

Vol 5 Issue 1 Feb 2015

ISSN No : 2230-7850

International Multidisciplinary
Research Journal

*Indian Streams
Research Journal*

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RNI MAHMUL/2011/38595

ISSN No.2230-7850

Indian Streams Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial board. Readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

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TRYOUT AND EFFECTIVENESS OF LINEAR PROGRAMME AND COMPUTER ASSISTED LEARNING METHODS FOR THE UNIT 'VANYAJEEVAN' OF SOCIAL SCIENCE SUBJECT OF THE STUDENTS OF STD-IX

Mina H. Rathod

B.D. Shah College of Education, CTE, Modasa District: Arvalli, State: Gujarat.

Abstract:-This study is conducted on effectiveness of learning through linear programme computer aided learning (CAL) method and teaching through traditional teaching method relating variable like gender. 240 students were selected as a sample from secondary school of Modasa city by random sampling. Data was collected by using self-made linear programme Computer aided learning (CAL) programme. Collected data was analyzed by using statistical techniques like mean, S.D. and 't' test. Major findings of study are the boys and girls of Std-IX have learnt through linear programme CAL programme and through by traditional method on the unit 'Vanyajeevan' of social science subject and the girls were seen more higher first in CAL programme and linear programme learning method after that.

Keywords: Social Science Subject, Standard, Students, Linear programme, Computer Assisted Learning, Gender, Method and Programme.

INTRODUCTION:

Universe is already entered in fourth wave and the base of it is knowledge or information. Today is the time of information explosion and one must walk with it to sustain in the worldwide competition. In this critical situation, if teacher is not update then the future of his students becomes uncertain. So the teacher of modern time must have the knowledge of using modern technology during teaching-learning process and the students should be motivated by him to learn by using latest technology in the field of education.

The emerged modern technology is useful to learn student himself and the material is prepared in a way so that there would be least requirement of teachers. Students can learn by his own pace and suitable time independently. Moreover, computer has become essential in the classroom teaching and CAI is the way to make the classroom transaction interesting and comprehensive.

Researcher has experienced that the students of standard -IX feel difficulties in learning Social science subject. If the students get proper knowledge of history, civics and geography, they will be ideal citizen of our country. Through CAI and CAL students get more understanding about topic and its impact remain forever in the mind of the students.

OBJECTIVES:

Objectives of present study were as under:

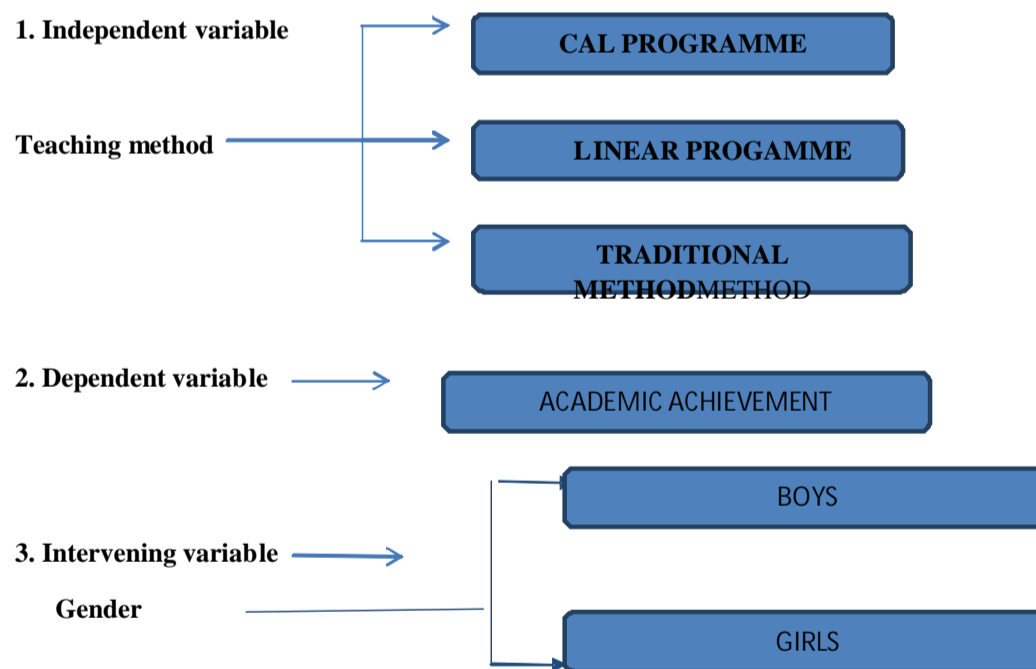
- 1.To construction CAL Programme for teaching unit 'Vanyajeevan' of Social Science subject of Std-9
- 2.To form linear programme for teaching unit 'Vanyajeevan' of Social Science subject of Std-9
- 3.To construction teacher made test for unit 'Vanyajeevan' of Social Science subject of Std-9
- 4.To compare learning by CAL Programme and learning by Linear Programme on the unit 'Vanyajeevan' of Social Science subject of Std-9

