



## DEVELOPMENT AND EFFECTIVENESS OF CAI IN ENGLISH GRAMMAR FOR STD. IX STUDENTS

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### ABSTRACT

*The world in which we live is changing rapidly and the field of education is experiencing these changes in particular as it applies to Media Services. The old days of an educational institution having an isolated audio-visual department are long gone! The growth in use of multimedia within the education sector has accelerated in recent years, and looks set for continued expansion in the future.*



**KEYWORDS:** educational institution , multimedia learning resources.

### INTRODUCTION-

Teachers primarily require access to learning resources, which can support concept development by learners in a variety of ways to meet individual learning needs. The development of multimedia technologies for learning offers new ways in which learning can take place in schools and the home. Enabling teachers to have access to multimedia learning resources, which support constructive concept development, allows the teacher to focus more on being a facilitator of learning while working with individual students. Extending the use of multimedia learning resources to the home represents an educational opportunity with the potential to improve student learning.

The elements used in multimedia have all existed before. Multimedia simply combines these elements into a powerful new tool, especially in the hands of teachers and students. Interactive multimedia weaves five basic types of media into the learning environment: text, video, sound, graphics and animation. Since the mode of learning is interactive and not linear, a student or teacher can choose what to investigate next. For example, one does not start on the first page of a linear document and read to the end. Interactive multimedia learning mode is more like constructing a spider's web, with one idea linked to another, allowing choices in the learner's path.

The multimedia technologies that have had the greatest impact in education are those that augment the existing curriculum, allowing both immediate enhancement and encouraging further curriculum development. For example, the WWW serves as a storehouse of information that individual learners can search for subject matter content that specifically fits their learning agendas. Multimedia applications for computers have been developed for single computing platforms such as the PC, Apple Mac and games machines.

### IMPLICATIONS FOR THE PRESENT STUDY

A sizable number of studies reviewed revealed that the CAI used as supplement to traditional instruction, produces an educationally significant improvement in students' achievement. Also in a large number of studies the CAI has been found significantly more effective than conventional instruction. Students learning rate has been found faster with CAI than with conventional instruction. The students have

been found to have favorable reactions towards CAI. The CAI has been found effective on various subjects. Some of the studies have found that composite modes of instruction may not always result into higher cognitive learning in languages. Interactive modes of instruction on languages through Computer Assisted Learning Material (CALM) have been found quite effective. CAI on various subjects has been found useful for learners of varied profiles.

The review of Related Literature reveals that the studies conducted on languages particularly English are very rare. The investigator has not come across any study on effectiveness of CAI on English Grammar.

The Related Literature Reviewed definitely establishes the effectiveness of computer as a medium of educational instruction. The Related Literature motivated the learner to take up a study on English Grammar instruction through computer.

### **METHODOLOGY:**

The present study was an experimental study. Detail of the methodology like design of the study, population, sample, tool, development of the package, data collection and data analysis are discussed here as follows.

### **STATEMENT OF THE PROBLEM**

*Development and Effectiveness of CAI in English Grammar for Std. IX Students*

### **OBJECTIVES OF THE STUDY**

1. To develop Computer Assisted Instruction (CAI) on English Grammar for Standard IX Students.
2. To study the effectiveness of the CAI in terms of achievement of Std. IX Students on English Grammar.
3. To study the reactions of the Standard IX Students on the CAI developed by the investigator.

### **OPERATIONALIZATION OF TERMS**

**CAI IN ENGLISH:** CAI in English Grammar in the presents study refers to the Computer Assisted Instructional Package developed by researcher using various software to teach English Grammar to Std. IX students.

**ACHIEVEMENT:** Here, achievement means the marks obtained by the students of standard IX on the pre- test and post-test of English Grammar constructed by the investigator on the selected English Grammar points from Std. IX.

