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Research Paper

## A Study of the Effectiveness of Computer Programme Learning of the Achievement of the Students of Standard 10 in Economics

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**Key Words** - *PLM-Programmed Learning Material, Economics, Standard 10, Achievement etc*

### Abstract

The aim of this study was to compare the effects of computer-based learning and traditional method on students' attitudes and achievement towards analytical economics. The present teaching techniques needs revised thinking to make learning more effective for students. In fact the teaching methodology should be such by which the students can be involved in reading, thinking, problem solving and then learning by their own efforts. For this purpose self-learning method is a very effective media. There are several Self Learning Techniques in which learner can learn by their own pace. Patel, Bhanubhai (1993) and Sakhiya, R.B.(2006) also did an experiment for self learning technique. They both found self learning technique effective. Present study was differing from these two studies because researcher made PLM with the help of computer programme MS Power point. Students of Std-10(Economics) were selected for the purpose of research. Can the subject "Money and Credit" be made easier by using Programmed Learning Material? Is the Programmed Learning Method similarly effective for boys and girls? The investigator has thought about all such crucial questions for undertaking this research. Hence the topic "A Study of the effectiveness of computer programme learning of the achievement of the students of standard 10 in Economics" is selected for the presentation.

### 1. Introduction

One of the important agents in teaching-learning process is student and in fact the whole teaching-learning process should revolve around this agent called 'Student'. It is important to keep children at central place in the teaching-learning process in order to achieve the auspicious ail of 'Overall development of child'. In the present situation we are witnessing a scenario of knowledge explosion. All the nations of the world have realized the importance of education for national development. In the process of education also the stage of higher secondary level is very crucial because at this stage all the students are in a dilemma regarding the selection of their professional career. There are several limitations also in the present system of the education which are hindering in the overall development of children.

Today the students are most of the time made to listen the lectures and learn which very momentary style of learning is. There are various techniques of self-learning, one of which is 'Programmed Learning Method'. In this method the students can learn and proceed ahead at their own pace with or without the teacher's assistance. Standard 10 of secondary level is the study in the stream which is selected by the students by themselves. In this standard 'Money and Credit' is a new subject to them. Therefore, if the basic concepts of this subject are clear in their mind, they can proceed easily and more appropriately in their upper standards of higher education. Therefore considering this aspect in mind, the present study is under taken to prepare Programmed Learning Material for unit of 'Money and Credit' of Economics subject in Standard 10 and assess its effectiveness on the achievement of students in this subject.

## 2. Statement of the Problem

*A study of the effectiveness of computer programme learning of the achievement of the students of standard 10 in economics.*

## 3. Objectives

The researcher decided the following objectives for the present study.

- (1) To prepare Computerized Liner Programme self-learning materials for selected unit 10th class in Economics subject.
- (2) To study the effectiveness of computerized linear programme self-learning material and Traditional method on achievement of the students of 10th class in Economics subject.
- (3) To compare the achievement of the Boys and Girls of experimental group in Economics subject.
- (4) To study the impact of interaction between Teaching method and Gender of the students on their achievements in Economics.

## 4. Hypothesis

The following hypotheses were prepared for the present study.

**H<sub>01</sub>**- There will be no significant difference in the mean score achieved in the post-test of Experimental Group and Control Group students.

**H<sub>02</sub>**- There will be no significant difference in the mean score achieved in the post-test of Boys students of Experimental Group and Control Group.

**H<sub>03</sub>**- There will be no significant difference in the mean score achieved in the post-test of Girls students of Experimental Group and Control Group.

**Ho<sub>4</sub>** - There will be no significant difference in the mean score achieved in the post-test of Boys students and Girls students of Experimental Group.

### **5. Limitation and Delimitation**

- In the present study the frames of PLM and post-test are constructed by the investigator so their limitations also remain as the limitation of the present study.
- The findings in the present study were found on the basis of the responses of the students so this also remains as a limitation of the study.
- The present study was delimited to English medium school (CBSE) of Ahmedabad city.
- The present study is limited to the some selected units of Economics subject.

### **6. Definition of Key-words**

#### **Programme**

Theoretical definition

According to 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 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 are prepared on computer by systematic analysis of the unit of economics in small steps, which will be known as computerized programme learning."

Programme of learning material prepared by using computer software means Computerized Linear Programme.

#### **Achievement**

Dictionary Meaning:

According to Encyclopedia of Education:

Achievement is generally used in the sense of acquired abilities to do, capacity to do or tendency to do.

According to International Dictionary of Education:-

Performance in school or college in a standardized series of educational tests. The term used more generally to describe performance in the subject of the curriculum.

### **Operational definition**

It refers in the present study to students' achievement score obtained on self-constructed teacher made achievement test (post -test).

### **Effectiveness**

Dictionary Meaning:

- 'Bringing out of the result intended;
- 'An ability to make improvement in students' scores on a criterion test'

### **Operational definition**

It refers in the present study to the significant difference in the mean score of achievement of students taught through programme learning material (PLM) and conventional approach of teaching.

Effectiveness refers to the significant difference between the mean score of post-test of control group and experimental group.

### **Gender**

**Dictionary Meaning:** A grammatical category indicating the sex, or lack of sex, of nouns and pronouns. The three genders are masculine, feminine, and neuter. He is a masculine pronoun; she is a feminine pronoun; it is a neuter pronoun. Nouns are classified by gender according to the gender of the pronoun that can substitute for them. In English, gender is directly indicated only by pronouns.

**Operational Definition:** Either the male or female division of a species, especially as differentiated by social and cultural roles and behavior.

### **Standard:**

**Dictionary Meaning:** Something considered by authority or by general consent as a basis of comparison; an approved model.

