CHAPTER VI

SUMMARY

Introduction

Education, as far back as its history could be traced, appears as a nature sponsored characteristic of all human societies. It was found to have aimed at framing the character, aptitude, skills and moral qualities of an individual through a kind of symbiotic process. Thus, life in the family or clans, play or rites, everything was day to day opportunity for a primitive to learn. In short, education was a kind of spontaneous, uninstitionalised form of learning to begin with. However, with the discovery of the art of writing, education lost many of its informal characteristics and assumed much of its strict authoritarianism and scholasticism. In the course of time, contemporary needs, the force of circumstances, social and intellectual demands expected education to shed itself of these characteristics and adapt itself more dynamically to the realities and needs of a rapidly changing world. This is all the more so these days because of the tremendous pressures exerted by population explosion, struggle for economic development, fight against hunger, scientific and technological revolution and the multiplication of knowledge. The acceleration of this process has

been made all the more imperative as a result of the spread of democratic ideas and the extensive proliferation of information and communication media. Subsequently the system of education that prevailed, as observed in 'Learning To Be', Report of the International Commission on the Development of Education (1972), came under fire for its social and economic gaps and disequilibrium', its incapacity for 'making the people learn to live, to absorb new knowledge and to think freely, critically and creatively'. Hence more than ever, an education which would satisfy the needs and fulfil the aspirations of man and societies of today is being sought.

All out efforts, therefore, are being made all over the world to bring about modification in education. Curriculum, evaluation, methods of teaching, etc. have been constantly brought under scrutiny and modifications are being made and new devices evolved for increasing the efficiency through systematisation of the instructional process. An evidence to this could be seen in the effective blending and application of physical and behavioural sciences for instructional purposes. The result of such application is the everincreasing utilization of hardware like radio, T.V., audio tape recorders and techniques such as team teaching, lecture, discussion, seminar, programmed instruction, etc. for instructional purposes.

Whatever be the devices that are being employed for instructional purposes, the stress today is laid more on the

learner than anything else. He is made the centre of instruction and is made more active in the instructional process. For this purpose, different techniques of presenting the learning material in a way that would reinforce learning have been attempted. Auto-instructional devices are the latest in this direction. Scientific efforts for devising these techniques, with empirical evidences for their effectiveness were initiated by Skinner (1954) in terms of Programmed learning and teaching machines. Since then studies in programmed instruction have been carried out to a great extent. As Stones (1981) puts it, 'like a heavy downpour on dry earth the programmed learning flood' ran over every sphere of instruction and has 'attracted very widespread interest and involved people in many spheres of education.' Consequently scholars as well as educationists undertook many experimental studies with a view to identifying specific aspects of teaching learning situations and developing reproducible instructional situations. They also took up studies in which efforts were made to study the effectiveness of PLM vis-a-vis traditional approaches. Whatever be the format or context, these studies proved beyond doubt that PLM is one of the most powerful and effective means of imparting knowledge and that it taught as well as or even better than the traditional approaches. Now this fact is commonly accepted both by professional educators as well as general public.

Instructional Strategies

It has been found of late that PLM in its pure form cannot prove effective in all teaching situations for instructional objectives range from the simple objective of the acquisition of knowledge to the complex ones of analysis, synthesis and evaluation. Hence it is generally realized that as there are different levels of objectives to be achieved in learning a particular unit, a single method alone may not suffice in realising all the objectives. In fact, several techniques of instruction are to be introduced to provide the learner with various activities and experiences needed for the realization of all the instructional objectives. So along with PLM, such components of instruction as to fulfil the various objectives laid down are to be identified, incorporated and integrated to achieve the various instructional goals already specified. An organization of such suitable components with their functions specified in relation to the definite objectives to be achieved would lead to the evolvement of instructional strategies for teaching the various subjects at different stages.

Fortunately a few studies have already been made in evolving strategies with PLM as main component. The encouraging results of these studies have inspired scholars for initiating a number of similar studies in various fields at different levels of education. However, when one looks at these studies

from the point of view of the number of subjects and areas of instruction at different stages, they are dr but drops in the ocean. Hence more research efforts are to be made in integrating programmed instruction with other instructional techniques so as to make instruction most effective in all subjects at all stages and levels. Meanwhile attempts are also to be made in studying the comparative effectiveness of different techniques and the relationship between learner characteristics and their achievement through the strategies so that it would lead not only to the improvement of the strategy being evolved but also lead to the designing of better strategies in future.

All these call for the need of evolving strategies in all subjects at all levels so that instruction at all levels can be made more effective and systematic. However, when looked from the point of view of the Herculian task involved and the magnitude of expenditure to be incurred, one feels that such tasks are easier said than done. Therefore, it is reasonable to commence with modernization of this aspect of instruction in one subject and then gradually move on to others as well.

