CHAPTER – 2

Conceptual Framework

And

Review of Related Literature

2.1 Introduction

With a view to develop an insight into the problem, the researcher studied the related literature available in the field of the problem. It helped the researcher to conceptualize the context, develop ideas for the program based on an in-depth understanding of ELT & the role of technology in teaching learning English. Study of relevant literature also helped in framing out the design of the research. The review of the literature studied is posited in this chapter under two titles i.e. conceptual framework and review of related literature. The use of computers in the classroom process gives the theoretical basis. Applicability of the learning principles and learning theories gives the psychological basis. Empirical basis throws light on the past research studies carried out in the present field along with the critical review of them as compared to the present study. The researcher studied methods, measures, approaches, treatments, teaching aids and experimental designs employed by previous researchers. Distinguishing characteristics of the present study are given at the end of the chapter.

2.2 History of CAL

Computers have been used for language learning since the 1960s. This 30 year history can be roughly divided into three main stages: behaviorist CAL, communicative CAL, and integrative CAL. Each stage corresponds to a certain level of technology as well as a certain pedagogical approach. Behaviorist CAL, conceived in the 1950s and implemented in the 1960s and 1970s, could be considered a subcomponent of the broader field of Computer Assisted Instruction. Informed by the behaviorist learning model, this mode of CAL featured repetitive language drills, referred to as drill-and-practice.

The next stage, communicative CAL, emerged in the late 1970s and early 1980s, when new personal computers were creating greater possibilities for individual work. CAL software developed in this period included text reconstruction programmers. In addition to computer as tutor, another CAL model used for communicative activities involves the computer as stimulus.

By the late 1980s and early 1990s, critics pointed out that the computer was still being used in an ad-hoc and disconnected fashion and thus finds itself making a greater contribution to marginal rather than central elements of the language learning process. Task-based, project based, and content-based approaches all sought to integrate learners in authentic environments, and also to integrate the various skills of language learning. This led to a new perspective on technology and language learning, which has been termed integrative CAL. Thus, integrative CAL is a perspective that seeks both to integrate various skills (e.g., listening, speaking, reading, and writing) and also integrate technology more fully into the language learning process. About Integrative CAL package comments

This concept is relevant to any kind of technological innovation and refers to the stage when the technology becomes invisible, embedded in everyday practice and hence 'normalized'. To take some commonplace examples, a wristwatch, a pen, shoes, and writing - these are all technologies which have become normalized to the extent that we hardly even recognize them as technologies.

Discussing about the importance of the ‘CAL’ Warschauer (1999) said that we have no ‘BALL’ (Book Assisted Language Learning), no ‘PALL’ (Pen Assisted Language Learning), and no ‘LALL’ (Library Assisted Language Learning) when we have ‘CAL’. Thus, computers will have taken their place as a natural and powerful part of the language learning process.

Using computers in language learning is not a very new phenomenon. It dates back to the early 1960s, although it was confined in those days mainly to universities with prestigious computer science departments.

2.3 Importance of the English Language

The 21st century is the century that is recognized as an age of information. In this age, the world is called a global village and in this village there is unique language and that is international English. To face the global challenges and to meet with expectation of this age, one should learn English. English language learning is also a very important in country like India. There are particular reasons for learning English now days; they are as under.

- **International Status**

English is a global language. It is widely used by international community. Most of the developed countries use English and their usual communication is in English. In other words, English is a language of global village.

- **A Link language**

People living in different states use different regional language for conversation. But English is a language which links them together.

- **Educational Importance**

Today, Indian languages have not been developed enough to meet the demands of difficult subjects technology etc. good books in all these subjects are available in English only. Therefore, if we decide to give up English altogether, we would cut ourselves off from the living stream of ever growing knowledge.

- **English at the administrative level**

English has been the official language in our country for more than 150 years.

- **Role in trade, industry and commerce**

English plays an important role in the industrial and commercial life of the country. All correspondence is done mainly in English national and international trade, development of industry and the working in commercial establishments take place in English.

- **Cultural values**

English helps bringing people of diverse cultures closer to each other. It also assists us for inter cultural understanding at national and international platform.

- **Window to the world**

English informs us about the advancement of progress having taken place or tacking place throughout the world. Thus, our country cannot afford to close the window because it gives us true picture of the various facts of life, political, social, cultural, agriculture etc.