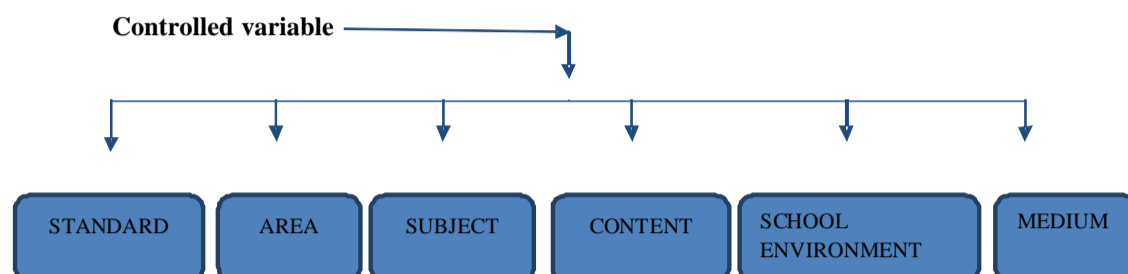
- 5. To compare learning by Linear Programme and teaching by traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 6. To compare learning by CAL Programme and teaching by traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 7. To check out impact of learning by Linear Programme and CAL programme on the unit 'Vanyajeevan' of Social Science subject of Std-9

HYPOTHESES

- 1. There will be no significant difference between the mean scores of academic achievement of boys gained by CAL programme and Linear Programme on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 2. There will be no significant difference between the mean scores of academic achievement of girls gained by CAL programme and Linear Programme on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 3. There will be no significant difference between the mean scores of academic achievement of boys gained by Linear Programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 4. There will be no significant difference between the mean scores of academic achievement of girls gained by Linear Programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 5. There will be no significant difference between the mean scores of academic achievement of boys gained by CAL programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 6. There will be no significant difference between the mean scores of academic achievement of girls gained by CAL programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 7. There will be no significant difference between the mean scores of academic achievement of boys and girls gained by Linear Programme on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 8. There will be no significant difference between the mean scores of academic achievement of boys and girls gained by CAL programme on the unit 'Vanyajeevan' of Social Science subject of Std-9
- 9. There will be no significant difference between the mean scores of academic achievement of boys and girls gained by traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9

VARIABLES:





RESEARCH AREA

Since Linear Programme and CAL programme of learning and traditional method of teaching are used in the study, and CAL programme is constructed, the area of research is Educational Technology

TYPE OF RESEARCH

This study is based upon theoretical knowledge of application. So this is the applied research

RESEARCH METHOD

Among three methods of experimental study like pre-experimental design, true-experimental design and quasi-experimental design, the investigator has used true-experimental designs

POPULATION AND SAMPLE

Population of the study included all the students studying in standard IX of primary schools of Modasa city of Aravalli district.

Sample comprised of 240 students (boys and girls) of Makhdum Secondary School studying in standard IX. It is shown in following table:

Table No. 1 Sample of Subjects for Research Study

Sr. No.	Group	Boys	Girls	Total
1	Experimental Group-1	40	40	80
2	Experimental Group-2	40	40	80
3	Controlled Group-3	40	40	80
Total		120	120	240

TOOL

The main aim of the study was to check out the content achievement of the unit 'Vanyajeevan' of social science subject taught by using Linear Programme, CAL programme and traditional method.

Post-test was formed for the unit 'Vanyajeevan' of social science subject of Standard IX for the student of Makhdum primary school to measure the unit achievement of those students on that particular topic.

CONSTRUCTION OF TEACHER MADE POST-TEST

Norm referenced test form was selected by viewing all the points of the unit 'Vanyajeevan' to prepare posttest for measurement of unit achievement of students of standard IX. The test includes 30 marks.

