CHAPTER II
REVIEW OF RELATED LITERATURE

2.1.0 INTRODUCTION

The present chapter includes an overview of previous researches related to present study. Researcher has taken an attempt to careful review the research journals, books dissertations, thesis and other sources of information related to the problem of investigation. Through reviewing the related literature the research knows about the recommendations of the previous researchers listed in their studies for further researches. The overview of the previous researches provide the researcher the background of the problem area. In this process, researcher takes an advantage of the knowledge, which has been already accumulated in the past as a result of constant human endeavor in the form of researches. Review of the related literature allows the researcher to acquaint her with the current knowledge in her area of research. The review of related literature updates the researcher through providing background for understanding latest knowledge on the topic under research. Through the review of previous studies one can have a clear perspective of the problem of the study. Repetition of studies can be avoided through this process. By reviewing the related literature the researcher can avoid the problem areas which has already been done. Through review of related literature the researcher can avoid duplication of research work. The review of related literature enables the researcher to define the limits of her research study. It helps the researcher to delimit and define the problem properly. It helps the investigator with the new understanding and insight which subsequently helps her in proper planning of the study, adopting the suitable methodology, developing tools for data collection and adopting proper techniques for analysis and interpretation of data. The review of related literature gives the researcher an understanding of the research methodology which refers to the way the studies had been conducted. It helps the researcher to know and understand about the tools and instruments used in the previous studies. Through review of related literature the researcher will have an insight into the statistical methods through which validity of result is to be established.
In this chapter, the related literature on problems of English language teaching-learning and effectiveness of Multimedia Package is presented. Considering the main purpose of the present study the review has been carried out in two parts namely; studies conducted in India and studies conducted abroad.

2.2.0 STUDIES CONDUCTED IN INDIA

Following studies were reported which were conducted in India related on problems of English language teaching-learning and effectiveness of Multimedia Package.

Dewal (1973) carried out a study to find out the difficulties faced by secondary school teachers in teaching English and to study the effectiveness of the programmed teaching. The study was partially survey and partially experimental in nature. Major findings of the study revealed that (i) untrained teachers had more problems in teaching English in comparison to trained teachers, (ii) programmed teaching worked well with teachers who were untrained in teaching English, (ii) it helped teachers to oriented in managing classroom instructions and (iii) it helped in developing subject competencies of the teachers.

Sabharwal (1978) conducted a research to study the comparative effectiveness of Programmed Auto Learning vis-à-vis other methods of Teaching English as a Second Language (TESL). The objectives of the study were to assess the efficacy of four different treatments of TESL viz. the bilingual method, the audio-lingual method, grammar translation method and programmed auto learning method and to find out which of the four have the better effect on the students. The findings of the study was that grammar translation method and bilingual method were more effective in comparison to other two methods.

Joseph (1983) had evolved a strategy for teaching English grammar at high school level. The findings indicated that the students and the experts have expressed highly positive reaction towards the multimedia instructional strategy. Both in terms of achievement and ranking by the student, branching form of PLM was found to be the most effective one. Deviated linear form, although similar to branching form in terms
of achievement, was found to be having comparatively inferior stand in their ranking by the students.

**Menon (1984)** studied the effect of multimedia approach for teaching Educational Technology at post graduate level. Objectives of the study were (i) to develop a multimedia strategy in organizing a course in Educational Technology for Post-Graduate and research students, (ii) to validate the study in terms of achievement of students in the criterion test, performance of the students in discussion component of the strategy and attitude of students towards the developed multimedia approach. The sample of the study consisted of 15 M.Sc. students, 21 M.Ed. students and 8 research students taken with the help of purposive sampling. Tools used for data collection were criterion test, performance in discussion sessions and attitude scale. F-test was used to analyse the data. The findings of the study showed that teaching through multimedia approach had influenced the academic achievement of student in Educational Technology. Multimedia strategy had been able to nullify the effect of intelligence on achievement. The multimedia strategy reduced the cost of the course.

