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A Study of the Effectiveness of Computerized Programmed Learning on the Achievement of the Students of Grade-8 in Social Science

Introduction:

Teacher centered learning method in the classroom is one of the parts of our Educational system from the ancient time. Traditional method is used for completing limited syllabus in limited time. But, in this situation, students become passive listeners. Moreover, in country like India, numbers of schools increase day by day due to increasing Educational space with change in social needs. It is quite difficult for teachers to reach to every student. In our country, we find 30 to 70 numbers of students in the classroom. One cannot match with individual differences because of large number of students in one classroom. Generally, in our classroom, average students are mostly focused and that's way, some students are left behind in the Education. And reason of it, the negative thinking regarding particular subject is raised in the mind of the students. If we provide proper time, guidance and some reference materials to the slow learners and fast learners, they can learn better in their study.

In today's time, it is expected that students themselves involve in the learning situation. That's way, to cape up with the changing situation and to keep in mind the psychological principles, one should develop Activities, task based self-learning methods for reading to the need of every student in the classroom.

Today, it is necessary to make teaching learning effective, the use of Linear & Branching programmed learning self material, Computer programmed, team teaching, assignment method, project method; supervised study method should be increased.

With keeping in mind, students' capability, Activities based & task based self-learning methods are developed in the field of Education and technology. Among all self-

learning methods, some are more effective and some are less effective. Apart from this, when student learn themselves, the interaction between teacher and students is less. When knowledgeable teacher include his own skills with the students to make learning process more active and effective, students get more progress in the particular subject. That's why, if we want to develop self-learning method in the absence of teacher; we have to keep in mind the students' activeness and readiness for learning.

Education is a process of human development. There is a continuous knowledge explosion today. Many new field of knowledge opened, so the process of education became complex to same extent. That's why it is necessary to carry out researches In field of education. It is the age of social science so methods in education should be carried out. By traditional method information can pass easily but to develop some basic skills of subject, students should be given practical. Therefore the researcher decided to compare the effects of the different teaching methods and to reveal the truth of the teaching methods.

Statement of the Problem:

A Study of the Effectiveness of Computerized Programmed Learning on the Achievement of the Students of Grade-8 in Social Science

Definition of the Terms:

Programmed:

As mentioned in the book of shah (2000),

“Programmed is such a process in which the arrangement of the content is done though the rows of small steps, as a result the student learns new and different things as well as principles by self learning by going from known to unknown”.

Programmed Learning:-

Theoretical definition:

As mentioned in the book of shah (1993),

“Systematic arrangement of small pieces of knowledge is called a programmed and the entire process for it is called programmed learning.”

Operational definition:-

“Slides were prepared in computer by systematic analysis of the unit of social science in small steps, which will be known as computerized programmed learning.

Linear Programmed:-

Theoretical definition:

According to shah (1993) as mentioned in the book:-

“There is constant exchange between programmed and student unlike lectures textbook and the usual audio visual aids, the machine does not simply present something to be learned; it includes sub stained activity. The student is always alert and busy. Like a good tutor, the machine insists that a given point be thoroughly understood either frame by frame or set by set before the students move on lectures textbooks and their mechanized equivalents, on the other hand, proceed without making sure that the student understands, and they easily, leave him behind”

- B.K.Skinner

As mentioned in book of Shah (2000),

“Programmed is such a process, wherein arrangement of subject-matter is made by series of small steps, as a result of which, students, going from ignorance to knowledge, learns new and difficult matters and principles.”

- Lisota and Williams

As mentioned in book of Shah (1993),

“The approach of arranging very small pieces of knowledge systematically and the entire process thereof are called Programmed Learning Method.” - Stofel Fed

Computerized Linear Programmed Self-Learning Material:-

Operational definition:-

“Based on the unit “Global Problems-1 &2 ” of social science and which can be organized through computer, orderly programmed prepare by flash and video visual software of computer will be known as computerized programmed for the present study. These programmed will be arranged according to the principles of linear programmed teaching.”

