
** CHAPTER : III **

AN OVERVIEW OF THE PRESENT STUDY

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Chapter one of this report has presented in a logical manner, the need for a study of this kind, in the teaching of history. In the subsequent chapter, is discussed, significant studies relevant to the present, so as to place it in the context of researches in this area. The present chapter gives an overview of aspects of the study under specific heads namely, the problems, objectives, hypotheses, experimental design, sample, preparation of instructional components and tests, experimental procedure and statistical techniques used.

THE PROBLEM :

It is a known fact that, in the field of history programmed learning materials have not developed to a great extent. Very few studies have been done in this

field and they are reported in Chapter II. Consequently there is a great need to develop such materials in order to find out how far they are feasible in the present context.

Normally programmed learning materials are individual paced. A few studies, reported in Chapter II show that group-pacing also is possible. If group-paced programmes are to be prepared in history, it is logical to make use of mass communication media, to suit the increased strength in each class. One method of avoiding boredom is by making use of colourful pictures and charts in order to capture attention and make learning interesting. The combination of programmed learning with audio-visual methods is worth investigating.

The role of the teacher in the situations where programmed learning materials are used, must be scientifically gauged. Though PLM are meant for individual use, the presence of the teacher is often required. When PLM are combined with other classroom teaching techniques some effects will be produced. This is another aspect which is investigated in this study.

The PLM developed so far, have mostly concentrated on the knowledge objective only. Though a few studies have been reported in the development of the higher cognitive abilities, it still needs further probe. In history,



alongwith knowledge, other objectives such as understanding. Application and skill are emphasised. How far the group-paced audio-visual programmes with, and without the teacher, can bring about the desired behavioural changes is worth studying. Hence the specific problem to be investigated is stated as follows :

"An experimental study of the efficacy of Programmed filmstrips as a method of teaching history in the secondary schools".

THE OBJECTIVES OF THIS STUDY :

As stated in chapter I, the purpose of the present study is to establish the relative effectiveness of instructional media, namely, programmed filmstrips with teacher and programmed filmstrips without the teacher against the conventional teaching. This being the purpose the following specific objectives are generated.

1. To develop software material for the media under investigation.
2. To validate the developed material against the conventional teaching in terms of immediate recall and delayed retention for each of the following classes of terminal behaviours.

- i) Knowledge
- ii) Understanding
- iii) Application
- iv) Skill

HYPOTHESES :

In accordance with the objectives, the following null hypotheses are stated.

1. There is no significant difference in the mean achievement of the three groups of pupils on the knowledge objective, when taught through three different media.
2. There is no significant difference in the mean achievement of the three groups of pupils on the objective understanding, when taught through three different media.
3. There is no significant difference in the mean achievement of the three groups of pupils on the objective application, when taught through there different media.
4. There is no significant difference in the mean achievement of the three groups of pupils on the objective skill, when taught through three different media.

5. There is no significant difference in the mean achievement of the three groups of pupils on the objective knowledge in the retention test.
6. There is no significant difference in the mean achievement of the three groups of pupils on the objective understanding in the retention test.
7. There is no significant difference in the mean achievement of the three groups of pupils on the objective Application in the retention test.
8. There is no significant difference in the mean achievement of the three groups of pupils on the objective skill in the retention test.

THE EXPERIMENTAL DESIGN :

It may be recalled here that this investigation aims at studying the relative effectiveness of three instructional media, namely, programmed filmstrip with the teacher, programmed filmstrip without the teacher and the conventional teaching. This necessitated the selection of a particular content unit in history which could be rendered treatment through these media. It logically followed that there must be three equivalent groups each of which must be exposed through one media to some teaching unit. The groups were to be formed by matching in terms of Mean, standard deviation and the number of students in

each group. This matching was to be done in terms of a criterion which in this case was a test in history called the pre-pretest. This was to be followed by a pretest on the content unit. The treatment was to be given after this, and the same test was to be administered as a post-tests, once immediately after the treatment, and second, after a period of four weeks, to test retention. Comparison of the relative performance of the three treatment groups was to be made in terms of the gain from pre-tests to post-tests.

THE SAMPLE :

The sample chosen for the experimental study was from nine schools selected randomly from the population of secondary schools in Madras. Out of these nine schools five were boys' schools and four were girls' schools in order to give more or less uniform representation to both sexes. Since co-educational schools happened to be few in Madras City, they were not included in this study. The total number of children selected for the experiment in nine schools consisted of 450 boys and 315 girls. The details regarding sampling for the study will be discussed in Chapter V.

THE PREPARATION OF INSTRUCTIONAL COMPONENTS :

The selection of a unit for developing programmed filmstrips was made by a panel of three history teachers

which was set up for this purpose. The teachers were handling history in the high school classes and knew about the needs of the school and the pupils. The unit selected was "Buddhism and Jainism" for Standard X.