Among the different subjects of instruction at school stage, the teaching of English deserves special attention not only because of the paucity of teachers who are capable of teaching the language to a satisfactory level but also because of the scarcity of chances offered in picking up the language owing to

its foreign nature. English is a language seldom heard in the streets of India. Perhaps classrooms and libraries are the only places where students could pick up this language. This, however, does not diminish the importance and utility of the language. The evergrowing knowledge of sciences, technology, philosophy and literature is communicated mostly through English. Moreover it is an international language of communication, a link language, and a language of practical importance. In India even today English continues to be the link language. It is still the medium of instruction at higher levels of education and is still used as medium of response in competitive examinations at national level.

Apart from those mentioned above, there are other reasons as well that force emphasis on English. There is a wide difference in the introduction of this language at different levels. Again, as for the accessibility of the language, there is a vast difference between urban and rural pupils, between pupils belonging to high socio-economic status and those belonging to low socio-economic status. Similarly leafning of English involves the acquisition of multiplicity of skills and therefore the existing methods may not be efficient in meeting all these objectives. With the result there exists much oddities in picking up this language. Above all, India being a democratic country, where equality of opportunity is to be provided to all, everyone, who has a wish to learn this language,

should be given equality of opportunity to learn this language. All these boil down to the unquestionable need for evolving instructional strategies for teaching English on a priority basis. In the light of the above discussion, a project in English Grammar teaching has been taken up with a view to modernising its instructors. Systematising instruction would mean specifying operationally the various objectives that are to be realized, identification, incorporation and integration of the various instructional components for achieving these objectives, experimentally testing to assess the efficiency of the strategy thus evolved and making successive revisions for improvement. Meanwhile attempts are also to be directed towards studying the comparative effectiveness of the different instructional components and also the roles played by attitude and intelligence and other such learner characteristics which may have direct or indirect relationship with the learner achievement. In short, all the above discussion boils down to the evolvement of a specifically tested and reproducible instructional strategy. The present study is a humble attempt in this direction.

The Present Study

The present study entitled 'Evolving a Strategy for Teaching English Grammar at High Shhool Level' is an attempt to evolve a multimedia instructional strategy for teaching a few units of English grammar at Std. IX and X level. Further attempt

is made to study the comparative effectiveness of three forms of PLM namely linear, deviated linear and branching. The study also seeks the relationship between learners' attitude and intelligence on their achievement.

Objectives of the Study

(1) To evolve a multimedia strategy for teaching English grammar at High School level.

(2) To validate the material (strategy evolved) in terms of
(i) Students' performance in criterion tests and comprehensive test.
(ii) Students' reaction towards the multi-media instructional strategy and
(iii) experts' reaction towards the multi-media strategy.

(3) To find out the comparative effectiveness of the three forms of programmed instructional material namely linear, deviated linear and branching.

(4) To find o the relationship between the pupils' attitude towards the multi-media and their achievement in the comprehensive test.

(5) To find the relationship between pupils' intelligence and their performance in the comprehensive test.

Methodology of the Study

For realising the above objectives a single group design has been made use of and the details of which are given below.

Sample : The sample for all the aspects of the study consisted of 28 students of Navrachana Higher Secondary School, Baroda. There did not arise any need for selecting the sample as the total

number of the students in std. IX of the school during the academic year 1977-'78 comprised of the above number. The same students, as they were prompted to std. X continued to be the sample of the study because the duration of the study was spread over th the next academic year also.

Development of the Software

The first of the objectives of the study was evolving a multi-media instructional strategy for teaching English grammar at high school level. It evolved the developmental aspect of the study. For this purpose, the content matter to be taught was subjected to task analysis and flow charts were prepared with a view to ensuring adequate sequence of the teaching points. Then the terminal behaviours for each unit were specified. The next step was the selection of the various components or media for realising the various instructional goals laid down. The selection was made in consideration to the termininal behaviours to be achieved, characteristics of the students, nature of the content matter to be taught, methodological as well as linguistic foundations of language teaching and the capability of the investigator in designing the material. The investigator, being a regular teacher teaching the students English, also had sufficient insight into the learners' language ability. In the light of all these and the empirical knowledge from the researches so far carried out in this area, the following components or media were identified for developing the software for the multi-media instructional strategy :

(1) Introduction by the teacher

(ii) Programmed learning material :

(a) Linear form

(b) Deviated linear form, and

(c) Branching form

(iii) Tables and Charts

(iv) Exercises and Assignments

(v) Key to Exercises

(vi) Summary

(vii) Criterion Tests

When the above components were incorporated and integrated as software, they would have the following attributes : (i) self learning (ii) group activities, (iii) teacher involvement, and (iv) application facility. Thus, through proper utilization of the selected media, it was hoped that one would be able to provide the learner with the maximum opportunity for realising the various instructional objectives laid down. With a view to this, the various selected components or media were incorporated and integrated as software material. The same was subjected to refinement on the basis of the opinion, comments and suggestions offered by a few students, content experts and the methodology experts who had gone through the material. The material, then, was subjected to field try out and further revision on the basis of the observations was made.