**Jain (1987)** conducted a study entitled “A study of English language teaching in secondary school of Gujarat State.” The objectives of the study were (i) to examine the objectives of teaching English in a historical perspective, (ii) to analyze the curriculum in view of the objectives of teaching English, (iii) to study human and material resources available for teaching English and (iv) to study the methods of teaching, evaluation and the difficulties faced by teachers in teaching English. The tools used were questionnaire and interview. The collected data were analyzed qualitatively. The major findings of the study were, the objectives of teaching English is not changing drastically over a period of time, it is more or less concerned with the development of LSRW skills among students, curriculum was found appropriate for achieving the objectives of teaching English, the human resources were found to be mostly trained graduates but the schools were lacking material resources for which the curriculum transaction was found not proper for achieving the objectives of teaching English. Mostly bilingual method, lecture method and grammar translation method was found used by the students.
Kapadia (1988) conducted a study entitled “Development and try-out of programmes for remedial teaching of English for the post HSSC level.” The objectives of the study were (i) to identify grammatical errors in the written expression of the student who have passed HSSC, (ii) to locate the areas of the high frequency of errors and to remediate those with the help of a developed PLM, and (iii) to study the effectiveness of the developed PLM in terms of the students’ achievement. The PLM was developed by the researcher for the experimentation. Single group pre-test post test design was used for the study. The result was found positive as the mean score of post test was increased significantly which was due to the remedial teaching of English through PLM.

Jayashree (1989) conducted a study entitled “Identification of the difficulties in teaching and learning English as a second language among the high school students.” The objectives of the study were to find out the difficulties of teachers and students in teaching and learning English as a second language in the high school. The seminar was conducted to find out the difficulties in teaching and learning of English and the collected data were analyzed with mean, SD and t-test. The major findings were that the children were found with improper listening nature and they were also found inattentive in the class, they also found not interested in studying English.

Sharma (1989) conducted a study to design a course in written English for the high school students using communicative approach. The objectives of the study were to find out the needs of teachers and the students in teaching and learning of English respectively and to develop a course in written English using communicative approach. The major findings of the study were (i) a large number of the students were poor in written English, (ii) the designed communicative approach based syllabus helped in incorporating the needs of the students making them tension free, creating interactive classes, creating positive attitude towards learning writing and to enhance the skill of writing and revising.

Dubey (1990) conducted a study entitled “A comparative study of a play-way self learning technique and the traditional method of teaching English at initial primary stage.” The objectives of the study were to develop useful self-learning material for children and to compare self-learning and traditional method. The study was
conducted in three stages, namely, reading, writing and search for sentences. Major findings of the study were that (i) the experimental group of the children was found superior to the control group in recognition of the alphabets, in reading sentences and writing, (ii) age and sex were not found related to academic achievement in the experimental group, (iii) and even the experimental group was more interested in the process of learning and they took much less time in learning.

Singh (1995) developed video instructional package for teaching Environmental awareness. It was field tested and used in three schools in Gujarat, U.P. and Rajasthan. It was found that developed package was very effective and interesting. The study also reported that enjoyed working through video package and inter and intra disciplinary networks were developed to enhance research collaboration between students and teachers.

Karandikar (1996) developed a Video Instructional Package to teach students of standard VIII and studied its effectiveness in terms of students’ achievement. Tools used for data collection were Junior Index of Motivation Scale, Socio-Economic Status Scale, Anxiety Scale, and Achievement test. Major findings of the study were (i) there were significant difference between mean achievement of higher SES and Lower SES group of students studied through video instructional package, (ii) there were significant difference between mean achievement of male and female students studied through video instructional package, and (iii) there were significant difference between mean achievement on immediate retention test of students belonging to experimental and control group.

Das (1998) conducted a study entitled “Exploring effectiveness of Computer Assisted Learning Material on rhymes in different modes”. The objectives of the study were (i) to develop computer software on rhymes in graphic and text, graphic, text and music, and graphic, text, music with recitation modes and (ii) to study the effectiveness of the different mode of presentation. The findings of the study revealed that computer as a potential medium significantly contributing to the realization of the objectives and also computer assisted teaching material developed by researcher ensure higher learning in all areas of language development.
Ilaangovan (1998) undertook a study on the effectiveness of audio-video intervention to develop listening comprehension in English. He compared effectiveness of Conventional Teaching Method (CTM) with Media Based Non-Interactive Group Teaching (MNGT) and Audio Video Presentation as Support System (AVPSS). It was found that MNGT was more effective as compared to CTM. AVPSS was more effective in enhancing retention of listening comprehension.