- **Role in our social life**

Majority of Indian educated people use this language for correspondence. It is means of social and intellectual communication in the highly educated section of society. In marriages and social gathering we use English as a medium of communication.

- **Knowledge of English, A successful passport for Employment**

People with good knowledge of English are given preference for selection to good posts. The prospects of employment for person knowing English are bright anywhere whether in India or abroad.

Thus, in the history of English in India we find that English has dominated the teaching learning program from the beginning.

2.4 Importance of Educational Technology

In recent years much attention has been focused on the use of technology in classes. Identifying the value of technology in schools has challenged educational researchers for more than 20years. Part of the problem is our evolving understanding of how technology accentuates student learning. Raid changes in the technology itself also hamper research. Finally, the intertwining of complex variables in such a rich environment as a school precludes the pure isolation necessary to determine cause and effect. Rapid changes in technology have affected teaching-learning process deeply. The aim of improving educational Quality invites the question of to extent to which

new technology aids this process. It is know that traditional formats are not always successful and efficient. New technologies offer opportunities for taking account of individual aptitude and interest. According to Jonassen, (1996) recent studies in the area indicate that effective use of education technology can help education system work better and more effectively. Use of technology in the classes gives students the chance of learning faster and more permanent. A significant increase was statistically found in the test scores of students in a computer aided learning environment. This shows the positive effect of technology for realizing effective learning. The attitudes of teachers are important factors influencing use of education technology in classes.

According to Hardy,(1998) some researchers show that teachers do not have positive attitudes toward computers and moreover they have fear against computer use in the classroom. Many people warn of the possible harmful effects of using technology in the classroom. Will children lose their ability to relate to other human beings? Will they become dependent on technology to learn? Will they find inappropriate materials/ the same was probably said the invention of the printing press, radio, and television. All of these can be used inappropriately, but all of them have given humanity unbounded access to information which can be turned in to knowledge. Appropriately used interactively and with guidance they have become tools for the development of higher order thinking skills. Inappropriately used in the classroom technology can be used to perpetual old models of teaching and learning. Students can be plugged into computer to do drill and practice that is not so different from workbooks. Teacher can use multimedia technology to give more colorful, stimulating lectures. Both of these have their place. But such used does not begin to tap the power of these new tools.

2.5 Importance of Computer in Education

As we know that five years plan documents states that

“That importance of education Technology has to be adequately provided for greater efficiency, effectiveness and wider reach of the education programs.”

The importance of Computer Education is also very well reflected in the report of the national workshop on computer literacy curriculum held at the national Council of Education Research and Training (NCRT) in 1984. It mentioned the following:

- Computer Education should be introduced at senior secondary level and gradually be introduced at middle and primary levels.
- Computer Education would be part of the curriculum of every standard, irrespective of the area selected for specialization.
- Computer Education would familiarize students with computer as a versatile tool with great application potential in all aspect of human development. After the workshop Class project was started which emphasized on Computer Education. The department of Electronics, Government of India in close co-operation with the department of Education, MHRD, and GOI launched the project in 150 schools. In this regard, National Council of Education Research and training (NCRT), New Delhi, took up the executive responsibility and Indian Institute of technology (IIT), New Delhi. Provided initial input for implementation of CLASS project in term of designing teachers and students training program CMS LTD (Computer Maintenance Corporation Limited) had the responsibility to install and maintain the computer of the project.
- Extension of computer literacy programs for all higher secondary schools by 1995 and elementary schools in long term due to the various facilities of computer keeping in mind the recommendation of NPE (1992). The following strategies and programmers were suggested by program of action(POA-1992)

Thus, it can be conclude that over the last decade the NPE (1986),revised NPE(1992), POA(1990) have highlighted not only the importance of computer suggest different strategies to implement the recommendation at different school levels. Even Ramamurthy committee report (1990) also laid emphasis on making Computer Education an integral part of the school time table. So it is beyond doubt that computers and information technology are going to play a very crucial role in education system of India.

Realizing the need and importance of computer the central state government are emphasizing on the implementation of computer education school and college level. Some states government has started working in this direction. Computer was first introduced at the school level in S.C. India schools, Goa in the year 1982. In the

subsequent year gradually it was introduced in many other private school in country, during 1990 and 1995 many private school in Gujarat introduced computer education in secondary and higher secondary schools as an additional subject either due to its huge potentiality and more reduce the educational and management burden and to attract more and more students. In 1998-99 the Government of Gujarati introduced the computer education at secondary school level as a part of the school subject.

