

## CHAPTER V

### SUMMARY

#### The Problem

Within a span of fifty years, the television technology has been utilized by developed as well as developing countries in their educational systems. The first television experimental service in India started in September, 1959 in Delhi. It was directed towards social education programmes. This was followed by the Delhi School Television Project. In March, 1975, instructional television was introduced at the elementary school level.

Significance: With the expansion of television, it becomes necessary to know the effectiveness of the instructional television programmes in the school situation. Impact studies particularly at the elementary school level and among the rural children could be of considerable importance to educational planners, in view of the national goals of education. Such studies could provide useful feedback to television producers and teachers alike.

The Problem: To identify the problem, a review on the television's impact was carried out. It provided the information regarding the ground covered by various investigators, concerning the television's impact in relation to school learning, violence and aggressive behaviour, prosocial behaviour, and other related areas. It also brought out the limited research undertaken within the country. The review provided some lead, to explore, those unintended but desirable outcomes of the school television programme, which have not received much attention. The focus was kept on the elementary school children in the rural setting. The problem was stated as:

"A study of the impact of instructional television on the behaviour of the rural elementary school children".

Objectives: To study the impact of instructional television on the rural elementary school children, with reference to : (1) curiosity behaviour, (2) creative behaviour, (3) language behaviour and (4) attitude towards school. And to further study the combined effects of (5) instructional television and intelligence; and (6) instructional television and caste on the above-mentioned behaviours.

Formulation of Hypothesis: Four behavioural areas were

identified in which the impact was visualized. These areas were: (a) curiosity behaviour, (b) creative behaviour, (c) language behaviour, (d) attitudinal behaviour. The importance of nurturing these behaviours cannot be ignored, particularly in the school situation. Curiosity plays an important part in motivating self-learning and self-discovery. The importance of creative behaviour is well recognized in modern society. Language is a powerful tool of expression and communication. Positive attitude towards school go a long way in moulding child's academic life.

Television is a powerful medium. It presents novel and interesting, but sometimes complex material before the child. The content covered is also wide. It stimulates his imagination and fantasy. It is a rich source of knowledge supplemental to school curriculum. It provides a model of language expression. Children above all find television interesting and enjoyable. These factors led to hypothesise the following:

When compared with the children not exposed to instructional television

1. Children exposed to instructional television will tend to be more curious.
2. Children exposed to instructional television will tend to be more creative.

3. Children exposed to instructional television will tend to differ on language expression.
4. Children exposed to instructional television will tend to show more favourable attitude towards school.
5. Intelligence and instructional television together will influence the behavioural variables under consideration.
6. Caste and instructional television together will influence the behavioural variables under consideration.

### Methodology

Design and Sample: The present study was undertaken with reference to the rural television schools of the Union Territory of Delhi. The "Post-test-only control group design" was followed.

The study was restricted to Delhi Municipal Corporation's elementary schools for boys, located in the rural areas. The inspectors of schools helped prepare two lists of equated television and non-television schools. In the first stage of the sampling, from each list 9 television and 9 non-television schools were randomly drawn.

In the second stage of the sampling, in each school, all the fifth-grade children were clubbed together and redivided into 3 caste categories; and from

each of these three caste categories, 4 children were randomly drawn. In this manner a total of 216 children were randomly drawn from 18 schools.

Thus, at two places the principle of randomization was applied, while selecting the schools, and while selecting the children. Management, grade, and sex, were already controlled. Caste factor was also equated in both the samples.

Research Tools: Nine tools were used to collect data on different variables. Of these, five were specifically constructed for the study, two were adapted, and two were used as they were. The tools and the different measures derived from them are listed below:

1. Curiosity Box: (tool developed), Time, Things, Questions.
2. Curiosity Cards: (tool developed), Curiosity Index.
3. Inquiry Card: (tool developed), Meaningful Questions.
4. Instances Procedure: (tool adapted), Number, Uniqueness.
5. Picture Construction: (tool adapted), Fluency, Originality, Flexibility.
6. Fluency Test: (tool developed), Language Fluency.
7. Refinement Test: (tool developed), Language Refinement.

8. Attitude Towards School Inventory: Attitude, Motivation.
9. Raven's Coloured Progressive Matrices: Intelligence.

These tools are briefly described below:

1. Curiosity Box: The Curiosity Box consisted of thirty novels, peculiar and puzzling articles, as judged by the three judges. These were put in a wooden box. The child was asked to open the box and see the contents. Time taken to see the box, the number of things taken out for examination, and the number of questions asked were recorded. Thus, three measures obtained were, time, things and questions. The split-half, reliability was worked out. The reliability was found to be .82 for time, .87 for things and .73 for questions measure.