Khirwadkar (1998) conducted a study entitled, “Development of Computer software for learning chemistry at standard XI.” The findings of the study revealed that (i) the developed CAI was effective in terms of academic achievement of the student and instruction time, (ii) the teacher and students have positive attitude about the developed CAI, and (iii) the achievement of the student was affected by the IQ, academic motivation and attitude.

Zyoud (1999) conducted a study entitled “Development of computer assisted English Language Teaching (ELT) for standard VIII students” with the objectives (i) to develop a computer assisted ELT programme for standard VIII Gujarati medium students, (ii) to study the effectiveness of computer assisted ELT programme on students’ achievement in vocabulary, grammar and comprehension with respect to their intelligent, motivation and attitude, and (iii) to study the attitude of the student towards the usefulness of Computer Assisted ELT programme. The researcher used Basica for developing software. The findings of the study were that (i) the developed package helped students in learning vocabulary and grammar but it had no effect on comprehension, (ii) student had the positive attitude towards it.

Ngagbam (2000) carried out a study of English language learning and its use by professionals and non-professionals of Vadodara City. The study revealed that both professionals and non-professionals were satisfied with the English courses which were being taught at different levels i.e. primary, secondary university and professional courses. However most of the professionals and non-professionals felt that changes in the syllabus of English courses should be worked out in such a way that the changes become an efficient tool for the learners.
Jayaraman (2006) studied the relative effectiveness of computer based multimedia learning package on performance and behavior outcomes of students of different age group. Major objectives of the study were (i) to develop computer based multimedia learning package on selected topics of class V, VIII and XI and (ii) to study the relative effectiveness of developed computer based multimedia learning package. Researcher used quasi experimental design. Data analysis was done with the help of ANOVA. Major findings of the study were (i) the computer based multimedia package was found to be effective in enhancing the performance of the students of all standards, (ii) the performance of the students of higher ages were found comparatively higher than the performance of the students of lower age who have learned through computer based multimedia learning package.

Patil (2006) developed a multimedia instructional system on Computer Education for B.Ed. pupil teachers. The major objectives of the study were (i) to design and construct multimedia instruction system for teaching Computer Education to B.Ed. pupil teachers and (ii) to test the effectiveness of the constructed multimedia instruction system. The pilot testing of the prototype was done through two group pre-test post-test design. Final implementation of the multimedia instruction system was done on a sample of 64 B.Ed. pupil teachers. The study had arrived at quite meaningful findings like, (i) no significant difference was found between the performance of the pupil teachers of control and experimental group on pre-test, (ii) significant difference was found between the performance of the pupil teachers of control and experimental group on post-test, (iii) significant difference was found between the performance of the pupil teachers of control group on pre-test to post-test, (iv) significant difference was found between the performance of the pupil teachers of experimental group on pre-test to post-test, (v) significant difference was found between the gain achievement score of the pupil teachers of control group and experimental group, (vi) significant difference was found between the performance of the pupil teachers of control group and experimental groups in retention test.

Shikhare (2007) designed a Multimedia Instructional System (MIS) on the basis of gathering data from all the teacher educators teaching Educational Technology (ET) in 26 Colleges of Education affiliated to Shivaji University, Kolhapur and Solapur University, Solapur through a questionnaire and interviews with 20% randomly
selected teacher educators. The investigator then developed and constructed the MIS systematically by planning activity matrices, application scripts, flow charts, programme storyboards and multimedia building blocks through suitable software. The MIS on educational technology was implemented on B.Ed. students using a pre-test post-test control group design. F-test and t-test were used for data analysis. Major findings of the study were (i) the present setting of teaching of Educational Technology in B.Ed. colleges was unsatisfactory, (ii) there was significant difference between the performance of the pupil teachers of control group and experimental group in post-test and (iii) the mean achievement of the pupil teachers of the experimental group was significantly greater than the mean achievement of the control group in ET.