In spite of recommendations given by the NPE and NOA, the present classrooms are rigid in terms of time schedule, teachers and duration of period. It makes the teaching learning process quite un-interesting, unmotivated, non-participatory and boring. The present technology in the form of computer provides a lot of flexibility. That is the learner decides which topic is to be learnt. This software has both text as well as visuals. Students can manipulate different factor of visuals and see their impact on the outcome. This concept can make an abstract concept very simple and within the limit of understanding of different students. Thus type of situation cannot be developed or controlled by the teachers in the classroom various curricular subjects can be taught with the help of computer by making use of Computer Assisted Learning (CAL).

2.6 Different Acronyms Associated with CAL

This field has gone by a numbers of different names groups as groups of practitioners have attempts to their own philosophies CALL remains the generic term.

1) CALL;-Computer assisted language learning the (generic term); sometimes Computer Aided Language Learning.

2) CALI;-Computer assisted language instruction (more teaching) less learning focused.

3) CBLT;- Computer based language training(View elements of language learning as training)

4) TELL;-Technology-enhanced language learning(accommodates more than just computer)

5) WELL;-Web enhanced language learning.

6) ICT in LT:- Information and communication Technologies in Language teaching (Focuses more on tool use)

7) NBLT Network-based language teaching (Focuses on computer mediated communication and the web)

The main difference between the acronyms is the focus given to the computer as part of the language learning process. CALL will be used as a general term throughout this chapter to cover all of the above, unless otherwise stated CALL refers to the use of the computer for instruction, regardless of what is being taught. CALL refers to the integration of techniques from the field of artificial intelligence and computational linguistics to enhance CALL applications. CALI effectively means the same thing as CALL: TELL is an acronym that is mainly used in North America that covers the same domain as CALL, WELL refers specifically to the use of the web (or internet) in the language learning process. It is more specific than CALL but as computer technology becomes more internets focused, it will cover a greater part of the CALL domain.

2.7 Concept of Computer Assisted Learning

"An Instructional system where teaching is carried out through computerize learning materials is specially designed to incorporate all elements of instructions and evaluation. A corresponding system is CAL (Computer Aided learning or Computer Assisted Learning) which is more learning oriented."

According to Encyclopedia of Britannica CAL means:

"A program of instructional material presented by means of a computer or computer system."

The main feature of the CAL is that it enables the presentation of instructional materials to the students on a television screen or Visual Display Unit (VDU). The student communicates to the computer usually by means of a normal type- writer key board or by using a mouse. Interaction between the learner and the computer is possible in a CAL program. The program is usually in the form of an audio-type. Floppy disc, video tape or their combinations be the machine facing the learner can be the terminal of a mainframe computer, or a mini computer (personal computer.)

CAL is not a teaching aid, because teaching aids do not permit interaction with the learner. CAL is a total teaching system, which allows for mutual interaction between the learning and computer. The CAL program in the micro computer is intended to lead the students form one without any help or intervention from a

teacher. The program will provide all the guidance to the students about what he is expected to do the interaction between the students and CAL program is more dynamic and more individualized in CAL than in any other system. But it requires pre-planning and careful programming is essential for this. The CAL presents the learning experience in a structured manner. The students should respond individually, at his or her own pace. The program is structured in such a way that accurate and immediate feedback can be given.

2.8 Different modes of presenting CAL

The simplest form of CAL uses the computer to presents to learner with series of exercise, which he must complete by giving some response to determine whether or not it form of congratulatory message if it was right or corrective comment if it was wrong and the computer was unable to recognize the restores CAL offers a means of providing endless drill and practice without repetition as a pace that can be controlled by the learner. The nature of the exercises depends on the learners' progress. Thus, as he/she learns and his/her accuracy and speed improve, the exercises can become more difficult or reverse.

