine the feasibility and pedagogical effectiveness of an existing cable network in an interactive mode.

3. OBJECTIVES

The cable TV network, as mentioned earlier, is growing at an unusually high speed and so is the telecommunication and its value-added services. Such a change in communication scene in the country necessitated to explore the possibility of using CATV interactive network system for education and training. The experience gained through such an effort was helpful in designing satellite-based interactive and integrated broadcasting network system in the country. Therefore, one of the main objectives of the Modasa CATV experiment was to understand/gain insight for a big experiment conducted by IGNOU in collaboration with ISRO using INSAT-2B for networking in October 1993.

Additionally, the IGNOU students could have counselling — academic and non-academic — at their own

residences. It was observed that some students, particularly women, in the town had domestic responsibilities and social taboos which allow them to find spare time and attend regular counselling sessions at the local IGNOU Study Centre. Moreover it was also observed that some students had problems in understanding the subject matter on their own. Moreover, IGNOU has been endeavouring to introduce a whole range of advanced communication technology for its students, for which it needed practical experience to implement its schemes.

In precise terms the objectives of the experiment were as follows :

- To find out the advantages and limitations of cable-based interactive network system when used as a tool for distance teaching.
- To examine the effectiveness of the system as an instructional and interactive medium.
- To gain experience in the development, management and testing of interactive network system.
- To gain insight into the organisation and technical constraints and problems in operationalising the system on a large scale at IGNOU.

4. THE NETWORK

The experiment was conducted from the cable feeding point converted into Studio-cum-Teaching End (STE). This conversion of the cable feeding point in the STE was simple and **zero-cost project** which was within the reach of every cable TV operator. This was done by adding a VHS camera, a few lights (we used 10 ordinary neon tubelights in this experiment), a VCR, one telephone, an audio interface devised by the scientists of DECU/ISRO, and a switch between the microphone and the telephone. A ordinary water-cooler was used to keep the STE cool. The emphasis here is that the studio was just a make-shift one and did not have the fancy of ultra-modern electronic gadgets generally associated with a television studio.

In this system the educational programmes were distributed through a local cable network system and received at six different locations — known as learning Ends — besides 3000 odd households where the students along with other viewers watched the presentations. All the Learning Ends were accessible within 2 km. from the STE. The students interacted with the experts at the STE on a audio channel via a normal public telephone system available with the CATV operator. The experiment network configuration is shown in Figure 1.

A learning situation was simulated by locating a group of students at the STE. In order to further create a favourable situation for group discussion, six (excluding one at the STE) select groups of students were located at different points on the network, known as learning ends. Thus, there were two types of learning ends: One, specially organised group viewing at some specified venues and second domestic viewing where other students along with general public watched the presentation-cum-discussion sessions. General public remained naturally scattered on the cable network.