“Programmed the learning material prepared by using computer software means Computerized Linear Programmed.”

"Effectiveness is measure of the ability of a programmed, project or task to produce a specific desired effect or result that can be qualitatively measured."

Educational Achievement:

Operational definition:-

“Scores obtained by student in educational achievement test prepared by the researcher for the present study.”

Grade-8 Social Science:

Theoretical definition:

Wikipedia Encyclopedia (2008) "The social science comprise academic disciplines concerned with the study of the social life of human groups and individuals including anthropology, communication studies, economics, human geography, history, political science, psychology, philosophy and sociology."

Operational definition:-

Social Science subject in Grade - 8 of Gujarat State board of school textbooks (First Edition - 2004, Reprint - 2008).

Objectives:

1. To Prepared Computerized Linear Programmed Self-Learning Material for selected unit of Standard-8 in Social Science subject.
2. To study the effectiveness of Computerized Linear Programmed Self-Learning Material and traditional method on educational achievement of students on Standard-8 in subject of Social Science.
3. To compare the mean scores of Achievement test of the male & female students of experiment group with reference to educational progress of students in subject of Social Science.
4. To check the effectiveness of Type of Method and Gender of internal process of on educational achievement of students on Standard-8 in subject of Social Science.
5. To compare the Opinions of the male & female students of experiment group with reference to educational Achievement of students on standard-8 in subject of Social Science.

Hypotheses:

H_{01} There will not be significant difference of teaching methods (Computerized Linear Programmed Self-Learning Material and traditional method) on mean Scores of achievement of students of grade-8 in Social Science subject.

Ho₂ There will not be significant difference between in mean scores of achievement towards experimental group of boys and girls students of grade-8 in Social Science subject.

Ho₃ There will not be significant effects of the interaction between teaching methods and gender on the mean achievement scores of the students of grade-8 in Social Science subject.

Ho₄ There will not be significant difference between in mean scores of opinions towards Computerized Linear Programmed Self-Learning Material of boys and girls students of grade-8 in social science subject.

Variables of the Study :

- **Independent Variable:**
 1. **Teaching Method:** computerized Linear Programmed Self-Learning Material and Traditional (Lecture) Method.
 2. **Gender:** male & female
- **Dependent Variable:**
Scores of educational achievement and Opinions
- **Controlled Variable:** Standard, Subject, Subject-matter, Medium, Atmosphere, teacher, and area.
- **Internal Variable:-** Interest, attitude, efficiency, concentration, Enthusiasm, maturity, intelligence level, innovation in experiment, Interest towards subject, internal process among groups, aid received From others.

Population and Sampling

Population: (Year-2013-14) All students of Standard-8 of Gujarat State who were in Gujarati Medium were the population for the present investigation.

Sample: From the population, one school of Surat city was selected for the present study by incidental purposive sampling method. And Matching method of group.

Table-1.1: Sample for the experiment

Purposes	Group-1		Group-2	
Methods	computerized Linear Programmed Self-Learning Material		Traditional	
Number of Students	50		50	
Type of gender	Male	Female	Male	Female
Number of Students	25	25	25	25

Development of Programmed:**(CLPLM and Lesson Planning of Traditional method):**

The CLPLM in Social science for Gujarati medium students of grade-8 was constructed by the investigator, firstly chapters were selected and further content analysis was done. The content was converted into small teaching points (Frames). All these points were logically and sequentially arranged according to the content requirement. After collecting all the required information, CLPLM was constructed by following programmed learning steps and using various software packages. The CLPLM was show to experts in the field of Research, Education, Language, Technology and social science subject for the betterment. This programmed followed mention the steps chapter-4.