- **Drill and Practice Method**

Perhaps the simplest form of CAL uses the computer to present the learner with a series of exercises which he or she must complete by giving some response. The computer processes that response (according to the rules embodied in its program) to determine whether or not it is "correct". It may then provide the learner with some feedback about answer in the form of a congratulatory message in it was right or a corrective comment if it was wrong with perhaps a noncommittal message if the computer was unable to recognize the response computer assisted language learning offers a means of providing endless drill and practice without repetition at a pace that can be controlled by the learner. It is possible to arrange that the nature of the exercises depends on the learner's progress. Systematic mistakes can be deleted and the computer can adapt the pattern of exercise to rectify this weakness. This ability to drill and practice session to the progress of each learner combined with helpful feedback, can lead more effective learning.

- **Tutorial Method**

In the tutorial Method, role the computer acts as the teacher. All interaction is between the computer and the learner. In this method, information is presented in small unites followed by a question. The computer analysis the student response and appropriate feedback is given. Teacher selects proper material, arranges instructions in logical sequence. Computer presents instruction, asks questions, monitors responses, and provides immediate feedback, summarized key points and keep records. Students interact with computer, answer the questions and accept the feedback.

- **Gaming Method**

A game is an activity in which participant follow prescribed rule that are different from those of reality as they strive to attain a challenging goal. The competition may be individual against individual. Group against group. Game are above all, a form of play as such, those who think learning and playing are inhospitable may look them upon with suspicion, but as viewed by developmental psychologists play can be useful mechanism. Teacher sets limits, directs process and monitors result: it acts as competitor, judge and monitors result; it acts as competitor, judge and score keeper. Students learn learns skill, evaluate choice and compete with computers.

2.9 Review of Related Literature

In the following section, the researcher has presented reviews of dissertations that were reviewed by him.

Saruparia, (1992) undertook, 'A study of Computer Education in the secondary school of Baroda City' with following objectives.

- To study existing status of computers education in secondary schools.
- To find out organizational problems of computer education in secondary school.
- To identify the perception of teachers and students on integrating computers with classroom teaching.

Twenty schools from Baroda city were selected for the study. Data were collected from principals, all computer teachers and 114 students of those selected schools. Information schedule and questionnaire were used for the collection of required data.

Major findings of the study were as under.

- Most of the principals showed a positive attitude towards computer education at secondary level.
- Many of the principals were eager to make computer education compulsory at primary and secondary level of education.
- Most of the schools kept the period of the computer education in their daily school time tables.
- In most of the schools computer education was privately managed and there were some schools facing difficulties regarding management.

Rose, Antony Stella V. (1992) 'The study throws light on Application of Computer Assisted Instruction (CAI) and the Teacher Support System (TSS) for the optimum development of underachievers (UA)'. The objectives of study were-

- To develop CAI software.
- To find out the effectiveness of CAI with TSS and variable, viz. sex, locale, IQ, and achievement level.
- To find out the interaction of the learner variables and the treatment on the achievement score.

The random block was followed in the selection of the sample, with IQ as the blocking variable. The sample consisted of three groups of size 32 each composed of students of standard IX selected from three Tamil Nadu State Board Schools covering one rural and two urban. The underachievers in the sample were identified by using the regression analysis. The tools used included CAI software on the language of sets, Achievement Test, Cattell, Study Habits inventory by Patel, and mathematics Study Attitude scale by Sundarajan. Mean, SD, t- test, χ^2, one-way and two-way ANOVA was used to treat the collected data.

Major findings of the study were as under.

- Both the CAI strategies were superior to the traditional method of instruction, and CAI with TSS was more effectives than CAI without TSS for underachievers.
- Except achievement level, all the other learner variables combined with the treatment had no interaction effect on the achievement score.

There was no relationship between the post-treatment scores and the variables 'sex', 'locale', and 'achievement level' of the experimental group. In the case of the variables IQ, 'study habits' and Maths study attitude', the positive relationship between those variables and achievement at the pre-treatment level was found to be cancelled at the post-test. Similar results were obtained for UA. [SP 1779]

Das, (1998) conducted a study entitled "Exploring Effectiveness of Computer Assisted Learning Materials on rhyme in different modes." The objectives of study were-

- To develop Computer Software on rhyme in Test(T), Test Music(TM), Graphics Text(GT), Graphics Text Music(GTM) and Graphics Text Music Recitation (GTMR) modes.
- To study the Effectiveness of Computer Assisted Learning Material (CALM) prepared in different mode for teaching the rhymes in terms of-
  A. Words teaching of the students.
  B. Analytical understanding of students.
  C. Comprehension understanding of students.
  D. Writing ability of students.
  E. Recitation ability of the students.