Patel (2009) conducted a study entitled “Development and Implementation of CAI to Teach English Grammar to standard VIII students in Different Modes” with the objectives (i) to develop the CAI to teach English Grammar to Standard VIII GS&HSEB students in different modes, (ii) To study the effectiveness of the developed CAI in different modes in terms of students’ achievement in English Grammar, (iii) to study the effectiveness of the developed CAI in terms of the reactions of Students and (iv) to study the relative effectiveness of the developed CAI in different modes of presentation in terms of differences in English Grammar Achievement of the students. Pre-test and post-test quasi experimental design was used in the study. The sample for the proposed study was selected purposively. The researcher constructed an achievement test and a five point reaction scale for data collection. Data were analyzed using ANCOVA. The major findings of the study revealed the following. (i) Significant difference was observed in the adjusted post test mean scores of the control group and all the experiment groups. (ii) The students taught through only CAI mode scored significantly higher than the students taught through the traditional method. (iii) The students taught through CAI with discussion mode scored more and the teaching mode was more fruitful than the traditional method of teaching English grammar. (v) there was not a significant difference between the effectiveness of the modes of teaching that is only CAI and CAI with Repetition. The teaching through CAI with Discussion mode was more effective than the teaching through CAI with Repetition mode. The teaching through CAI with
Discussion mode was more effective than the teaching through only CAI mode. (vi) the students had a positive reaction towards the developed CAI.

**Gupta (2010)** conducted a study entitled “Development and implementation of computer enabled educational programme for facilitating daily routine habits of standard VIII students” with the objectives Viz. 1. To develop ICT aided programme package for enhancing environmental awareness. 2. To study the effectiveness of the package in terms of mean achievement of students on environmental awareness, and 3. To study the effectiveness of the package in terms of reaction of students towards the ICT aided programme for enhancing environmental awareness. Single group pretest post test design was followed in the study. All the standard IX students of a school of Baroda city have been constituted as the sample for the study. Achievement test was administered as pre-test and post test and a reaction scale was administered with the target group after completion of the experiment. Data analysis was done by employing correlated t-test to find out the significant difference between pre-test and post test mean achievement score. Frequency and percentage analysis was done for analyzing reaction scale along with chi-square test to test the observed frequency against equal probability hypothesis. The major findings were, (i) the ICT enabled educational software package was found to be effective in enhancing environmental awareness among students, (ii) reaction of students were found to be positive and favourable towards the developed ICT enabled instructional package.

**George (2011)** designed multimedia information package to develop environmental awareness among student teachers. Objectives of the study were (i) to find out the environmental awareness of student teachers and (ii) to test the effectiveness of the multimedia information package in developing environmental awareness among student teachers. Tool used for the study was Questionnaire to test the environmental awareness. Experimental method was used for the study. 100 students teachers at secondary level were taken as the sample of the study. The result obtained on the analysis showed positive sign towards the developed multimedia package. So the developed multimedia was found to be very effective in developing awareness about various aspects of environmental science among student teachers at secondary level irrespective of their optional subject.
Patel (2011) conducted a study with the objectives viz. (i) to study the stress of the Mentally Retarded (MR) students, (ii) to develop Computer Enabled Educational Programme (CEEP) for facilitating daily routine habits of MR students, (iii) to study the effectiveness of computer enabled educational programme for students in terms of change in behavior and reaction of parents and teachers. The study was developmental cum intervention type. Case study approach was employed. 10 MR children who were not performing their daily routine habits properly were selected purposively. Profile of students, semi structured interview for parents and reaction scale for teachers were used as tools. Data were analysed with the help of frequency, percentage and content analysis. The major findings were, (i) The CEEP for facilitating the daily routine habits of the MR children was found to be effective, (ii) the teachers were found to have favourable reactions towards the CEEP on the daily routine habits of the MR children, and (iii) the parents were found to have favourable reactions towards the CEEP on the daily routine habits of the MR children.