**Operational Definition:** Standard 10<sup>th</sup> will be considered for this study.

## **7. Variable**

The following are the variables included in the present study.

### **Independent Variable:**

Method	Programmed Learning Method (Exp.Group)
	Traditional Method (Cont. Group)

· **Dependent Variable:** Educational Achievement

(Score obtain by Students in post-test)

· **Moderate Variable: (Sub-Independent Variable)**

Gender: Boys (A1), Girls (A2)

· **Control Variable**

- Subject: - Economics

- Units: - Money and Credit

- Medium: - English

- Area: - Ahmedabad

## 8. Population and Sample

All the Students studying in the Standard X (Economics) English medium (CBSE) schools of Ahmedabad are included in the population of the present research. As a sample Kendriya Vidyalaya School was selected purposively. By lottery method three classes were selected among four classes. All students of selected class were included in a sample of study by cluster method. For the smooth conduct of the experiment, it was conducted on the whole class. But for the analysis the 100 (50 + 50) regularly coming students were selected as a sample.

- There were total 125 students in class 10th A, B & C. 65 Boys and 60 Girls.
- 25-25 students were selected randomly.
- 100 students were selected in the final sample.
- One group is made of 50 students, in which 25 boys and 25 girls.

### Method:

Purpose	Group-1		Group-2	
Method	Computerized Linear Programme (PLM)		Traditional	
No. of students	50		50	
Types of Gender	Boys	Girls	Boys	Girls
No. of Students	25	25	25	25

### 9. Research Method and Research Design:

Experimental Method of Research was used for the present study. The experiment of the present research was to check the effectiveness of PLM for some selected units of subject Basic Elements of accountancy. The complete experimental design of this present research is 'Two group only post-test design'. The figurative description of which can be made as given below.

Group	Treatment	Post Test
Experimental	X (PLM)	T2
Control	-	T2

### 10. Treatment:

Researcher made PLM with the help of Computer Programme MS PowerPoint. Researcher studied content for making frames. In every frame there is some content followed by a question. Every question has four options hyperlinked. By clicking the wrong option student was derived to a slide which shows that he gave wrong answer. In the slide showing the result of question has a link named BACK; by clicking it students come back to the slide which he/she studied. By clicking right answer one derived to the slide which shows that he/she has given right answer, in which there was a link named NEXT; after clicking on NEXT learner can move forward to next frame. By this students can learn by their own pace.

#### Tools for Data Collection

For Data Collection researcher Constructed teacher made Post-test on the basis of blue print. In which 25 Questions were asked. Equal mark (1) was given to each question. The post test was of multiple choice questions type.

### 11. Data Analysis

- To check the 'equability of group's t-value was found between the scores of scholastic test.
- To access the effectiveness of PLM t-value was found.
- For rejection or acceptance of hypothesis t-value was found Hypothesis wise.

Hypothesis	Group	N	M	SD	SEd	t-value	Remarks
Ho <sub>1</sub>	Control Group	50	10.51	2.66	0.44	2.86	Significant at 0.01 level
	Experimental Group	50	11.77	2.61			

Ho <sub>2</sub>	Boys of Con. Group	25	10.71	2.95	0.57	1.70	No Significant Difference
	Boys of Exp. Group	25	11.69	2.67			
Ho <sub>3</sub>	Girls of Con. Group	25	10.05	1.80	0.64	2.95	Significant at 0.01 level
	Girls of Exp. Group	25	11.92	2.54			
Ho <sub>4</sub>	Boys of Exp. Group	25	11.69	2.67	0.63	0.37	No Significant Difference
	Girls of Exp. Group	25	11.92	2.54			

## 12. Findings

- The effect of PLM was found on the whole group of Students.
- In the context of boys' students there isn't significant effect of PLM. This means that there is no significant effect of the PLM on the boys students of Experiment Group.
- In the context of girls' students there is significant effect of PLM. This means that there is positive effect of the PLM on the girls students of Experiment Group.
- In the context gender there is no significant effect of PLM. This means that there is no significant difference in the effect of PLM on the both boys' students group and girls' students group of Experiment Group.

## 13. Educational Implication

The educational implications of the present research are as mentioned below.

- PLM was prepared for students could be used in Higher Secondary Schools.
- On the basis of the scores achieved in the post test, it can be said that the teaching should be provided with the help of PLM rather than the traditional methods of teaching.
- By the use of PLM the students were found to be interested in the learning of Money and Credit of Economics subject. And so it can be said that the learning was effective.

## 14. Conclusion

From the Conclusion and finding obtain from study we can say that PLM is far effective than traditional method, Hence such a new innovative experiments should be go on in

future. There are several more self-Learning Technique which involve to students in Teaching Learning Process with interest.

### Reference

- Agrawal J. C. (1996), Education Research and Introduction, New Delhi: Arya Book Depot.
- Borg Water R. (1996); Educational Research in Introduction, New Delhi: Arya Book Depot.
- Ke, F. (2008a). Computer games application within alternative classroom goal structures: Cognitive, metacognitive, and affective evaluation. Educational Technology Research and Development. 56(5). 539-556.
- Means, B. (2010). Technology and education change: Focus on student learning. Journal of Research on Technology in Education. 42(3). 285-307.
- Grummitt, S. J.(1980) The computer in the classroom - some advantages of computer assisted learning (CAL) for secondary school geography. Classroom Geographer (January 13-17).
- Baumann, P. R.(1975) A computer-based instructional system on maps. Journal of Geography 74(3): 159-166.
- Shah.G.B. (2000).*Programme Learning*.Ahmadabad, University Granthnirman board.

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