**EFFECTIVENESS OF CAI:** Here, effectiveness of CAI has been studied in terms of the significance of difference of mean achievement gain scores of the students obtained on the pre-test and post-test, and their reactions on the developed CAI.

### **HYPOTHESES**

1. There was no significance difference in the mean gain scores of experimental and control group of the students on written pre-test and post-test.
2. There was no significance difference in the mean scores of experimental group and control group of the students on oral post-test.
3. There was no significant difference in the observed frequencies and frequencies expected against equal probability against various statements of the reaction scale

### **DELIMITATION OF THE STUDY**

The present study is delimited to English Grammar Section of Gujarati medium Std. IX of GSHEB.

## RESEARCH DESIGN

Pre-test, post-test experimental and control group design was employed for the study for the written test.

## POPULATION

All the Gujarati medium schools of Gujarat State under GSHEB was the target population of the present study.

## SAMPLE

Investigator was make list of schools which have computer facilities and two division have at least class 9<sup>th</sup>. From this list one school was be selected randomly & All student of class 9<sup>th</sup> was constitute two sample. (1) Division was called as experimental group (2) other division was control group. Treatment was given randomly to group. There are 60 students in each class.

## TOOLS AND TECHNIQUES

Following tools were constructed to realize the above objectives:

**1 Achievement test:** An Achievement test, written was constructed by the investigator. The written test was constituted on Grammar covering the contents of 9<sup>th</sup> standard Grammar.

Achievement test in English is prepared for administering pre-test and post-test. This achievement test is prepared by the researcher keeping in mind content of the English Grammar, which is selected for purpose of preparing Multimedia Package. This achievement consists of 5 Question, Types of Question was open ended and close ended. The achievement has the total weight age of 20 marks. The researcher has considered 30 minutes of time for solving the test. The prepared test was referred to the experts in the field of education and English for its content validation and modification. Considering the suggestions by the experts, the final achievement test was prepared.

**2 Reaction Scale:** In order to study the reactions of the students towards the developed Multimedia package, objective-3 the researcher constructed a five point-Strongly agree, agree, disagree, undecided, strongly disagree reaction scales.

### 3. Procedure of the study:

For developing multimedia package the investigator was considered the Std. IX English syllabus. The investigator was kept in mind the following objectives during the development of multimedia package.

1. The students were able to give the meaning of all difficult grammar points.
2. The students were able to learn English grammar with interest.
3. The students were able to understand grammar easily.
4. The students were able to develop confidence in English grammar.

The multimedia package was developed on the principals of programmed learning material (PLM). Developed programme material has different small frames. Each frame contains one bit of contents of the topic. This content is followed by a question and its answers are known as stimulus- response. This way the entire multimedia package developed. This programme material was shown to two subject experts for validating it in terms of the content of the subject and clarity of the language used in the material is also given to the two experts in the field of programme learning for checking the systematic flow of instruction and formation of frames. Finally, the suggestion given by the experts was incorporated.

After completion of the programmed material it was programmed through the computer software for converting it into a multimedia package. For the purpose of programming, the researcher has chosen the MACRO MEDIA FLASH, PAGE MAKER was chosen because of the following characteristics.

1. It is windows based and user friendly.
2. It permits the colorful figures, graphics and pictures that make the content interesting.
3. Ease of simulation, and animation, which helps in easy understanding of content.
4. Provision for presenting for more than one window on screen at a time, which helps the researcher to present the text and figure at the same time.
5. It also helps for the narration.
6. It is also helpful for background effects and color.

The researcher was entered all frames of programme material in the data files. Pictures and symbols from the Corel draw, front-page were used for construction of different formulas and graphical presentation of content which was needed for multimedia package. By using this graphics researcher was made an attempt for preparing the multimedia package more interesting.

The developed multimedia package was shown to two experts in the field of computer programming and multimedia package, for checking the mode of presentation, clarity of the graphics, contiguity and modality. The suggestions from the experts were incorporated. The modified multimedia package was used for the experimentation.