2.3.0 STUDIES CONDUCTED ABROAD

Following studies were reported which were conducted in abroad related to English language teaching- learning and effectiveness of Multimedia Package or the use of related technology enabled learning.

Chomsky (1965) argued that traditional stimulus response and behaviorist theories are in principle inadequate to account for the acquisition and use of human language. He further argued that since language plays such a central role in human thought and human affairs a theoretical approach that cannot encompass language must form necessity be inadequate for understanding human cognition.

Krishnan (1983) developed a multimedia package for teaching a course on Audio-Visual Education to the instructor trainees and studied the effectiveness of the package in terms of achievement of instructor trainees and their attitude towards multimedia package. Effectiveness of the multimedia package was studied from the performance of the instructor trainees in the course test, criterion test and in the objective concerning comprehension, mental ability pertaining to motor skill on the criterion tests at the end of the modules and courses were studied. The scores were
found significant and which means attitude change was found to be significant. The attitude change was in the favourable direction.

**Dalton and Hannafin (1986)** studied effect of Video-only, CAI only and interactive video instructional systems, on learner performance and attitude. Based on pre-test scores, students were randomly assigned to three treatment groups. At the conclusion of a lesson on general shop safety rules, students were given a print based post-test and a survey to assess their attitudes towards the instruction. Analysis consisted of a completely crossed 3X2X2 treatment by achievement by subject factorial design, featuring three levels of prior achievement (high, average and low). The means for the treatment groups on the performance measure were 64.98, 73.54 and 70.48 percentage for the video, CAI and interactive video treatments respectively. Attitude scale means measure were 75.07, 74.26 and 82.87 percentage for the video, CAI and interactive video treatments respectively. Results indicated that CAI alone tends to be the most effective instructional delivery system where the additional capabilities provided by interactive video are not required. However, interactive video instruction did produce significant improvements in the attitudes of low ability learners when compared with CAI and video.

**Kulik (1991)** surveyed more than 500 studies which compared learners who received instruction through computer assisted instruction and learners who received instruction through traditional instruction method. The findings of the study revealed that the learners received instruction through computer assisted instruction learned more in less time in comparison to the learners received instruction through traditional methods.

**Markham (1993)** conducted a study to show that visual support imposes the comprehension of second language student of undergraduate level with the objective to find the effectiveness of visual support from Laptioned video with undergraduates ESL students. The findings revealed that students learned significantly more when visual support from captioned video was used than when it was not used.

**Arnhain (1994)** conducted studies by providing visual stimuli in different forms and sources to students along with the regular instruction in different subjects and studied
its effect on students perception and thinking. On the basis of his findings he stressed that visual learning uniquely enhances students’ cognition and understanding of abstract concepts. His argument was that students perception of ideas such as causality can be enriched by visual examples and thus visual stimuli can lead to development of perceptual thinking.

Hsu (1994) conducted a study entitled “Computer Assisted Language Learning (CALL) the effect of elementary language students’ use of interaction modification on listing comprehension”. The objectives of the study were to examine the L2 students request modification of the input they hear while working on computer based learning material and if this instructional computerized modalities helps L2 students listening comprehension and language acquisition. Data for the study were collected from 15 elementary L2 students by using single group pre-test post-test design. The findings revealed that L2 students use the tools made available by computer technology to make input comprehensible and computerized modification and language acquisition.

Miller and Burton (1994) reflected that the information processing model provides a process by which graphic representation are decoded and encoded. It focuses on how the human memory system acquires transforms, compacts, elaborates, encodes, retrieves and interrelationship among the three main storage structures of the brain i.e. Sensory register, Short term memory (STM) and Long term memory (LTM). The sensory register is closely tied to sensory experience. It holds small and unanalyzed information that is received at this stage in raw and unprocessed form and then transferred to a more flexible and useful storage of Short-term memory (STM)

Lambacher (1999) used software designed for pronunciation training in teaching English to forty primary School Japanese learners, which resulted in the improved perception and production of English consonants which they were able to review as many times as they wished getting immediate feedback.