Instrumentation : The instruments used for the collection of data for the present study were as follows :

(i) To measure the achievement of the students through the material, nine unit or criterion tests and a comprehensive test were prepared in accordance with the specified terminal behaviours.

(ii) Reaction Questionnaire : To study the reactions of the students and experts pertaining to the different aspects of the study three reaction questionnaires have been prepared :

(a) to obtain the students' reaction towards the strategy as a whole and the individual components in specific,

(b) to obtain students' preference for the three forms of PLM namely linear, deviated linear and branhhing and

(c) to obtain the reaction of the content experts towards the multi-media strategy.

(iii) Attitude Scale : An attitude scale was used for obtaining the students' attitude towards the multi-media instructional strategy.

(iv) Intelligence Test : Raven's Progressive Matrices was used in the study for measuring the students' intelligence.

Validation of the Strategy

The validation of the developed strategy was done through studying

(a) Students' performance in the criterion tests as well as comprehensive test. For this purpose the scores of the students on both types of tests have been computed for obtaining mean, S.D. and percentiles to find the distribution of the scores.

(b) Students' reaction towards the material. For this purpose the percentage for every alternatives in each item in the reaction scale has been found and then the chi-square test of equal probability has been applied and

(c) Experts' reaction towards the material. It was done through qualitative analysis of the open responses offered by the experts regarding the various aspects of the strategy.

Comparative Effectiveness of the Three Forms of PLM

The comparative effectiveness of the three forms of PLM has been studied through :

(a) the comparison of the achievement of the students through the different forms. For this purpose the percentiles, mean and S.D. of students' achievement scores in three forms were found separately. Further comparison has been made by taking the three means through the technique of Analysis of Variance. Further, Tukey test has been applied in order to locate the real difference.

(b) the ranking of the three forms of PLM by the students. For this purpose, the first rank in favour of each form against each item was taken up. Then it was turned into percentage and comparison was made through the chi-square technique of equal probability.

Attitude and Achievement

The attitude scale was administered on the students immediately after the completion of unit 6 and the final unit (Unit 9). The mean and S.D. of scores on the first and second administration of the attitude scale were found. To find out the significance

of difference between the means 't' test was applied.

To find the relationship between students' attitude towards the multimedia and their achievement, Pearson's Product Moment Correlation technique was applied taking the final attitude score and the scores in the comprehensive test.

Intelligence and Achievement

Raven's Progressive Matrices was administered on the students to measure their levels of intelligence. Pupils scores on intelligence were then compared with their scores in the comprehensive test using Pearson's Product Moment Correlation technique. As Analysis of Variance technique showed relationship between intelligence and achievement, further trial was made to find the actual difference. For this the mean scores of the comprehensive test of the high, low and middle intelligence groups of students were compared through 't' test.

Main Findings of the Study

(1) Ninety per cent of the students scored 60 per cent or more marks in the criterion tests of units 1, 2, 5, 6, 9 and in comprehensive test. In units 3, 4, 7 and 8 the percentages of students who scores 60 percent marks or above are 30, 80, 75 and 75 respectively.

(2) Both the students and the experts have expressed highly positive reaction towards the multimedia instructional strategy.

(3) Both in terms of achievement and ranking by the students, branching form of PLM was found to be the most effective one.

(4) Deviated Linear form, although similar to branching form in terms of achievement, was found to be having comparatively inferior stand in their ranking by the students.

(5) Linear form of PLM was found to be least effective in terms of achievement and rating by the students.

(6) The students are found to be having a stable favourable attitude towards the strategy.

(7) The attitude of the students has no significant relationship with their achievement through the strategy.

(8) Significant positive correlation was found between intelligence of the students and their achievement through the strategy.

(9) Correlation between intelligence and achievement was found specifically significant between the mean performance scores of high and middle and high and low intelligence groups of students.

(10) No significant relationship was found between the mean performance scores of middle and low intelligence group of students.

Outcome of the Study

(1) The present study has resulted in the development of a duly validated and reproducible instructional strategy with PLM as its major component.

(2) The study has thrown much light on the comparative effectiveness of the three forms of PLM namely linear, deviated linear and branching.

(3) It has also shown considerable insight into the efficacy of blending various instructional techniques for achieving the prespecified objectives.

(4) The study has also shed ample light on the relationship between student characteristics of attitude and intelligence and their achievement through the strategy.