➤ Steps of development of CLPLM

1. Selection of Grade & Unit
2. Analysis of Content
3. General & Specific Objective of Unit
4. Selection of Types of Programmed Learning
5. Primary Construction of simple Linear Programmed Frame
6. Opinion of expert
7. Primary Construction of Computerized Linear Programmed Frame
8. Opinion of expert
9. Construction of Computerized Linear Programmed Frame
10. Tryout of Primary Computerized Linear Programmed
11. Construction of Final Computerized Linear Programmed Learning

➤ Lesson Planning of Traditional method

1. Selection of Grade & Unit
2. Analysis of Content
3. General & Specific Objective of Unit
4. Activities of Teacher
5. Activities of students
6. Assignment
7. Evolution
8. Final Planning

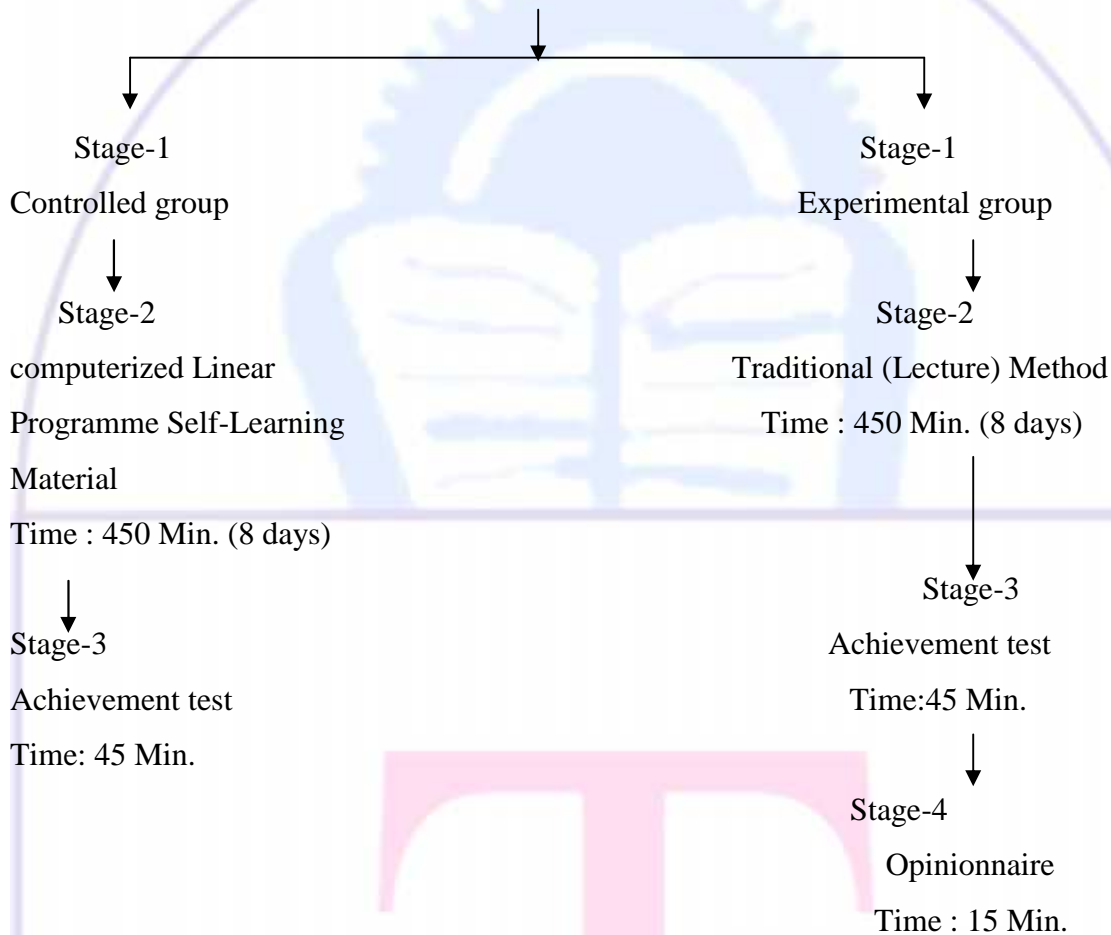
Tool of data collection of the Study:

As the purpose of the present study is to check effectiveness of computerized linear programmed learning Material in respect of educational achievement of students achievement test and Opinionnaire created by teacher will be used.