Ross and Schulz (1999) investigated the differences in learning styles among under graduate students. Seventy undergraduate students of University of Calgary participated in the study. Results of the study showed that DEMP as an instructional tool may not be suitable for all learners with such differences as cognitive learning
style. Some learners may have difficulty in adapting to certain forms of computer mediated learning. Considering the suggestions made by the researcher discussed the following list indicates the disadvantages of DEMP in the classroom viz. (i) lack of DEMP software of High quality, (ii) low capacity of the equipments, (iii) high cost of equipment and software, (iv) lack of trained teachers, (v) not suitable for all learners due to different learning styles and (vi) computer anxiety among students and teachers

**Chang (2000)** conducted a study entitled ‘Design and implementation of a schema-based learning system on the web.’ The purpose of the study was to address the design and development of web-based system that complements the human cognition need to structure and restructure information in hierarchical representation, and to view and associate information at the learner’s preference. The study evaluated the usability and the effectiveness of the schema-based learning system by collecting feedback from a group of students in their courses. The study used the feedback to refine the design of the schema-based learning system. The reaction of the students about the scheme-based learning system was also found to be positive that enhanced their learning.

**Colon et al. (2000)** developed multimedia package for teaching critical quality research. They used a constructivist instructional design model, R2D2 to develop the package. The purpose of this study was to qualitatively create an instructional product using a hypertext system derived from cognitive flexibility theory. The focus of Critical Researchers Guide to Conducting Qualitative Research (CRIT) was to introduce qualitative researchers to specific qualitative techniques, provide practice using those techniques, and provide expert guidance. The end result of this study was the CRIT, an interactive multimedia instructional package supported teaching critical qualitative research techniques and strategies.

**Neo and Neo (2001)** conducted a study to access students’ skills in framing and solving problems using multimedia technologies. The students worked in groups and each group had to pick a topic for their project, develop, design and present it in a CD-ROM. They were then surveyed on their attitudes towards the project and their skills as a team. The groups or respondents (N=46) were given on their project and interviewed individually. The survey consisted of questions to assess their interest in
group project work and whether or not they were motivated in their project development. These questions made up several constructs to measure the students’ problem solving skills, collaborative efforts and team work. Results showed that the students were very positive towards the project, enjoyed team work, able to think critically and became active participants in their learning process. Therefore, multimedia oriented projects, like many other problem based learning solutions, were used alternatively as an innovative and effective tool in a problem based learning environment for the acquisition of problem solving skills among learners.

**Beder (2001)** in his study designed a flexible computer based learning package available on CD ROM to teach students about the social and political dimensions of environmental issues. It contained resource materials that can be used by the lecturer in a large theatre, including video clips, sound recording and overhead projection slides. The major objective of this study was to develop and implement a teaching concept which would assist students to attain a deeper understanding and an ability to critically analyse the social dimensions of environmental issues. The major achievement of the study was that CD ROM was highly successful and it was general enough to be transferable for use by other lecturers in other institutions who taught similar subjects.

**Bolliger (2002)** conducted a study entitled ‘The design, implementation, and evaluation of a web-based training programme for future school and administrators in a north west Florida school district’. For the study, a web based instructional product was successfully developed and evaluated through a field test. The web based module was a prototype of a new learning and training system which was required for the Florida Principal Certification course. The participants consisted of one instructor and twenty five trainees. Trainees evaluated this web-based training programme favorably and positively. They have also offered several recommendations for the revision of the web based module.

**Buzhardt (2002)** conducted a study on ‘Integrating internet into the classroom: the effect on learning, student satisfaction, and labor costs.’ The study assessed the cost effectiveness of replacing pen-and-paper assignments graded by instructors with online assignments graded by computer. One hundred ten students were randomly
assigned to use either pen-and-paper study guide or online study guide. No statistically significant differences were found on any of the measures. The researcher concluded that while these results may not generalize to all settings or courses, in this case online instruction into a classroom-based college course saved labour cost and increased students’ satisfaction.