The sample consisted of pupils of seventh grade which were selected randomly from section of one school. The design of the study was experimental in nature.

The study revealed that computer as potential medium significantly contributed the realization of the objectives of the study and also computer assisted teaching material developed by the investigator ensured higher in all areas of languages.

Major findings of the study were as under.

- The study revealed that computer as a potential medium significantly contributed the realization of the objectives of the study and also computer assisted teaching material developed by the investigator ensure higher learning in all areas of languages development.

Zyoud, M. M. (1999) did a study 'Development of Computer-Assisted English Language Teaching For VIII Standard Students'. The objectives of study were-

- To develop a computer assisted English language teaching program for standard VIII Gujarati medium students.
- To study the effectiveness of the computer assisted English language teaching program on
- Students' achievement in terms of Vocabulary, Grammar and Comprehension by taking pretest and IQ as covariates.
- To study the effectiveness of the computer assisted English language teaching program in terms of students' achievement of all above mentioned with respect to their intelligence, motivation and attitude.

Students studying in standard VIII Gujarati medium were taken from two schools to serve as the sample for the study. Students of one school i.e. Rosary school, Baroda formed the experimental group and students of the other school i.e. GEB School, Baroda formed the control group. The

Experimental group consisted of 66 students and control group consisted of 46 students. The tools used in the pilot study were also used in the final experiment, namely, Pretest, Raven's progressive matrices, Junior Index of motivation by Frimer translated into Gujarati by Desai and the posttest developed by the investigator. For studying the attitude of the students towards the package, the researcher developed and administered an attitude scale on the experimental group only after the final experiment. To fulfill the first objective of the pilot study, the investigator conducted informal interviews with the students by asking them about the difficulties they faced. ANCOVA was applied for analyzing the data.

Major findings of the study were as under.

- When the computer is used to its full potential, it can create an atmosphere where the students can learn and interact with the computer without being afraid of the teacher's presence.
- The computerized exercises can help the student become familiar with significant amount of vocabulary, grammar and comprehension because it provides effective individualized instruction.

Yadav, S. (2000) conducted study on the Effectiveness of the Computer Software for Students of std-1$^{st'}$. The objectives of study were-

- To study the effectiveness of computer software in terms of achievement of the students.
- Top study the effectiveness of computer in terms of
  A. Perception of teachers
  B. Perception of students

Students of standard 1 were randomly selected as sampled for alphabet software and animal software. Tools were constructed to be used as pre-test and post-test, semi structured interview was taken up for teachers and informal interview and observation for students.

Major findings of the study were as listed below.

- There was a significant gain in terms of mean achievement on the software on alphabets and animals. Most of the students were found to have positive reaction towards the software.

Teachers welcomed the media integrated approach towards learning.

Karia, L. (2001) conducted study on 'Effectiveness of Computer-Aided Learning (CAL) Programme as Self-study Technique'. The objectives of the study were-

- To develop Programmed learning material and computer aided learning programme for the unit 'Set Theory' (Gujarati) in mathematics of standard VIII.
- To develop lesson planning for the unit 'Set Theory' (Gujarati) in mathematics of standard VIII for conventional method of instruction

- To study the effectiveness of Computer Aided Learning (CAL) programme with relation to programmed learning and traditional teaching.

The experiment was carried out under 'Three groups randomized subject only post-test designs'. Students studying in standard VIII Gujarati medium of Rajkot city were taken from two schools to serve as the sample for experiment and replication of the study. 64 boy students of Shri Mahatma Gandhi Vidyalaya were taken for experiment and 44 girl students of Gyandip Vidyalay were taken for the replication. The teacher made posttest was administered to collect the data. The data were analyzed with the analysis of covariance.

Major findings of the study were as under.

- Traditional method of teaching and Computer Aided Learning programme were equally effective for boys.
- For girls traditional method of teaching proved more effective than CAL programme.
- Programmed learning material and CAL programme were equally effective for both the boys and girls.

Patel, R. (2001) conducted study on 'Learning through Computer Assisted Learning Material in relation to selected production variables and contiguity'. The objectives of the study were-

- To study analyze CAL material in relation to the production variables and contiguity.
- To study the effectiveness of CAL material in terms of mean achievement of students.
- To study the learning through various message items in relation to production variables and contiguity.