#### **Phase I – Designing of multimedia package**

Using of the various packages like macromedia flash, coral draw, page maker, Sony sound recorder with the features of sounds, text, color and background investigator was developed the Package.

The Whole Package has been Divided in 13 Frames and Each frame has contain Text, Sound, Colors, Background etc.

#### **Phase II –Administration of pre-test**

The study was conducted for 5 days and before the investigation investigator was take pre-test. Duration of pre-test 35 minute.

#### **Phase III- Implementation of multimedia package**

Developed Multimedia Package was be implemented in Experimental Group. Five days investigator was teach multimedia package in computer lab. Two students was set gather on one computer. Duration of teaching one day two periods of 35 minute.

#### **Phase IV- Administration of Post test**

After the implementation of the developed Package investigator was be employed the post test

#### **Phase V- Administration of Reaction Scale**

After the implantation of the developed multimedia package investigator was employed the reaction scale

#### **DEVELOPMENT OF CAI**

For developing CAI, the investigator considered the English Grammar Points taught to Std .IX students. The investigator kept in mind the following objectives during the development of the CAI.

- 1) The students were able to read English by their own.
- 2) The students were able to translate English Stanza by their own.
- 3) The Students were able to give the meaning of all difficult words.

- 4) The students were able to learn English Grammar with interest.
- 5) The students were able to understand English Grammar easily.
- 6) The students were able to develop confidence in English Grammar.

The CAI was developed on the principals of programmed learning material (PLM). Developed program material has different small frames. Each frame contains one bit of contents of the topic. This content is followed by a questions and its answer related to the presented content. This sequence of content followed by questions and answers is known as stimulus-response. This way the entire CAI was developed. This programme material was shown to two subject experts. for validating it in terms of the content of the subject and clarity of the language used in the material. The material was also given to the two experts in the field of programme learning for checking the systematic flow of instruction and the formation of frames. Finally, the suggestions given by the experts were incorporated.

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#### **DATA COLLECTION:-**

The presenter has major 2 aspects; one aspect is to study the effectiveness of multimedia package. For this purpose single group pre-test and post-test design was followed. As per research design, an achievement test was administered twice, before the experiment as pre-test and after the experiment post-test with the help of computer.

Before the student started studying English through Multimedia package the investigator conduct pre-test. The students attempted the test and also got their doubts clarified. Investigator collected the scores of students when they completed the pre-test. The time by students for answer the test was thirty minutes.

Then investigator implemented the developed Multimedia Package 2 day after. All the students who had given pre-test were also given post-test and investigator had collected scores of individual students.

The researcher also administered reaction scales by computer on the students to collect their reaction on the developed Multimedia Package.

For the purpose of the objective no 3 i.e. to study the reaction of the students regarding development multimedia package. The investigator had constructed a reaction scale for the students. Investigator have given the useful instruction regarding how to fill up the reaction scale. An on average time taken for fill up reaction scale was 30 minutes.

### DATA ANALYSIS

Collection data were analyzed using appropriate statistics techniques. To study effectiveness of developed multimedia package, Mean, Standard Deviation, Standard Error of difference and t-value were computed. To study the reaction of the students towards developed multimedia package frequencies and percentage were calculated.

### FINDINGS

- Multimedia Package can use very well for remediation purpose.
- Prepared Multimedia Package in English was found effective in teaching English Grammar to 9<sup>th</sup> std. Students as the post-test score was found significantly more than pre-test score.
- The reaction of students towards the prepared Multimedia Package in English Grammar was found positive.

### CONCLUSION

The study was conducted by the investigator has revealed that the Multimedia Package developed by the investigator on selected topics of English grammar of class 9<sup>th</sup> students was found effective in terms of achievement of the learners and their reactions. Such Software's need to be developed and widely deployed for the revival of English. Such attempts need to be made at a large scale at all levels of Education.

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