

# Effectiveness of Computer Assisted Instruction Programme to teach Gujarati to IX Standard Students of Urban and Rural Area of Rajkot

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## ABSTRACT

*The focus of this study is to find out the suitable chapters for IX std. Gujarati and to find out the effectiveness of CAI to teach Gujarati for IX standard students, to find out the effectiveness of CAI programme according to urban & rural area, and to find out the opinions of IX standard students towards developed CAI programme. Methodology of the study was experimental method, Pre-test Post-test equivalent group design and Purposive sampling method was used for this study. The CAI programme was designed in Java script, Flash, Java script animations, CorelDraw, Graphics, and in Web page. The null hypotheses of the research study were i.e. H0-1: There is no significant difference between mean score of students taught by conventional method and CAI method and H0-2 There is no significant difference between mean score of urban and rural experimental group students. The observations were i) there is a significant difference between mean scores of control group and experimental group taught by Conventional Method and CAI programme respectively are accepted. It means that calculated 't' value is 4.51 is found significant at 0.01 significance level. ii) The calculated 't' value is 1.97 less than observed 't' table value at 0.01 significance level respectively. Hence, it is considered to be there is no remarkable and significant resulting in the acceptance of null hypothesis H0-2: and accepting the research hypotheses. An average 85% of the students' gave excellent opinions for Instruction through Computer, presentation of the content, technical facility available, evaluation and feedback for developed CAI programme. 1) The developed CAI Programme for Gujarati subject was found effective in case of Urban and Rural area. 4) Students gave an excellent response towards the developed CAI programme, in the complex subject like Gujarati.*

**Key words:** Working conditions, Exploitation and Human

## Introduction

Education is a powerful tool for social change, social mobility. It is a continuous process which transfers the morals, values; of our culture to the next generation. It enables to develop, and build up the new generation of our nation. In this, context schools play an important role.

No doubt, Computers have contributed significantly in advancement of each and every sector of human life even though; education sector is not excluded from it. So computer is the most advanced, and an endowed tool for education field. It plays vital role during the course of education. It enhances not only retention, learning rate, cognition, perception of the students; but also improve teaching rate of teachers. Computer Assisted Instruction provides learning experiences effectively, vivid, and efficient in nature, which leads to increase the perception level, and achievement level of the students gradually. Thus, the computer is the super machine; it brings teaching learning process in more realistic way.

In the general classroom, student come from different back ground of the society, which affects teaching learning process, but Computer classroom provides learning experience according to their need and pace. Hence, computer classroom environment become conducive, to more creative discipline. Thus, Computer Assisted Learning provides positive touch to real life, and brings equity & quality in education. Another most important reason to prepare Computer Assisted Instruction programme for Chemistry subject is that, the most of the students plan their carrier in stream of Medical, Engineering, and Agricultural science, after XI, & XII science standard. In the fulfillment of students' goal, CAI plays the major role. In learning process of Chemistry student interacts with computer in variety of ways. The degree of computer awareness and creativeness and the rate of computer literacy increases. In this way, it enables to promote scientific temper and self esteem.

The researcher also experienced, that student tackle so many problem involving perception, retention, and cognition process in the learning of Gujarati subject. During that tenure, the researcher comes to know there was an urgent need; for introducing some new teaching techniques; for the better understanding of Gujarati subject. Considering this, the researcher decided to emphasize the use of; Computer Assisted Instruction programme, the new trend developed in education.

Probing the problem of students, and studying the present situation of education in this Globalized world; the Researcher decided to investigate a research problem entitled, Effectiveness of Computer Assisted Instruction Programme to teach Gujarati to IX Standard Students of Urban and Rural Area of Rajkot.

### Statement of Problem

Effectiveness of Computer Assisted Instruction Programme to teach Gujarati to IX Standard Students of Urban and Rural Area of Rajkot.

### Operational Definition of terms

i) Development CAI programme

A software package based on principles of Computer Assisted Instruction is prepared with the help of CorelDraw, Macromedia flash animations, Graphics, Java script, Adobe Photoshop, so the Computer provides information & learning material during the learning process.

ii) Effectiveness

A Significant difference between mean score of students taught by CAI and Conventional Method.

### Conventional Method

oriented teaching method, which is regularly used in a general classroom situation.

### Objectives

i) To analyze IX standard Gujarati textbook for selection of suitable chapters.

ii) To develop CAI programme for the selected units of Gujarati.

iii) To find out the effectiveness of CAI programme, over the conventional method of teaching English to IX standard students.

iv) To find out the effectiveness of CAI programme according to urban & rural area.

### Research Hypothesis

#### Null Hypothesis

#### H0-1

Assumptions of the study

i) IX Standard students have a basic knowledge of the Computer operating system.

ii) If CAI programme is used, students can learn at their own pace and time.

### Research design

Pre-test Post-test Equivalent Group Design

R 01 X 02                      01 03 = Pre-test

R 03 X 04. 0204 = Post-test. (10\* eds. Best & Khan page, 181)

This research design requires at least two groups i. e. one control group and one experimental group. Both groups were assigned by random assignment and administered pretest.

### Variables of Present Research Study

i) Independent Variable

ion (CAI) programme. Therefore, the Independent Variable in the present study was Computer Assisted Instruction (CAI) programme, which was developed by the researcher.

In the present research study, the dependent variable was the scores obtained by the student in their achievement test and was measured by post-test.