2. Curiosity Card: A set of 28 coloured pictures of animals was developed. The cards were of two types: cards of normal animals, like horse, cow, etc. and the cards with incongruous or absurd animals. The incongruous animals contained characteristics of two animals combined into one, like the horse with a body of parrot. Both these two types of cards were mixed in a particular order. The child was given the complete set and was

asked to see the cards. The excess time a child took to see the incongruous cards over the normal cards, constituted the curiosity index. The split-half reliability was found to be .91.

3. Inquiry Card: Two pictorial situations were standardized. The child was told to give as many inquiring questions as he could concerning the pictures, within 5 minutes. If the questions could be answered by looking at the picture, they were classified as superfluous, and were not considered. But if it was not possible to answer the questions by looking at the pictures, they were classified as meaningful and were scored. There were two pictures in the test. The reliability was found to be .73 by correlating scores on these two pictures.

4. Instances Procedure: This is a test of verbal creativity and was taken from Kogan and Wallach's (1971) battery of creativity test. The test was used in a group situation. The test required the child to name as many instances of a particular class as possible, within 5 minutes. The responses were scored for: number and uniqueness. The split-half reliability was found to be .81 for numbers and .60 for uniqueness.

5. Picture Construction Test: The test was on patterns of similar non-verbal procedures used by Torrance (1966) and Mehdi (1973). Sets of triangles and ellipses were provided, and the child was told to develop pictures using these figures. A time limit of 10 minutes was given for each set of figures. The test was scored for fluency, originality and flexibility. Reliability was found to be .93 for fluency, .61 for originality, and .78 for flexibility.

6. Language Fluency Test: The test consisted of a picture, standardized as a stimulus. The child was required to describe the picture in full sentences within 2 minutes. The total number of words used constituted the fluency score. The test-retest reliability was found to be .86.

7. Language Refinement Test: The test consisted of 15 pairs of sentences. In each pair both the sentences were alike, except that they used a key word which differed in each. One key word was from standard Hindi and the other one, similar in sound, from local usage. The items were orally presented in a group situation and the child was required to identify the better of the two pronunciations. Standard Hindi was taken as criterion of refinement. The split-half reliability was found to be .75.

8. Attitude Towards School Inventory: The inventory was originally developed and used for an international survey. The inventory had 24 items and give two measures, namely: attitude towards school and motivation in learning. The split-half reliability of the instrument was reported to be .79.

9. Raven's Coloured Progressive Matrices: The test was used to estimate the level of intelligence and to equate children or to divide them into groups.

Treatment: The treatment consisted of the exposure of instructional television programmes. These programmes were telecast, twice a week, from the Delhi Television Centre, and were of twenty minutes duration. The exposure of instructional television programme during the two previous years, as also during the part of the current year of data collection, was taken into consideration. During this period, an exposure of approximately 120 transmissions took place. The exposure was allowed to operate in a normal manner. The entire treatment was taken as a package and it was received by children in a group situation.

Data Collection: A uniform testing procedure was adopted, in both, the treatment and control schools. On the first

day a random sample of 12 children was drawn. On the second day, five group tests were administered. On the third day, four individual tests were administered.

### Analysis and Findings

In each of the two groups, children were drawn from 9 schools having instructional television (called ITV group) and from 9 schools not having television (called Non-ITV group). One-way analysis of variance was applied to test the homogeneity of the school means, in these respective samples. The obtained results showed that there were no significant school differences on intelligence, in the respective groups, and that the schools could be considered together in their respective groups.

The ITV and Non-ITV groups were tested on intelligence. The difference was found not to be significant. The two groups were found to be well equated on intelligence for analysis purposes.

The six hypotheses stated earlier were converted into null form and each was statistically tested, one at a time. Hypotheses 1 to 4 were tested for significance of differences between the ITV and Non-ITV groups, on the fourteen dependent measures. Hypothesis 6 was

tested for the interaction effects of ITV-treatment and caste. Both these two types of hypotheses were tested simultaneously by using a two-way (ITV-treatment x Caste) analysis of variance. By using a 2 x 3 matrix (Treatment:ITV and Non-ITV; Caste:Scheduled, Backward and Upper); 216 cases were distributed in these six cells and F values computed. The F values relating to ITV-treatment were used to test Hypotheses 1 to 4. F values of interactions were used to test the interaction effects in Hypothesis 6.

Hypothesis-1: There is no significant difference between the children exposed to instructional television and not exposed to instructional television in respect to the five curiosity measures, namely, (a) time, (b) things, (c) questions, (d) curiosity index, (e) meaningful questions.

The results have not shown a significant difference between the ITV and Non-ITV groups on time, things, questions, and curiosity index, but on meaningful questions a significant difference was observed, favourable to the ITV group.

Hypothesis-2: There is no significant difference between the children exposed to instructional television and not exposed to instructional television in respect of the five measures of creativity, namely, (a) number, (b) uniqueness, (c) fluency, (d) originality, and (e) flexibility.

