

A) General Information: -

1. Name of the Institute: DIET, Dilshad Garden (N/E)

2. Details of the Investigator(s):

Name	Designation	place of posting at the time of project completion	of present place of posting	Contact No	E-mail
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3. Project/ Study Conducted Academic Session: 2014

4. Institute where Project/Study submitted: DIET, Dilshad Garden

5. Theme of the Project/Study: Education technology

6. Level of the study: school level

B) Summary of the Conducted Research work/Project/Study: -

1. **Title:** Effectiveness on CAL in Mathematics
2. **Introduction:** Mathematics is an important part of the foundation for education for all children. Effective Mathematics teaching requires understanding what students know and need to learn and then challenging and supporting them to learn it well. The teacher is the key to a child's success in developing Mathematical understanding. The teacher ability to deliver effective Mathematics instruction is the most powerful factor in determining how well student learn mathematics. By developing content knowledge through CAL and Internet resources, teachers not only could deepen their profound understanding of mathematics but also become capable of making instructional decision that lead to meaningful activities and real world experiences for the students in their future classrooms. Mathematical content knowledge leads to effective mathematics instruction. Present study is an attempt to gauge the effectiveness of CAL in Mathematics at upper primary level
3. **Research Objectives:** The objective of this study was to present a comparative analysis of CAL and Traditional instructional method of teaching Mathematics at upper primary level. The objective have been set to study the achievement level of class VI Students before and after treatment and to find out the relationship/difference of class VI Students in terms of Traditional Group and CAL Group in their achievement levels before and after treatment.
4. **Research Design:**
 - **Research method(s):** Pre –test, Post –test control group experimental design under Experimental Research was used in this study.
 - **Tools and techniques:** Pre and post Criterion Reference tests on general Mathematical concept i.e Fraction, Decimal and Geometry was developed by investigators consisting of 30 Items.
 - **Statistical techniques:** Percentage, Mean, t-test and correlation were used for analyzing the data.
5. **Research findings:** The findings of the effectiveness of CAL on achievement suggest that CAL is more effective than traditional instruction. Students in the experimental

group had higher performance in scores than did the students in the control group. The interactive CAL resources helped them to construct their knowledge. The CAL not only helped students do the basic knowledge, they also helped them explain why and how they work. Students in experimental group had higher performance in scores than did the students in control group. Further Girls in experimental group had higher performance than boys, analysis also revealed that no significant difference between both groups. Study also found that student in experimental group, who were taught with CAL demonstrated better performance in mathematical concepts than did the control group students who received traditional instructions.

6. **Educational implications:** It is recommended that mathematics teacher education programs should take into consideration the use of technology for preparing student to teach mathematical concepts effectively in tomorrow's mathematics classroom. The study revealed that instruction through CAL is more effective than traditional instructions; therefore there is strong need to use CAL instructions in classroom in all subjects.
7. **Scope of the study:** Present study focused on gauging the effectiveness of CAL in only three topic Viz. fraction, decimal and geometry. Similar study can be taken up by taking more concepts of mathematics. This study was delimited to District North East of Delhi and in Mathematics only, similar study can be taken up in future in other district of Delhi and others schools subjects also.