### Population of the Research Study

Population of the Research Study is of Rajkot City and One School of Rural Area of Surat District were selected as sample by incidental purposive method. From Each school, 32 students for Conventional Method group and 32 students for Experimental group were selected by random assignment method. In all 128 students were the Sample for the present study.

### Tools

#### i) Gujarati Achievement Test (GAT) i.e. Pre-Test and Post-Test

The test was prepared by the researcher with the help of subject teacher, experts in education field, and was termed as Gujarati Achievement Test (GAT) i.e. Pre - test & Posttest. Pre - test & Post - test was administered after pilot study. Pre- test was administered before implementing the CAI programme, in order to find out their previous knowledge about the subject. The post- test was administered after implementing the CAI programme in order to find out the effectiveness of CAI. The pre-test and post-test

separately prepared for each chapter. After implementing the CAI programme for first chapter, the post-test administered on the next day.

With the help of technical expert, and programmer, the researcher had prepared the students opinionnaire, in order to find out opinion of students towards developed Computer Assisted Instruction programme to teach Gujarati subject to IX Std. students.

### Opinionnaire for student

on 17 Gujarati subject teachers in order to find out the suitable chapters for IX standard students. Those chapters, which were very tedious, complex in nature, for the students to understand those were selected.

#### b) Statistical Tools

i) Mean:

ii) Standard Deviation (S.D):

iv) Percentage: Percentage was used to measure the responses of the students towards CAI programme.

#### c) Technical Tools

i) Computer Assisted Instruction (CAI) Programme

story board, which is bifurcated into teaching component and Computer component (Software component), igned in Java script, Flash, Java script animations, CorelDraw, Graphics, and in Web page.

### Testing of the Hypothesis

#### Objective: 2)

#### H0-1

**TABLE: 2**  
**Comparison of Mean score, S. D., t value of Control and Exp. Group**

Group	Mean	Mean	S.D	S.D	DF	t obs.	t cal.	Decision Null Hypothesis
Control	25.62	28.40	0.71	1.46	119	2.62	4.51	

Table: 2 show the mean of marks obtained by, IX students of control group; as well as experimental group. This table also shows standard deviation, calculated 't' value at 0.01 significance level.

The calculated 't' value is 4.51 exceeds than observed 't' table value at both 0.01 significance level respectively.

Hence it is considered to be remarkable and significant resulting in the rejection of null hypothesis HO-1: and accepting the research hypothesis.

3) To find out the effectiveness of CAI programme according to urban & rural area.

HO-2 There is no significant difference between mean score of urban and rural experimental group students.

**TABLE: 3**  
**Comparisons between Urban and Rural Experimental Group according**

Area	Experimental Group				Df	't' Cal.	't' obs.	Decision
	Pre-test		Post- test					
	Mean	SD	Mean	SD				
Urban	25.83	0.92	45.31	1.50	59	1.97*	2.66	Accepted
Rural	26.56	1.24	44.65	1.78				

Table: 3 shows the mean of marks obtained by, IX students of experimental group from urban and rural. This table also shows standard deviation, calculated 't' value at 0.01 significance level.

The calculated 't' value is 1.97 less than observed 't' table value at 0.01 significance level respectively.

Hence it is considered to be there is no remarkable and significant resulting in the acceptance of null hypothesis HO-2: and accepting the research hypothesis.

**Objective 4.** To find out opinion of the students towards developed CAI programme.

**TABLE: 3**

**I) Students' opinionnaire for Instruction through Computer.**

Response	1Q	2Q	3Q	4Q	5Q	6Q	7Q	8Q	9Q
<b>Fair</b>	-	1%	11%	1%	1%	1%	-	1%	-
<b>Average</b>	15%	17%	15%	17%	17%	17%	15%	17%	-
<b>Excellent</b>	85%	82%	74%	82%	82%	82%	85%	82%	100%

**TABLE: 4**

**II) Students' opinionnaire for presentation of the content.**

Response	1Q	2Q	3Q	4Q	5Q	6Q	7Q	8Q	9Q
<b>Fair</b>	-	1%	11%	1%	1%	1%	-	1%	1%
<b>Average</b>	15%	17%	15%	17%	17%	17%	15%	17%	17%
<b>Excellent</b>	85%	82%	74%	82%	82%	82%	85%	82%	82%

**TABLE: 5**

**III) Students' opinionnaire for technical facility available**

Response	1Q	2Q	3Q	4Q	5Q	6Q	7Q	8Q
<b>Fair</b>	-	1%	11%	1%	1%	1%	-	1%
<b>Average</b>	15%	17%	15%	17%	17%	17%	15%	17%
<b>Excellent</b>	85%	82%	74%	82%	82%	82%	85%	82%

**TABLE: 6**

**IV) Students' opinionnaire for evaluation and feedback.**

Response	1Q	2Q	3Q	4Q	5Q	6Q	7Q	8Q
<b>Fair</b>	-	1%	11%	1%	1%	1%	-	1%
<b>Average</b>	15%	17%	15%	17%	17%	17%	15%	17%
<b>Excellent</b>	85%	82%	74%	82%	82%	82%	85%	82%

\* Q indicates relevant Question

Observation and Interpretation: An average 85% of the students' gave excellent opinion for Instruction through Computer, presentation of the content, evaluation and feedback.

**Major findings of the study**

- 1) The developed (CAI) Programme for Gujarati subject was found significantly superior to Conventional Method in terms of Academic Achievement.
- 2) The developed CAI Programme for Gujarati subject was found, effective in case of Urban and Rural area.
- 3) Students gave an excellent response towards the developed CAI programme, in the complex subject like Gujarati.

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