Most of the evaluative studies in programmed instruction have been performed using Skinner type of programme styles in which the learner constructs his response. The stimulus material is presented in a carefully arranged and hierarchical sequence. Skinner's (1969) contribution revealed that classroom teaching (i.e. lecture and question-answer method) fails to take account of the different rates of learning. He also pointed out that little opportunity is given for active reinforcement and participation to the members of the class. A further criticism often made was that teachers often unknowingly leave gaps in their exposition so that they are incomprehensible to learners.

It was with such facts in mind that Skinner advocated a system of linear programme which should include setting of objectives and the analysis of subject matter to be taught into fine and logical instructional steps.

Hommen and Glaser (1958) recently reported a study in which a comparison was made between two groups - one that learned by programmed text and the other that used standard text. In this study two types of subject matter were used. In both cases the experimental group performed better than the control group on achievement test.

Ripple (1965) compared the effectiveness on four groups which were taught the same material. The two groups
were taught by programmed instruction and the remaining
two groups were taught by conventional methods. He gave
the test of retention immediately after the study of
material, and ten days later. In this study he found the
scores of the experimental group on the first test
significantly higher than those of the conventional group.
Thus he concluded that programmed material may be learned
better than the same material presented in a conventional
format.

Millar et al (1965) taught philosophy to three
different groups of students by lecture method, teaching
machines, and programmed instruction respectively. They
found that programmed presentation group learnt and
retained much more than the lecture method group. It was
also pointed out that the time they took by programmed book
and teaching machines was less than that by the lectures.

Another comparative study was conducted by
G.H. Jamieson and H. Marchant (1971) at the University
of Liverpool. In this study three methods of instruction—
Tape-slides, linear programme and illustrated booklet—
were compared. This was to test the effectiveness of each
method in teaching the new British decimal currency system.
Fifty female subjects from within the age group of 30-60
years and having a mean age of 33 years were taught through
the specially prepared once session learning course. They were also given the pre and post test of knowledge of the decimal currency system. It was found that the 'mean percentage gain score' of the group who learned by the linear programme was significantly better than the same score for the groups who learned through the tapeslides and illustrated booklet method and there was no significant difference between either of the latter two groups. Another contribution with regard to comparative study was made by G.H. Jamieson, Pamela E. James, G.W.H. Leytham and A.H.D. Tozer at the 'School of Education', University of Liverpool (1969). This study was done to compare learning through a programmed text, augmented (audio-visual) lectures, and straight lectures. A total of 184 post-graduate psychology students were used as subjects. The results showed that there is a significant difference in post-test teaching scores in the following order (1) Programmed Instruction, (2) Augmented lecture, (3) Straight lecture.

At the University of Glasgow, Martyn Roebuck (1970) conducted a study which compared conventional and programmed instruction. The study was conducted in one of the good secondary grammar schools of West Nigeria. The two groups or sets of students were stated to be of equal ability in physics. A pre-test consisting of 17 items was
administered to both the sets on February 2, 1968. Between February 3 and February 19 both sets received instructions on 'mass weight' and 'density'. Set I worked through programmed text supplemented by the standard school practical experiments and Set II received conventional teaching. After this a post-test consisting of 19 items was administered to both the sets on 19th February, 1968. When the test result was compared it was found that there were significant differences in both the cases.

A review of the research reports with the comparison of medical programme to conventional methods during the period of 1962-67 revealed that about 66% of the programmes were significantly much more effective than the conventional method of teaching. About 30% of the programme showed no significant difference while only 4% of the programme was significantly less effective.

So far as the research studies in India are concerned, it may be observed that most of the studies were done keeping in view the specific situations. M.S. Shah’s (1963) study is the first systematic study in the field of programmed instruction. She developed a programme on solving equations and compared its results with those obtained through conventional lecture method.
The study showed that the experimental group taught through programmed instruction achieved more in less time.

Mullick and Kulkarni (1965) investigated the effectiveness of programmed learning material in correspondence courses. Their findings explain that the programmed learning material has proved more useful than the conventional material.

Srivastava (1969), M.H. Sharma, D.A. Sharma (1969) studied this problem in the context of middle/high school subjects and found not only that the programmed learning material enables the students to score higher on the criterion test for the topics taught but also that it helps many students to save their time.

Sarkar (1969) found similar results in the context of industrial training in his experiments with workers of Gujrat Fertilizers.

In a study to compare a correspondence lessons developed on programmed instruction and conventional lesson, Kulkarni and Mullick (1967) found that the teacher candidates of Delhi University who studied statistics through programmed correspondence lessons got higher scores than the control group who studied the same topics through conventional lessons. Kulkarni prepared a programme on modern algebra to see the success of programmed instruction.
on lower classes. He found that even the 5th graders can learn this topic through the programmed instruction material quite adequately.

Recently some of the research studies on programmed instruction are going on in Himachal Pradesh University. Sethi (1975) has prepared programme on English spelling in relation to visual and auditory presentation. Harish Sharma (1975) has also prepared a programme on Hindi morphology in relation to sequencing and prompting.

In the present study, the learning outcomes pertaining to programmed text on principles of Economics have been compared with two more presentations of the same content. In the following chapter the details of the procedure adopted for the development of the programme have been given.

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