DESIGN OF THE STUDY

Three groups are formed by random sampling and post-test was taken from those students. For that three levels of independent variable were formed. One group was provided learning experiences through Linear Programme, the other group was given learning experiences through CAL programme and the last group was provide learning experiences by traditional method. Unit achievement of all these three groups was measured by

giving them teacher made test after completion of experiment and it is shown in table no.2

Table No. 2
Table-2THREE EQUIVALENT GROUP DESIGN, THE POST TEST ONLY

Group	Pre-test	Independent Variable	Post-test
Experimental Group-1 ER	-	X1	T2E1
Experimental Group-2 ER	-	X2	T2E2
Controlled Group-3 CR	-	X3	T2CR

Where ER1= the experiment group learning through Linear Programme
 ER2= the experimental group learning through CAL programme
 CR= the controlled group learning through traditional method
 X1= Learning by Linear Programme
 X2= Learning by CAL
 X3= Learning by traditional method
 T2E1= Teacher made posttest given to experimental group-1
 T2E2= Teacher made posttest given to experimental group-2
 T2CR= Posttest given to controlled group

DATA COLLECTION:

Data was collected from three groups in which primary group-1 includes 40 boys and 40 girls, primary group-2 also includes 40 boys and 40 girls and controlled group includes 40 boys and 40 girls. Total 240 students of Std-IX of MakhdumSecondary School were taken as a sample.

DATA ANALYSIS:

Data analysis was done by using statistical techniques like frequency distribution, mean, S.D. and t-value. Table and graph: value of mean, Std. of Achievement Test of Linear Programme, CAL Programme and Traditional method. Variables such as (a) Teaching method (b) Gender

TABLE: 3 DATA ANALYSIS

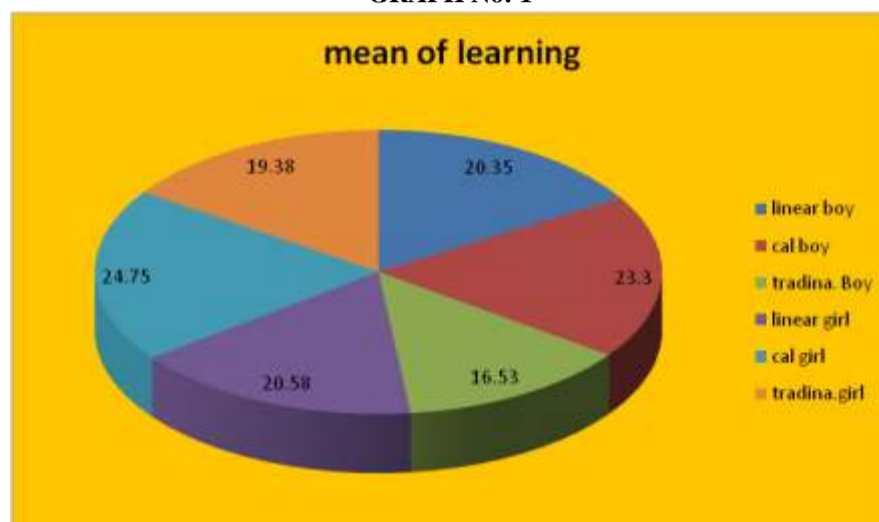
Variable	LEARNING			BOYS			GIRLS		
	Linear	CAL PRO.	TRADITIONAL METHOD	Linear	CAL PRO.	TRADITIONAL METHOD	Linear	CAL PRO.	TRADITIONAL METHOD
1	2	3	4	5	6	7	8	9	10
Mean	21.47	24.03	17.96	20.35	23.3	16.53	20.58	24.75	19.38
Std.	2.23	1.71	3.03	2.14	1.74	2.53	1.72	1.33	2.83
Ku	1.05	0.48	-0.76	2.03	-0.36	-0.79	-1.19	0.47	-1.27

(1) Table no. 3 & Graph no. 1 (Column no. 2,3&4) indicates that the mean of Linear Programme, CAL Programme and Traditional Method Achievement Scores are 21.47, 24.03 and 17.96 also kurtosis value 1.05, 0.48 and -0.76. So it can be said that the mean of CAL Programme learning is high.

