



## **Effect of CAI Program on Immediate and Long Term Recall**

By

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### **Abstract**

*The purpose of this study was to find out whether method using instructional technology is more effective teaching tool than tradition teaching method to produce immediate and long term recall of information. Experimental research method was used to conduct the study. The sample for the study comprised 60 students of X std. placed in two equal groups. CAI and lecture methods were used to teach contents of mensuration. One group was taught by lecture method and other group was set for self learning using CAI program. Findings of the study reveal that students recall 72% information after 3 hours and 21% after one week. Results of the study also show that CAI group was more effective for immediate recall.*

**Key Words :** CAI Program , Immediate Recall , Long Term Recall

### **Introduction**

With the advent of instructional technology, it is necessary to determine whether the technology is actually a more effective teaching tool than traditional

lecture method. It is prevailing question whether the students taught by lecture method retain more information or the students learn themselves by instructional material provided through a computer. A number of studies have been accomplished out side India.

Ukkonen ( 1987) revealed in her study that of the thing we hear, we remember 70% after three hours and 10% after three days. The research done by Gagne and Paget ( 1980 ) state that after being out of class for eight months, the average total retention of the information received from the class was 58.76%. In the study by Klees ( 1979 ), it was found that a group of ninth graders using instructional video in Maths and Science scored significantly higher on achievement tests than the group learning through traditional method. Loretta A. Crain's study revealed that CAI and Lecture group mean scores were significantly higher than the mean score of video group.

Reviewing the studies a question flashed in the mind of the researcher that whether it will not be a fruitful study to determine the retention power of the students belong to backward area like Banaskantha region of Gujarat state. Keeping this in mind the researcher tried to know the immediate and long term recall of IX std. students of Palanpur city, using CAI program.

### **Objectives**

The researcher set the following objectives to complete the study.

1. To determine the immediate and long term recall of the information furnished by lecture method and CAI techniques.

2. To determine comparative effectiveness of lecture method and CAI techniques with reference to immediate and long term recall.

### **Design of the study**

The study employed experimental post test research design to carry out the investigation. In this the investigator tried to find out the effect of lecture method and CAI technique on immediate and long term recall of instructional material related to the content of mensuration. The study also intends to find out comparative effectiveness of both the methods.

### **Sample**

Students of M.B. Karnavat High School studying in IX std., participate in the study. Out of 250 students 60 students were random by selected and divided into two equal groups of 30 students each.

### **Tool Used**

An objective type achievement test containing 20 questions was constructed by the researcher. The test contains 15 multiple choice questions and 5 short answer type questions.

### **Learning Materials**

Two methods were used for two groups to instruct the students about surface area and volume of cylinder and cone. Each group of students was presented with the same information and the same size to insure that measurement was on recall of the same information. A lecture was prepared to instruct students about formulae used to find out surface area and volume of cylinder and cone. Examples were given

on how to calculate surface area and volume of different objects like, sphere, cylinder and cone. A CAI package was constructed containing an explanation how to remember formulae and how surface area and volume of different objects can be calculated. The CAI program contained prompted responses to questions, and allow students to learn at their own pace.

### **Procedures**

Group one received the lecture given by the researcher himself. Group two reported to the computer lab, which was supervised by a trained instructor, to utilize CAI program. During the course of instruction, student were permitted to take notes and to ask questions regarding the content of the instruction. This was to insure that each group had the same opportunity to clarify any information which they did not understand. Immediately after the teachings were over, copies of achievement test were handed out to the students. The students were required to complete the test with in 20 minutes. The answers were checked and scored. Performance on this test produced the greatest amount of immediate recall.

One week after the instruction, all students participating in this study were given the same achievement test, but this time questions were presented in different order. Students were again given 20 minutes to complete the test. Answers to the questions were again checked and scored. Performance on this test produced the greatest amount of long term recall.

### **Analysis of Data**

The scores on immediate and long term recall were classified, tabulated and subjected to statistical analysis using mean. SD and ' t ' value.



**Table – 1****Statistical Analysis of Immediate and Long Term Scores**

Group	N	Immediate Recall			t	Long Term Recall			t
CAI Group	30	14.4	3.73	72	3.15	8.4	3.89	42	1.46
Lecture Group	30	11.6	3.17	58		9.72	3.05	49	

Observation of table- 1 shows that ' t ' value of CAI group and lecture group for immediate recall is 3.15. It is significant at .01 level. This reveals that there is significant difference between the mean scores of CAI group and lecture group on immediate recall. As mean score of CAI group (14.4) is more than the mean score of lecture group (11.6), it depicts that CAI technique is more effective than lecture method to produce immediate recall of presented learning materials.

So far long term recall is concerned, ' t ' value of mean scores of CAI and lecture group is 1.46. This value is not significant. That means both the approaches to provide learning materials to the students have equal impact on long term recall.

Observation of table-1 also depicts that percentage recalls of learning immediate after the presentation are 72% and 58% for CAI and Lecture group respectively, and for long term recall the percentage of producing learning materials are 42% and 49% respectively for both the groups. The observations in table-1 also show that the CAI percent mean scores dropped by 30% whereas lecture group

percent mean scores dropped by 9% from the percent mean scores of immediate recall test.

## **Discussion**

The findings of Ukkonen ( 1987 ) revealed that what a person see and hear he remember 85% after three hours and 65% after three days. In the present study, the researcher got these percentage differently for different groups.

In the study of Klees ( 1979 ), he claimed that CAI and lecture groups had much higher levels of immediate recall, and dropped to the same level of long term recall. But the present study indicates that dropping in the percent mean scores from immediate recall level to long term recall level is different and there a difference of 7% in mean scores of CAI and lecture group.

In conclusion, this research shows that CAI and lecture formats seem to provide better opportunity for immediate recall of information, but no single method of instruction can insure significant amounts of long term recall of concepts.

## **References**

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