The sample consisted of thirty students of std-8 from Shreyash Vidyalaya. Manjalpur, Vadodara which were selected purposively for the study.

Major findings of the study were as under.

- The correlated T value on CAL material on solar system and magnet was found to be significant at 0.01 levels. So there has been significant gain through interaction with the CAL material.
- Largely the status of CAL material was found to be significantly higher on production variable and contiguity vis a vis achievement.

Dangar, B. (2003) Conducted a study titled 'A study of construction and effectiveness of CAI in English for the units Sasa Rana in English for the students of std-7$^{th'}$. The objective of study were-

- To develop CAI package in subject of English for the students of std-7th in Sasa Rana.
- To study the effectiveness of CAI on students achievement.
- To study the attitude of the students regarding the effectiveness of CAI.

Investigator had taken the sample of 64 students through randomization Methods were similar for both controlled and experimental group.

Major findings of the study were as under.

- The findings of the study revealed that the effectiveness of CAI was as same as in traditional method. No significant difference was found between both the methods.
- CAI program takes place of best teacher.

Sharma, D. (2003) Conducted study entitled Study of 'Effectiveness of Computer Assisted Learning in Chemistry for the students of std-10$^{th'}$. The objectives of the study were-

- To develop computer Assisted Learning in chemistry for std-10students.
- To study the reaction of the chemistry students regarding the effectiveness of the developed CAL.

- To study the effectiveness of CAL in chemistry in terms of achievement of std-10 students.

The investigator had taken the sample of 35 students of std-10 purposively from the two divisions of 10 science classes.

Major findings of the study were as under.

- CAL was found to be effective for learning chemistry at std-10.
- Student's reaction towards the CAL was found to be favorably related to interest, content and presentation.
- The chemistry teacher had given favorable statement regarding content language and mode of presentation.

Parmar, J. (2003) conducted a study of the 'Effectiveness of Computer Aided Instructional Material on Chemistry for Gujarati Medium students of standard XI'. The objectives of study were-

- To develop computer aided instruction material in chemistry on shape of orbital's for standard XI.
- To study the effectiveness of CAIM in terms of achievement of students.
- To study the reactions of the students towards the effectiveness of CAIM.
- To study the reactions of the chemistry teacher towards the effectiveness of CAIM.

The investigator used purposive sampling method for selection of sample. An achievement test was prepared by the investigator. Fifteen multiple choice items were constructed for the achievement test.

Major findings of the study were as under

- CAIM was found to be effective for teaching learning.
- CAIM was helpful to understand abstract concept like "shapes of orbital's"
- CAIM was helpful for increasing interest of students in chemistry.
- The use of moving objects in CAIM increased the effectiveness.

The reactions of students and teacher were found positive towards CAIM.

Chhag,S. (2004) conducted study on 'Development and Effectiveness of Computer Aided Instruction (CAI) Programme for Teaching the Unit 'Flower and Fruit' (Gujarati) in Science of Standard VII'. The objectives of study were-

- To develop a Computer Aided Instruction (CAI) Programme for Teaching the Unit 'Flower and Fruit' (Gujarati) in Science of Standard VII.
- To try-out the effectiveness of the package in the context of the academic achievement of the students.
- To study students' reactions towards learning through the package.

The present research was of experimental type. The design was 'Two groups randomized subjects only posttests design'. The experiment and replication both were carried out. The teacher made test and the opinionative were used as tools. The scores obtained in the posttest were analyzed by Mann Whitney U-test and the opinions were analyzed by χ^2 (Chi-square) technique.

Major findings of the study were as under.

- The Computer Aided Instruction (CAI) Programme was more effective than traditional method of teaching.
- Students showed favourable attitude towards CAI Programme.

Dadhania,D.(2004) conducted study on 'Development and Effectiveness of Computer Aided Instruction (CAI) Programme for Teaching the Unit 'Pressure' (Gujarati) in Science of Standard VIII'. The objectives of study were-

- To develop a Computer Aided Instruction (CAI) Programme for Teaching the Unit 'Pressure' (Gujarati) in Science of Standard VIII.
- To try-out the effectiveness of the package in the context of the academic achievement of the students.
- To study students' reactions towards learning through the package.