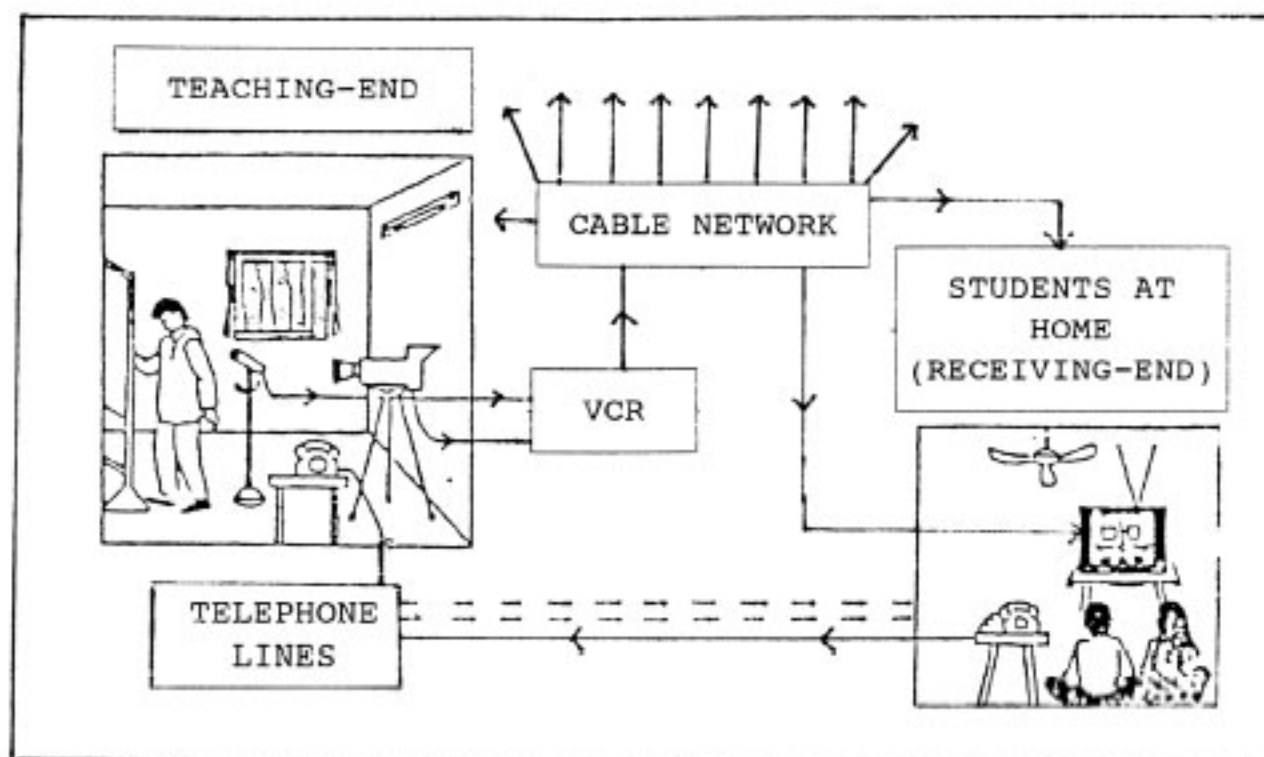


Fig. 1 : Experimental Configuration

5. TIMINGS

The schedule of the CATV network experiment was as follows:

- i) Revision of the previous day presentation (except for the first day) 3.46 - 4.00 p.m.
- ii) Session I 4.00 - 4.40 p.m.
- iii) Tea Break 4.40 - 5.00 p.m.
- iv) Session II 5.00 - 5.40 p.m.
- v) Repeat of Sessions I & II 9.30 - 10.50 p.m. (One-way only)

6. METHODOLOGY

The experiment was conducted through lectures followed by discussion. The lectures were supported by graphics, charts and audio-visual components. As mentioned earlier, the mode of discussion was through public switched telephone system. The live participatory counselling sessions were recorded and later played back as 'repeat' for those students who missed the actual counselling sessions. The students who did not have access to a telephone were able to ask their questions through hand delivery. The facility to collect students questions/queries was available at the STE.

To make the system more personalised and interactive, the experts gave assignments on CATV network to the students to work on. The completed assignments were received through hand delivery from the student. These were evaluated the following day and the overall performance of the students was discussed on the network system. All this was expected to compress the learning time and therefore to decrease the dropout rate and improve the performance of the students.

The experts presented the sessions in local language (Gujarati) to put the students at ease.

7. THE PROGRAMME STRUCTURE

The subject areas selected for the experiment were:

- Food & Nutrition Programme of IGNOU which was a major component
- Communication skill development (English) — General Programme
- Career counselling — General Programme

The Food & Nutrition Programme has a general appeal to all and has a special relevance for IGNOU students who are enrolled for **Certificate Programme in Food & Nutrition**. Since a large group of female students who are enrolled in this programme were local and majority of them incidentally were located on Modasa CATV network, the area of food and nutrition had therefore, been chosen for the experiment.

In addition to the academic course, an application oriented programme was also selected for this experiment. Moreover, the young students would be looking for guidance on career opportunities after their examinations are over and as such, they would like to improve their communication skills which would help them in preparing for various competitions and facing interviews.

The approach adopted in handling these topics was also the same as in counselling sessions: problem solving/functional approach. This way of counselling, unlike teaching, was expected to generate a learning atmosphere, demanding more involvement on the part of the students and creating a climate which helped them in clarifying their doubts/resolving their queries.

A special session for the local academic counsellors and general public was conducted by the IGNOU faculty on tour from the headquarters and the faculty at the Regional Centre, Ahmedabad. A variety of questions were asked about distance education system in general and

about IGNOU in particular. The participants were located at their home or work place.

8. RESEARCH AND EVALUATION

The Social Research Group of the Space Applications Centre, Ahmedabad (Trivedi and Sinha, 1993) conducted an observational study and interviewed the participating agencies. Besides, IGNOU faculty and mediapersons interviewed a selected group of students at different Learning Ends. The research study was conducted to validate the functioning of hardware, and to the reactions of the participants about the effectiveness of CATV as a distance teaching tool. The following are the major findings:

- The cost for the experiment was very low. The experiment went off well without major technical problems, and the cable operator found the system easy to manage and operate.
- Awareness about the conduct of the experiment was very low among the public in general and the students in particular. As a result, viewing of the programmes on private sets was found low in the beginning of the experiment. Women of TV owning houses, who did have telephone connection at home, preferred to see the sessions at their own houses rather than going to the Learning Ends and participate in telephone talk back. Thus as the experiment progressed, the attendance at the Learning Ends went down while more individual sets were switched on for viewing the programmes. On the last day of the experiment the attendance at the learning ends went very low and the participants moved to their own sets at their work place or house. In other words, majority of the participants preferred to view the programmes at their house.
- The number of the participants varied from four to eleven at each Learning End.
- The 20 minute presentation was found appropriate by the students but the subsequent 20 minute discussion was felt to be too short. The participants demanded more time for discussion and question-answer.
- The software part of the experiment needed a serious planning. Repetition of content, frequent changes in programme schedules, etc., caused inconvenience to the participants. Information in this regard was not communicated to them. On the basis of the observations and the reactions of the participants, the researchers concluded that a properly planned and managed system would have great potential for educational communication.

The cable operator was not in a mood to use the network for topics such as consumer education which, to him, might create problem/tension between the projected scenario and the prevailing situation in the society. Shopkeepers/traders/businessmen who constituted a good chunk of the subscribers of the cable TV connections would not like to get their 'interest' harmed by educating

people about consumerism.

After the visiting area and interviewing a cross section of the participants and the personnel involved in the conduct of the experiment, Ambegaoker (1993) reported that the innovative experiment was so popular that for a week concluding on April 18, 1993 'the people of this town were glued to their television sets for nearly one hour every day during the afternoon hours, keenly viewing and participating in the programme. The educated house-wives who were not even the students of the CFN programme of IGNOU found the sessions very useful. They could know something about food and dietary habits. Some of them called the telecast as 'nutritious programmes'. The popularity of the programme, according to Ambegaoker, reflected the fact that one of the students'/viewers' maid wanted to go to her house earlier everyday as some programmes on food and nutrition are being shown on cable television. This showed the situational (physical) impact of the programmes on the viewers.

9. IMPLICATIONS

Not a great deal has been done to use CATV to learning in this experiment. However, there can be no two opinions about the potential of CATV to overcome spatial distance between the teacher and the students and make teaching-learning process more live, interesting and individualised. CATV therefore, can be exploited as a potential means to support students' studies.

We want to place on record that this experiment does not attribute any 'magical qualities' to technologies in education but does recognise the sound educational potential it (CATV) can provide. It can provide a student/trainee with complete problem solving simulation afforded by the well designed instructional materials. As this system matures and comes into more common usage, more effective instructional designs/models will surely be developed.

One of the objectives of this experiment was to gradually operationalise the CATV network for educational purposes on regular basis. In this regard the Coordinator, Modasa Study Centre, under the guidance of the Managing Committee of the local educational institutions would collect nominal fee from every student/viewer on CATV network. A portion of the fee thus collected would be given to the cable TV operator and the rest would be used for production of programmes and implementing interactive communication. It has also been decided that besides IGNOU programmes, other areas such as teaching English (as Gujarati students face problem in using English) and general knowledge will be catered through CATV network system. More need-based programmes can be identified and shown once the system is operationalised.

The experiment will be a milestone in operationalising CATV network system for education and training use.

The popularity of the experiment motivated more and

more cable operators to use CATV network system for educational purposes too. In turn, their enthusiasm motivated DECU and IGNOU to think about the effective use of the system for education and training in different parts of the country. In this regard one more experiment was conducted by DECU in Ahmedabad. The experiment was aimed at developing entrepreneurial skills in

women. 1500 odd women entrepreneurs participated in CATV-based two-way network system. It has been reported by the organiser that the participants came with a number of questions and queries to discuss with the experts at the teaching end. In other words, CATV experiment at Modasa is being proved a viable educational technology in the Indian context.

REFERENCES

- Ambegaoker "Independent TV Station through Innovation", *The Times of India*, Ahmedabad edition, April 23, 1993.
- Chandrasekhar, B.S. (1992) "Doordarshan, Cable and Satellite Television: A Status Report", *ICCTR Journal*, Vol. IV (1-2), 1992.
- Negrine, R.M. (1985) *Cable Television and the Future of Broadcasting*, Croom Helm, London.
- Pass Class (a Reporting item), *The Times of India*, May 10, 1993.
- Tracy, Michael (1985) "Television and Cable Policy in Japan: An Essay", in *Cable Television and the Future of Broadcasting*, R.M. Negrine (Ed.), Croom Helm, London.
- Trivedi, Bela & Sinha, Arbind (1993) *Study on Interactive Network of Cable TV for Distance Learning*, Mimeograph, Space Applications Centre, Ahmedabad.