Method, Design & Planning of Research:

In experimental method for the present study, two equivalent group Achievement test experimental design will be taken.

Chart-1.1: Planning of Experiment



Data collection:

To give proper direction to the investigation Data Collection is necessary. In the present investigation. Bchkanivala Primary School, Surat had been selected for data collection. By taking the permission of principal of this school, 100 students of Standard-8 of this school had been distributed in two groups by pair method, in which 50 students (25 Boy & 25 Girls) were in controlled group and 50 students (25 Boy & 25 Girls) were in Experimental group had been divided. Data collection and been done by giving Achievement Test to each student. And Experimental group by Opinionnaire.

Data Analysis Technique:

The statistical techniques 2×2 factorial design Analysis of Variance (ANOVA) was used for the analysis of achievement scores. and 't' test was used for the analysis of opinions scores.

Table: 1.2:

Data analysis will be done objective and Hypothesis wise as follows

Objective	Hypothesis	Tools	Analysis of the Data
2, 3, 4	1, 2, 3	Achievement test	'f' test
5	4	Opinionnaire	't' test

Findings:

1. There is significance difference in educational achievement of students due to teaching methods. Traditional method (control group) students have higher level of educational achievement than CPLM (Experimental group) students.
2. There is significance difference in educational achievement of students due to gender of experimental group. Girl's students have higher level of educational achievement than boy's students.
3. There is no significance difference in educational achievement of students due to difference in teaching methods and gender.
4. There is no significance difference in Opinions of boys and girls students due to difference in gender of experimental group.

Educational Implication of Research:

The results of this investigation show some Educational Implication that is given below:

- (1) By Computerized Linear Programmed self-Learning material method, we can be increased the interest and activeness of the students for the subject.
- (2) By this method, we can give the deep knowledge of the content to the students.
- (3) This method satisfies the personal differences. That's why every student can learn with his/her own speed. Those who are slow and dull in learning; they can learn the content of the different subject effectively.
- (4) Students can also use the Computerized Linear Programmed self-Learning material method by their own way to increase the gained level.
- (5) Because of the explosion of the number of students in the classroom, it is difficult to focus on each student. Second thing, time-limit for completion of decided syllabus, it is quite difficult to focus properly each student's learning. That's why, development of the Computerized Linear Programmed self-Learning material

method can be made by Experts, N.C.E.R.T., G.C.E.R.T. and DIET, the effectiveness of Education can be increased.

In the present research, there is observation of development and effectiveness the Computerized Linear Programmed self-Learning material Method. But, the effectiveness of Computerized Linear Programmed self-Learning material Method can be compared with other methods like slide programmed, Tap-transparency, Team-teaching method, Assignment method, Computerized Programmed Self Learning Material.

Suggestion of further Research :

The present study may direct new areas to be studied by the future investigators. The areas and variables that are not covered in the present study may be taken for further study.

- CLPLM needs to be developed in all the subjects of primary school Education as well as in selected subjects of secondary education and higher Education.
- CLPLM may be developed using branching mode.
- CLPLM may be developed by using other computer software.
- Software packages needs to be developed for training of teachers to teach various social science subjects.
- Since computer education is going to be important in teacher education institutions also, the software packages needs to be developed for training of teacher educators.

Conclusion:

Traditional method is old one. Today it has less importance. The entire subject has got scientific status in the whole knowledge of the world. The schools should give more emphasis on the CLPLM. It is said that true learning is not possible without activities are proved here true.

In the present time, in the school, particularly about higher primary school, the stress level of Educational subject is increasing dangerously. Due to more educational stress about reading, writing and counting of school learning on the small children, the learning process becomes 'dull'. So, Activities & task based self-learning method becomes most desirable needs. So, **Self Learning material, CAI, CAL, CPLM** is most important for getting it.

Thus, the research on the important subject like this, the researcher feels deeply satisfied and if it is proved this research will be helpful for the past researcher, school teachers and management committee and learner will be feel self-satisfied.

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