The differences between the ITV and Non-ITV groups were found to be significant for number and originality; and highly significant for flexibility, all favouring the ITV group. The differences were not significant on uniqueness and fluency measures.

Hypothesis-3: There is no significant difference between the children exposed to instructional television and not exposed to instructional television in respect of the two measures of language, namely, (a) language fluency and (b) language refinement.

The obtained results have shown a significant difference between the ITV and Non-ITV group on language fluency, favouring the ITV group. For language refinement, the results were found not to be significant.

Hypothesis-4: There is no significant difference between the children exposed to instructional television and not exposed to instructional television in respect of the two attitudinal measures namely, (a) attitude towards school and (b) motivation in learning.

The results have shown a highly significant difference on attitude towards school measure favourable to the ITV group. On motivation, there was no significant difference.

Hypothesis-5: There is no significant interaction effects of instructional

television and intelligence on the four behavioural variables, namely, (a) curiosity, (b) creativity, (c) language, (d) school attitude.

The above hypothesis was concerned with the interaction effects of ITV and intelligence, on the four variables. A two-way (ITV-treatment x Caste) analysis of variance was applied. To bring out the effect of intelligence more prominently, only the two contrasting groups, namely, high and low, were considered. Thus, 115 cases were divided into the 2 x 2 matrix and for each measure separate analysis was worked out.

Results on none of the 14 different measures relating to curiosity, creativity, language and school attitude, the interaction effects of ITV-treatment and intelligence were found to be significant.

Hypothesis-6: There is no significant interaction effects of instructional television and caste on the four behavioural variables, namely, (a) curiosity, (b) creativity, (c) language, (d) school attitude.

The two-way (ITV-treatment x Caste) analysis of variance already worked out and used in Hypotheses 1 to 4 also gave F value relating to the interaction effects. The obtained results have shown that on none of the 14 different measures, relating to curiosity, creativity,

language and school attitude, the interaction affects of ITV and intelligence were significant.

### Conclusions

The analysis of results led to the following conclusions which may be summarised as

1. Creative behaviour of the elementary school children in the rural setting was found to be positively influenced as a result of exposure to instructional television. Both the aspects, namely, verbal and non-verbal, were influenced, to some extent.
2. The curiosity behaviour was not effected to the same extent as the creative behaviour. Children did not show any improvement on those aspects of curiosity which involved exploration, but the inquisitive aspect of curiosity appeared to have been stimulated.
3. As for the children's language behaviour is concerned, the results indicated improvement in language fluency. But language refinement remained uneffected.

4. The results indicated a more positive impact on children's attitude towards school, but no impact was noted on motivation in learning.
5. There was no evidence to suggest that intelligence together with television influenced the behaviours under consideration. Similarly, no joint effects of caste and television were observed.

### Implications

The findings have brought out limited impacts on selected behaviours of the rural elementary school children as a result of exposure to instructional television. These relate mostly to creative behaviour and to a limited extent to curiosity behaviour, language behaviour and school attitude.

One of the implications of the findings is that instructional television has the potentiality to stimulate creative behaviour in the rural elementary school children. Therefore, the medium needs to be better harnessed towards this end, by designing and producing software more suitable to stimulate creative behaviour. At the exposure level, the teachers could do a lot to reinforce the resultant creative behaviour. In a

similar way, inquisitive behaviour could be nurtured. This may enhance the impact. The fact that instructional television was able to create favourable attitude towards school should be noted by educational administrators. This could be of use in reducing school dropouts, and in increasing the school enrolment. Intelligence and caste have no bearing on the impact. The instructional television is equally suitable to children of all levels of intelligence.

#### Suggestions for Further Research

The present study could be regarded as an exploratory one. It has provided useful insight to plan new studies, as also to modify and refine the present one. In this respect some suggestions are given below:

1. The study could be replicated on a still smaller sample but with more rigid control over the instructional television exposure. In the present study the exposure factor was allowed to operate in a natural manner.
2. The present study could be divided into three or four smaller studies, each taking up one variable at a time. The studies may thus exclusively focuss on one aspect of the

impact such as curiosity, or creativity alone. This will facilitate the use of a wider number of tools, and will make possible a more intensive investigation of the concerned variable.

3. Though the present study has not shown the effect of intelligence on instructional television's impact, it may be worthwhile to replicate it with a better controlled sample of children with specified intelligence, selected prior to the treatment.
4. Caste factor may be replaced with some other index, which may give a better measure of child's educational disadvantage or environmental deprivation.
5. Studies may be designed to assess the impact of certain specific programmes with a view to evaluate the programme. For example, instead of the measurement of curiosity in relation to the whole package, selected programmes may be measured in terms of the specific curiosity they are able to arouse.