The present research was of experimental type. The design was 'Two groups randomized subjects only posttests design'. Total 61 students from standard VIII were selected randomly form a purposively selected school namely Shri Kadvibai Kanya Vinay Mandir. The experiment and replication both were carried out. The data for analysis were collected by teacher made unit test and opinionnaire. Mann-Whitney U-test and Chi-square technique of statistics were used for analysis.

Major findings of the study were as under.

- There was no significant difference between the scores of subjects of two groups. So, both CAI programme and traditional method of teaching were equally effective with reference to the achievement of the students.
- The students expressed favourable opinions towards CAI programme.

Vyas,M.(2005) conducted study on 'Development and Effectiveness of Computer Aided Instruction (CAI) Programme for Teaching the Unit 'Micro Organisms' in Science & Technology of Standard VIII'. The objectives of study were-

- To develop a Computer Aided Instruction (CAI) Programme for Teaching the Unit 'Micro Organisms' (Gujarati) in Science & Technology of Standard VIII.
- To try-out the effectiveness of the package in the context of the academic achievement of the students.
- To study students' reactions towards learning through the package.

The present research was of experimental type. The design was 'Two groups randomized subjects only post-test design'. One Division form standard VIII of Shri Virani Vividhlaxi Vidyalya was selected and divided into two groups randomly. The experiment and replication both were carried out. The data for analysis were collected by teacher made unit test and opinionnaire. T-test and Chi-square technique of statistics were used for analysis.

Major findings of the study were as listed below.

- There was no significant difference between the scores of subjects of two groups. So, both CAI programme and traditional method of teaching were equally effective with reference to the achievement of the students.
- The students expressed favourable opinions towards CAI programme.

Chaudhary, M. (2007) Conducted a comparative study of 'Programmed learning and Computer Assisted Learning on Direct-Indirect speech std-9th in English'. The objective of the study were-

- To construct programmed learning and Computer Assisted Learning for the students of std-9th on Direct-Indirect speech in English Grammar.
- To try-out programmed learning for the students of std.9th on Direct-Indirect speech in English Grammar.
- To compare learning by programmed learning. Computer Assisted Learning and conventional Method.

The investigator had taken the sample of the students of std.9th studying in Gujarati medium schools of Mehasana district. Researcher had selected sample via purposive cluster method.

Major findings of the study were as listed below.

- The students learning through conventional method showed higher achievement than the students learning through computer.
- The learning through Computer Assisted Learning showed higher achievement than the students learning through programmed learning.

Mehta,H.(2007)conducted a study on 'Development and Effectiveness of Computer Assisted Instruction Programme for Teaching of Adjective in English Language'. The objectives of study were-

- To develop a Computer Assisted Instruction package to teach Adjective of English Grammar.

- To test the effectiveness of the Computer Assisted Instruction Package in terms of achievement scores obtained by the students on the teacher made achievement test.
- To study students' reactions towards learning through Computer Assisted Instruction package.

The experiment was conducted by 'Two equal groups only post –test design.' 46 students were selected as sample for the experiment and 48 students of grade IX were selected as sample for the replication of the experiment. A teacher made unit test was administered as posttest. The scores obtained on the test were analyzed by t-test. Students' reactions were obtained on opinionnaire developed by Ambasana (2002) and analyzed employing Chi-square technique.

Major findings of the study were as under.

- The CAI Package developed to teach Adjective in English grammar to the students of grade IX was effective with respect to the students' academic achievement.
- The students responded favorably towards learning through CIA Package.

Badiyani, I.(2008)conducted a study on Development and Comparison of the Effectiveness of Computer Assisted English Language Learning Package and Computer Aided English Language Learning Package. The objectives of study were-

- To develop a Computer Aided English Language Learning (CALL) Package to teach action verbs in English language.
- To develop a Computer Assisted English Language Learning (CALL) Package to teach action verbs in English language.
- To try-out the Computer Aided English Language Learning Package as compared to the Computer Assisted English Language Learning Package.
- To compare the relative effectiveness of the Computer Aided English Language Learning Package and the Computer Assisted English Language Learning Package in terms of scores obtained by students on the teacher's made achievement test.

- To compare the level of attainment of a group of students that has not received any instruction with the students of Computer Aided English Language Learning (CAiLL) Package group and Computer Assisted (CAsLL) English Language Learning Package group.
- To study students' reactions towards learning through the Computer Aided English Language Learning Package and the Computer Assisted English Language Learning Package.

