



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

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### Article Info.

*Received on 15 Nov 2015*

*Revised on 18 Nov 2015*

*Accepted on 29 Nov 2015*

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### Keywords:

Effectiveness, Computerized  
Programme Learning, Grade-  
8, Achievement, Social  
Science

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### ABSTRACT

*Every subject has appropriate teaching method. The outcome of the subject teaching depends upon the subject and the method of teaching selected. It is believed that social science subject is somewhat difficult to learn. But in the age of self learning method, self learning material, Activities based learning, task based learning, Technology solution is there. The researcher carried out and method in the teaching of social science and find out the comparative results of the traditional method, Linear Programme Learning Method and Computerized Linear Programme Self-Learning Material Method at secondary level. Three main objectives were framed. To select the content to teach. The equivalent groups were made and one group was taught by traditional method and other group was treated by Linear Programme Learning Method and Computerized Linear Programme Self-Learning Material Method by using the social science classroom. The data collected from both the groups were compared and the effects of the teaching methods were find out. The results of both the methods were compared on the different variables. In a result the teaching method using social science classroom is found more effective in teaching of subject social science.*

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## **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 cope 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 programme learning self material, Computer programme (CAI, CAL, CAM, CPLM), 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 Programme

Learning on the Achievement of the Students

of Grade-8 in Social Science

### **Definition of the Terms**

#### **Programme**

##### **Theoretical definition**

According to **B.F.Skinner**

“Programme is such a process in which the arrangement of the content is done through 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”.

#### **Programme Learning**

According to **B.F.Skinner**

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

#### **Linear Programme**

##### **Theoretical definition**

According to **B.F.Skinner**

“There is constant exchange between programme 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”

According to **Lisota and Williams**

“Programme 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.”

According to **Stofel Fed**

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

### **Computerized Linear Programme Self-Learning Material**

#### **Oprectional 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 programme for the present study. These programme was be arranged according to the principles of linear programme teaching.”

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

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

### **Educational Achievement**

#### **Oprectional 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 Programme 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 achievement of students on Standard-8 in Social Science subject.
3. To compare the mean scores of Achievement test of the Boys & Girls students of experiment group with reference to educational progress of students in Social Science subject.
4. To check the effectiveness of Teaching Methods and Genders of internal process of on achievement of students on Standard-8 in Social Science subject.
5. To compare the Opinions of the Boys & Girls students of experiment group with reference to Achievement of students on standard-8 in Social Science subject.

### **Hypotheses**

**H<sub>01</sub>:** There will not be significant difference of teaching methods (Computerized Linear Programme Self-Learning Material and traditional method) on mean Scores of achievement of students of grade-8 in Social Science subject.

**H<sub>02</sub>:** There will not be significant difference between mean scores of achievement towards experimental group of boys and girls students of grade-8 in Social Science subject.

**H<sub>03</sub>:** 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.

**H<sub>04</sub>:** There will not be significant difference between mean scores of opinions towards Computerized Linear Programme 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 Programme 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.

#### **Inter Vening 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**

This is an experimental study, so that limited students are selected as a sample. For that one school of surat city selected by the purposive sample technique. In this selected school. There are total 138 students in grade-8 A and B. In that 138 students there are 56 boys and 82 girls. Investigator constructed two groups of boys and girls on the basis of their annual scores of social science in grade-7. By the pair matching method. For that scores are arrange in descending order. After arrange the scores in descending order, investigator, put one student in one group and another student in next group. in this way students are distributed in two groups. In this way two groups of boys and two groups of girls are to be made. Finally four groups are to be made. From this each group 25-25 students are to be selected, by card method. (Random method) As a whole, 100 students are to be selected in the final sample. After that, investigator checked the mean difference of the scores of both the groups of boys and girls. That is way, it is conclude that the two groups of boys and girls are equivalent.

## **Group selection for experiment**

One group is to be made of 50, in which 25 boys and 25 girls are to be gathered. In this way another group of 50 students are to be made.

In these way two groups of 50-50 students are made. After that coin selection method it is decided that, which group is to be taught by the computerized linear programmed and which group is to be taught by the traditional method.

Finally, group-1 (experiment) and group-2 (control) is to be taught by computerized linear programme and traditional method respectively. That is indicated in the table-1.5.

**Table: 1****Information of the sample group of research**

<b>Purposes</b>	<b>Group-1</b>		<b>Group-2</b>	
<b>Method</b>	<b>computerized Linear Programme Self-Learning Material</b>		<b>Traditional</b>	
<b>Number of Students</b>	<b>50</b>		<b>50</b>	
<b>Type of gender</b>	<b>Boys</b>	<b>Girls</b>	<b>Boys</b>	<b>Girls</b>
<b>Number of Students</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>

From the above table-1.5, it is clarify that 100 students are selected in the sample, as control group and experimental group.

**Development of Programme****(CPLM and Lesson Planning of Traditional method)**

The CPLM 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, CPLM was constructed by following programme learning steps and using various software packages. The CPLM was show to experts in the field of Research, Education, Language, Technology and social science subject for the betterment.

This programme followed mention the steps.

➤ **Steps of development of CPLM**

1. Selection of Grade & Unit
2. Analysis of Content
3. General & Specific Objective of Unit
4. Selection of Types of Programme Learning
5. Primary Construction of simple Linear Programme Frame



6. Opinion of expert
7. Primary Construction of Computerized Linear Programme Frame
8. Opinion of expert
9. Construction of Computerized Linear Programme Frame
10. Tryout of Primary Computerized Linear Programme
11. Construction of Final Computerized Linear Programme 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 programme learning Material in respect of 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**

<b>Stage-1</b> <b>Experimental group</b>	<b>Stage-1</b> <b>Controlled group</b>
<b>Stage-2</b> <b>Computerized Linear</b> <b>Programme Self-Learning</b> <b>Material</b> <b>Time : 450 Min. (8 days)</b>	<b>Stage-2</b> <b>Traditional (Lecture) Method</b> <b>Time : 450 Min. (8 days)</b>
<b>Stage-3</b> <b>Achievement test</b> <b>Time: 45 Min.</b>	<b>Stage-3</b> <b>Achievement test</b> <b>Time:45 Min.</b>
<b>Stage-4</b> <b>Opinionnaire</b> <b>Time : 15 Min.</b>	

#### **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  $2 \times 2$  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: 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 achievement of students due to teaching methods. Traditional method (control group) students have higher level of achievement than CPLM (Experimental group) students.
2. There is significance difference in achievement of students due to gender of experimental group. Girl's students have higher level of achievement than boy's students.
3. There is no significance difference in 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 Programme 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 Programme 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 Programme 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 Programme self-Learning material Method. But, the effectiveness of Computerized Linear Programme self-Learning material Method can be compared with other methods like slide programme, Tap-transparency, Team-teaching method, Assignment method, Computerized Programme 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.

- CPLM needs to be developed in all the subjects of primary school Education as well as in selected subjects of secondary education and higher Education.
- CPLM may be developed using branching mode.
- CPLM 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 CPLM. 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, CAM, 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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