CHAPTER VIII

CONCLUSIONS AND SUGGESTIONS

The present investigation was undertaken to develop the programmed learning material in branching style. This style helps diagnostic and remedial measures at a time. So through this experiment, the investigator tried to know whether this style could work as a diagnostic and remedial tool in mathematics with advantage.

This experiment was conducted for standards V, VI and VII. The content was mathematics. The selection of the sample was done by a random sampling method from these three standards. There are 240 students from these three standards. There were 80 students from each standard. Each standard was divided into two groups 40-40 students. Number of boy-girl students was equal. In such a way, two groups were formed; one experimental and the other control group for all the three standards. The branching material was supplied to the experimental groups and control groups were taught through conventional methods. The performance on the post-test was the criteria for the effectiveness of the experiments. The maximum marks of the post-test was 20 (twenty). By matching the groups in terms of intelligence and the pre-test scores, the null hypothesis was tested with the help of the statistical method of analysis of co-variance. The first hypothesis was as follows:
"THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN THE MEAN SCORES OF THE GROUPS WHICH WERE TAUGHT THROUGH PROGRAMMED LEARNING METHOD AND THE GROUPS WHICH WERE TAUGHT THROUGH CONVENTIONAL METHOD". The hypothesis was tested for three standards: for standard V and standard VII the hypothesis was accepted as the F-ratio of standard V was 0.033 and F-ratio of standard VII was 0.134. These F-ratios were not significant at 0.05 and 0.01 levels. Thus, it can be said that both the methods are equally effective as far as standards V and VII are concerned.

For standard VI, the hypothesis was rejected as the F-ratio was 5.447. This F-ratio is significant at 0.05 level. Thus, the programmed learning method is superior to conventional method as far as standard VI is concerned.

Second hypothesis reads as follows:

"THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN THE MEAN SCORES OF BOYS AND GIRLS WHICH WERE TAUGHT THROUGH PROGRAMMED LEARNING METHOD AND TAUGHT THROUGH CONVENTIONAL METHOD".

This hypothesis was tested for three standards. For standards V and VII the hypothesis was accepted. It can be predicted that both the methods are equally effective for boys and girls.

For standard VI, the hypothesis was rejected. It means that the girls learn better through programmed
learning technique than the boys.

From the above results, it is seen that the students of the experimental group of standard VI learned better through programmed learning method (branching type) than the students of standards V and VII. The reason may be that the students of standards V and VII may not have good pre-requisites, the students of these standards may not have grasped the mechanism of the scrambled book in proper manner or they may not have read the material seriously. In support of this, Leith has pointed out that:

In branching programme the learner is intended to read the 'information', then the question and finally select and answer. Many learners (including young children) acquire a set to read the question first and choose an alternative without going through the instructional part of the frame. This may, of course, nearly speed up the pace but a motive for it may well be classroom competitions and result lower performance or retention.

While, for standard VI, the students may have good pre-requisites. They may have grasped the mechanism of the scrambled book and they may have read the material seriously. They may be acquainted with the self-study method. The IQ may have played the role. The mean IQ of standard VI is 105.83 which is larger than the mean IQs of standards V (98.80) and VII (100.41).

In support of getting high achievement through branching programme, the investigators like Knight, Wallis
and Wieks, Larkin and Leith have found out that the correlation between abilities and test scores after learning through branching programme, was usually quite high.

Though the results obtained for standards V and VII are different from the result of standard VI, we can safely conclude that there is no significant difference between two methods of teaching. It means that the programmed learning methods (branching type) is as effective as conventional methods for diagnostic and remedial purpose in mathematics.

However, the investigator recommends the use of programmed learning method. It is well known that programmed learning method has a more systematic application of principles of teaching which are already employed in the classroom. And it is sure that learning is more successful when the pupil is actively involved when the materials are carefully organized and graded to fit his abilities and needs, and steps are gradual enough for the learner to make progress without missing important points yet steep enough to involve effort.

The programmed learning method has following advantages:

1. The method of programmed learning requires continuous responses from the learner and overcomes the passivity and inertia on the part of the learner.
2. The student is immediately reinforced to correct his response and this reinforcement sustains the motivation of the students.

3. Intelligent students need no longer be bored or allowed to lose interest due to slow progress of other students of the class. They may progress as quickly as they can.

4. The programmed learning method presents a programme in which the complexity of the material is simplified through the analysis of the subject matter into small and more easily assimilated segment of information.

5. Many emotional and social problems have been eliminated and problems of discipline have been automatically solved by the use of programmed learning method.

6. It caters the needs of individual students in the class.

7. Programmed instruction enables the teacher to diagnose the problems of the individual learner.

8. Programmed learning material presents the learning material in such a way that learning becomes an interesting game in which the
learner is challenged by own capabilities. The novelty of learning by a device provides extra motivation to the learner.

9. It is a self-study method so students form a good habit for learning.

10. Particularly in branching style, the bigness of the size of a frame as well as the branching reduces unnecessary repetitions and responding, thus, reducing the amount of learning time and fatigue.

11. Branching programme is very responsive. It makes pupil very active as it is primarily interested in using the students' responses to control the course of the programmed material to a particular student.

12. The pitfalls and consequences of erroneous logic are usually explained in the remedial frames so that the student not only gets the correct response but also understands why some other response is not correct.

It has been universally acknowledged that programmed learning method is more efficient method of teaching-learning for the accomplishment of the objectives of the education.
The branching variety of programmed learning material is not so popular as linear programme. So, programmes in different topics should be prepared in large numbers in branching style. Priority should be given to those content areas which are difficult. We can make use of this technique at different levels and areas of education and training. The branching programme can be useful in the following manner.

Regular Instruction

The teacher can use branching programme for regular instruction by preparing this type of programme for different units in different subjects.

Enrichment

There are wide intellectual differences among the students of a class. There are students who want to learn more of a subject. For such students, enrichment programmed learning material can be developed for the selected subjects.

Remedial Instruction

The best use of branching programme can be made for those who need corrective training.

The use of branching programme can be made for
primary level for different subjects. This type of programme is very effective for the secondary level for the subjects like mathematics and science. To make up the felt need of good teachers in their subjects, programmed learning material prepared by experts for students and teachers can be of great use to make up the deficiency of good teachers.

SUGGESTION FOR FURTHER RESEARCH

In the light of the experience gained and the findings mentioned, the investigator feels that there is a need for further probing. Some suggestions are given below for the further research in this area.

1. The present investigation could be extended to other school subjects.

2. A large sample should be selected which can be representative of different socio-economic groups and cultural groups.

3. To develop programmed learning material in branching style and to study pupils' achievement material in branching style and to study pupils' achievement through branching programme in relation to some personality variables.

4. To study the effect of personality and interest on learning through linear and branching variety of programmed learning material in
mathematics.

5. To develop a programme in branching style on different topics in mathematics and study its effectiveness.

6. An experiment could be undertaken to study the use of branching variety of programmed learning material in the classroom.

References