The population of the study comprised of computer acquainted students studying in standard VIII of Gujarati medium schools of Gujarat State. Total 282 students of grade VIII from four schools were selected as sample. The research was of experimental type. The research design was 'Three equivalent groups only posttest design'. Three groups were experimental group I (CAiLL Package group), experimental group II (CAsLL Package group) and control group (No instruction group). The groups were made equivalent by the students' previous achievement in English and their teachers' rating. An achievement test of fifty marks was constructed by the researcher on the basis of the objectives, analysis of the content and the blue-print. In order to measure the opinions of the students towards the CAiLL Package and the CAsLL Package, the opinionnaire developed by Ambasana (2002) was adapted. The data obtained were analyzed using one way ANOVA, Tuckey test and Chi-square techniques of statistics.

Major findings of the study were as listed below.

- CAiLL Package and the CAsLL Package each was found effective in raising students' achievement in unit 'Action Verbs' of English grammar.
- Compared both the Packages with each other the CAsLL Package proved to be more effective than the CAiLL Package in terms of the achievement scores of the students of grade VIII for learning 'Action Verbs' of English grammar.
- The CAiLL Package and the CAsLL Package were also effective in evoking positive reactions towards the use of them in learning English grammar especially 'Action Verbs'.

Gohil Mahipal D. (2011) conducted a study on 'Development and implementation of Computer Assisted Learning Package in Teaching English at Standard-9th'. The objectives of study were-

- To develop and implement CAL package for Teaching English Language at standard-9.
- To study the effectiveness of the package to terms of achievement of students.
- To study the reaction of students towards the developed CAL package.
- To study the reaction of Teachers towards the developed CAL package.

Convenient sampling technique was adopted for selection of the sample. One school Shree Rang Navchetan Vidyamandir, Valiya was selected as the sample institution for the purpose of the present study.

Major findings of the study were as listed below.

- The significant difference exist in mean achievement score of control Group and Experimental Group students.
- Most of the students and teacher were found to have positive reactions toward the CAL package. Teacher welcomed the media integrated approach towards students-center learning.
- The result showed that the Computer Assisted Learning method was more effective than the Conventional Method for the selected poems of the std-9.
- The CAL package decreased teacher domination of discussions in classroom.

Gadhavi, H.(2011) Conducted a study on 'Development and effectiveness of multimedia package in Sanskrit grammar for standard IX students'. The objectives of study were-

- To develop multimedia package on Sanskrit grammar for standard IX students.
- To study the effectiveness of the multimedia package in terms of achievement of standard IX students on Sanskrit grammar.
- To study the reactions of the standard IX students on the multimedia package developed by the investigator.

- Investigator was making list of schools which have computer facilities and two divisions have.

Investigator was making list of schools which have computer facilities and two divisions have at least class IX. From this list one school was be selected randomly all students of class IX 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.

Major findings of the study were as listed below.

- Multimedia package can use very well for remediation purpose.
- Prepared multimedia package in Sanskrit was found effective in teaching Sanskrit to IX 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 Sanskrit was found positive.

2.10 Conclusion

In short, Computer Assisted Learning can play an important role in the implementation of teaching learning process through its various techniques. It is also fruitful for both in-service teachers as well as pre-service teachers to improve their understanding regarding teaching their subjects. Through this new learning concept, learners are able to comprehend the abstract themes with play-way method in a far better way. Previous studies show that Computer Assisted Learning was able to maintain the continuous interest level of the learners. So it can be concluded that simultaneously CAL improves the achievement and interest of the learners. It can provide new opportunities to peep in to the other world of teaching and learning.

During the review of the related literature it was found that large numbers of studies were done on teaching English through Computer Assisted Learning in comparison to the other subjects. It was also found that there were number of CAL package which gave satisfactory outcome. Numbers of investigators have used different videos, picture and 3D animations for preparing their packages which is very

useful to create curiosity and interest for the learners. Previous studies fulfill the learner's expectations and desires through its effective use.

But all the studies were carried out on first language learners. Very few studies have focused on utilizing CAL package in second language learning. This shows that there is more need for preparing CAL by using present available software package. It was felt that CAL package can be beneficial for students studying English as a second language. The present study was undertaken which is an attempt in this direction to develop a CAL package in English for Gujarati medium student teachers and study its effectiveness.