(2) Table no. 3 & Graph no. 1 (Column no. 5,6&7) indicates that the mean of Linear Programme, CAL Programme and Traditional Method of boys are 20.35, 23.3 and 16.53 also kurtosis value 2.03, -0.36 and -0.79. So it can be said that the mean of CAL Programme learning of boys is high.

(3) Table no. 3 & Graph no. 1 (Column no. 8,9&10) indicates that the mean of Linear Programme, CAL Programme and Traditional Method of girls are 20.58, 24.75 and 19.38 also kurtosis value 19.38, 0.47 and -1.27. So it can be said that the mean of CAL Programme learning of girls is high.

GRAPH No: 1



TESTING OF HYPOTHESES:

Testing of Hypotheses at 0.01 level and 0.05 level is shown in table no.3 and its shows the acceptance of or rejection of Hypotheses.

**Table NO.4
TESTING OF HYPOTHESES**

Sr. No	Hypotheses	t-value	Significant level (0.05 & 0.01)	Acceptance Rejection
1	There will be no significant difference between the mean scores of academic achievement of boys gained by CAL programme and Linear Programme on the unit 'Vanyajeevan' of Social Science subject of Std-9	6.76	Significant at both level	Rejected
2	There will be no significant difference between the mean scores of academic achievement of girls gained by CAL programme and Linear Programme on the unit 'Vanyajeevan' of Social Science subject of Std-9	5.99	Significant at both level	Rejected
3	There will be no significant difference between the mean scores of academic achievement of boys gained by Linear Programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9	7.29	Significant at both level	Rejected
4	There will be no significant difference between the mean scores of academic achievement of girls gained by Linear Programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9	6.10	Significant at both level	Rejected
5	There will be no significant difference between the mean scores of academic achievement of boys gained by CAL programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9	13.94	Significant at both level	Rejected
6	There will be no significant difference between the mean scores of academic achievement of girls gained by CAL programme and traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9	10.85	Significant at both level	Rejected
7	There will be no significant difference between the mean scores of academic achievement of boys and girls gained by Linear Programme on the unit 'Vanyajeevan' of Social Science subject of Std-9	5.12	Significant at both level	Rejected
8	There will be no significant difference between the mean scores of academic achievement of boys and girls gained by CAL programme on the unit 'Vanyajeevan' of Social Science subject of Std-9	4.18	Significant at both level	Rejected
9	There will be no significant difference between the mean scores of academic achievement of boys and girls gained by traditional method on the unit 'Vanyajeevan' of Social Science subject of Std-9	4.74	Significant at both level	Rejected

FINDINGS:

The findings of the study were as follows:

- 1.The boys of Std-IX who have learnt through linear programme and CAL programme were observed and CAL programme was seen more effective than learning through linear programme.
- 2.The girls of Std-IX who have linear programme and CAL programme also learnt through CAL programme was seen more effective than learning through linear programme.
- 3.The boys of Std-IX who have learnt through linear programme and through by traditional on the unit Vanyajeevan of Social Science Subject and linear programme uses seen more effective.
- 4.The girls of Std-IX who have learnt through linear programme and through by traditional on the unit Vanyajeevan of Social Science Subject and linear programme uses seen more effective.
- 5.The boys of Std-IX who have learnt through self-learning by CAL Programme & through by traditional method on the unit 'Vanyajeevan' of social science subject and CAL programme was seen more effective.
- 6.The girls of Std-IX who have learnt through self-learning by CAL Programme & through by traditional method on the unit 'Vanyajeevan' of social science subject and CAL programme was seen more effective.
- 7.The boys and girls of Std-IX who have learnt through linear programme on the unit 'Vanyajeevan' of social science subject and the difference was not seen between the mean scores of boys and girls
- 8.The boys and girls of Std-IX who have learnt through CAL programme on the unit 'Vanyajeevan' of social science subject and the difference was seen between the mean scores of boys and girls.
- 9.The boys and girls of Std-IX who have taught by traditional method of the unit 'Vanyajeevan' of social science subject and the difference was not seen between the mean scores of boys & girls.
- 10.The boys and girls of Std-IX who have learnt through linear programme, CAL programme and through by traditional method on the unit 'Vanyajeevan' of social science subject and the girls were seen more higher first in CAL programme and after that in linear programme learning method.

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Mina H. Rathod

B.D. Shah College of Education, CTE, Modasa District: Arvalli, State: Gujarat.

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