The selected unit was divided into sub-units to facilitate conveniently, the conduct of lessons. The unit was organised into four lessons. Buddhism part I consisted of the sub-units, the causes for the rise of Buddhism, the career of Buddha and the teachings of Buddha. Buddhism Part II consisted of the sub-units the causes for the spread of Buddhism, the causes for its decline and the contributions of Buddhism. Similarly the topic Jainism was divided into two lessons. Jainism Part I consisted of the sub-units covering two founders of Jainism, the career of Parswanatha, the career of Mahaveera and the teachings of Mahaveera. Jainism part II covered the subunits the causes for the rise of Jainism, the causes for its spread, the causes for its decline and its contributions.

After dividing the lessons into sub-units software material for the unit was to be prepared. For this purpose, the subject matter to be covered under each sub-unit was gathered and organized. Four objectives of teaching history which could be measured immediately after the lesson was over, were listed, and appropriate activities, selected to realise them. The objectives thus chosen were,

knowledge, understanding, Application and skill. Presentation of the content was made according to the scientific techniques involved in writing the frames. At first the written part of the frames was developed and the artist drew appropriate pictures. The programmes thus developed were scrutinized by the panel of three teachers. After getting the approval, they were put to test. While testing, an epidiascope was used, to project the frames on the screen. From the score sheets, the pupils' performance was gauged and appropriate modifications were made. The final form of programme was written on white card boards along with the pictures and these were photographed. In this way programmed filmstrips were developed.

PREPARATION OF TESTS :

As stated earlier, this investigation required two tests, one to classify the pupils into groups and the other to measure their gain after their exposure to the mediums. The history test, used in order to classify the pupils into three medium groups, was given the name pre-pretest. It was on basic history, and was used to match the students in terms of their performance on it.

The criterion tests were developed to measure the pupil gain on objectives namely knowledge, understanding, Application and skill. Such tests were given the name Pre/post tests in this investigation. The maximum score

fixed for the objective knowledge was 20. For the remaining three objectives the maximum fixed was 10 each. Thus each testpaper was set for a maximum of 50 marks. Four such test papers were constructed for the four lessons already mentioned. The test items were mainly objective type questions. The questions were scrutinised by the said panel of three teachers, who tried them in their classes in order to refine them. Through this effort, four test papers were constructed. These test papers served as pretests before the conduct of the lesson as post-tests after the conduct of the lessons and as retention tests after four weeks. The gain for each pupil was computed by deducting the pretest score from his score in the post-test, and retention test.

THE EXPERIMENTAL PROCEDURE :

The experiment was conducted in each of the nine selected schools, simultaneously in all the three sections selected. Each section received instruction through one medium. In medium I the teacher explained the frames of the programmed filmstrip. There was teacher pupil interaction, alongwith the programmed learning materials, presented on the screen. In medium II the pupils learned from the programmed filmstrips; the projector being operated by an operator. In certain places extra frame materials were given. Apart from this no explanation was given. In medium III the teacher taught the lesson by the conventional lecture method. All the groups were

given the pretest before the lesson and the post test after the lesson was over. After a gap of four weeks, with the view to measure their retention of the subject-matter learnt, the same test was conducted without prior notice. This test, had been referred to in this study as the retention test.

STATISTICAL TECHNIQUES :

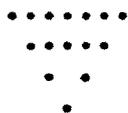
The pupil gain was measured by deducting the pretest score from the post test score. Similarly, the pretest scores were deducted from the retention test scores to gauge the amount of retention acquired through the experimental and control factors. The t formula was used to compare the groups.

Before subjecting the scores to t test, Bartlett's test of homogeneity of variance was administered in the form of F test. The formula suggested by Dubois (1965) was made use of, to compute the variance between groups and within groups.

The scores of pupils in the three medias on tests pertaining to each of the four lessons were tabulated separately. Tables were developed for each of the four objectives on each test. This resulted in a total of $4 \times 4 = 16$ tables for the cycle immediate retention.

Another set of $4 \times 4 = 16$ tables were developed for the cycle pertaining to retention after a gap of four weeks.

To make interpretations more meaningful, the mean values and standard deviation values of the groups taught through each medium in nine schools were combined, using the appropriate formula. More specifically stated, the mean values of nine medium I groups were combined to compute the mean (combined) of that medium. This was repeated for the other two media too. Thus the entire data were condensed into eight tables for t test and another 8 tables for F test which are found in Chapter VI. Specific details about each aspect of this research are given in the chapters to follow.



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R E F E R E N C E S
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1. Dubois, Philip H., : "An introduction to Psychological statistics Harper & Row
New York 1965.
2. Garrett, Henry E., : "Statistics in Psychology and Education Alkied publishers -
New Delhi 1969.

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