Lyson (2002) conducted a study entitled ‘The effect of technology use on student writing proficiency and student attitudes toward written assignments in a ninth-grade language arts classroom’. The purpose of the study was to determine whether computer technology had an effect on essay writing, as measured by an established writing assessment rubric and readability index as well as writing proficiency. This study sought to address whether computer technology had an effect on students’ attitude toward writing. A sample of 281 ninth grade language arts students at one junior high school participated in the project. The students were divided in two groups, with one group (experiment) utilizing laptop computer in English class through out the year for writing the assignments and activities. The other group (control) used traditional handwritten methods for completing written work in the language art classroom. Administration of pre-test and post-test essay for both the groups took place at the beginning and at the end of the investigation. Analysis of the scores from both groups indicated that students using computers had significant essay scores on the post-test essay. The results of this study indicated that students may have positive attitude toward writing, both with and without a computer, it was found to be more positive when using computer technology. The conclusion was drawn that computer technology, when utilized in a writing classroom, can enhance student writing proficiency and promote positive attitude towards writing.

Springer (2002) conducted a study on ‘the formative evaluation of a computer assisted instruction module for metric area instruction, for pre-service teachers: its effect on student achievement and its congruence with ADDIE (Analysis, Design, Develop, Implement, Evaluation) instructional design model.’ This research examined the effectiveness of a computer assisted instruction programme in teaching basic knowledge of the metric area to pre-service teachers. The pre-test and post-test design was used for the study and the sample was divided into two groups—treatment and control. An analysis of variance of group means derived from a quasi-experimental
non-equivalent control-group design was used to examine a research question on the effectiveness of CAI teaching metrics to pre-service teachers. The CAI metrics programme produced a significant increase in metric knowledge as measured by the post-test instrument. Analysis of linear and area subtests revealed that the increase on overall scores was attribute to the area subtest.

Toth (2002) studied teacher motivation and the use of computer based interactive multimedia. The purpose of this study were (a) to describe the use of multimedia within a participating population of teachers and (b) to identify factors that motivate teachers to use multimedia for instructional purposes. Teachers from the Oneida Special School district located in Oneida, Tennessee were participants in this study. This study was conducted in two phases. In phase I a questionnaire was used to collect data on the use and development of multimedia. In phase II, an interview process was used to identify the factors that motivated teachers to use multimedia in the classroom. Some of the findings of the phase I questionnaire indicated that 64 percentage of the respondents reported using some type of edutainment software, while 47 percentage of the respondents reported using internet. An analysis of phase II interview transcripts indicated that teachers were motivated to use and develop multimedia when they believed it was a potentially powerful tool, when they perceived it as relevant to the educational setting and when they valued the use of multimedia resources. Beliefs, relevance, readiness and personal value were identified as important factors that motivated these teachers to integrate technology and multimedia within the educational setting.

Williams (2002) conducted a study on an examination of the relationship between learning style as measured by the matching familiar figures test and a computer assisted instruction metric unit. The study was conducted with the purpose to identify the learning style, to determine the relationship of the effectiveness of the CAI and to serve as a pilot study to establish reliability for the computerized version of MFFT. The conclusion was drawn that when developing CAI as one of the instructional design stages, it is important to consider the target population. One of the characteristics to consider is the preferred method of learning, or learning style, while there was no statistical significance found in the relationship between the learning style and performance in the CAI metric instructional unit.
Box (2003) discussed the implementation of DEMP in different School and teachers. He analyzed two studies involving different university teachers and concluded that teachers should be trained and provided with pedagogical support related to DEMP and related computer technology. This leads to the fact that technology cannot solve a problem alone. Implementation of DEMP requires critically selected software, teachers and learners positive attitude and using DEMP requires a lot of time and money for all the necessary arrangements.

Gabrielle (2003) conducted a study entitled ‘The effect of technology-mediated instructional strategies on motivation, performance, and self directed learning.’ The purpose of the study was to check the effect of technology mediated instructional strategy on motivation, performance and self directed learning of undergraduate students and to use new technologies to efficiently deliver these instructional strategies as supplementary course content. The researcher communicated with control and experiment group via e-mail and used e-mail to direct experimental group students to use technology-mediated instructional strategies. The findings of the study suggested that systematically designed technology-mediated instructional strategies can positively affect motivation, performance, and self directed learning and new technologies can help to improve the efficiency of delivering such strategies.

Casanova (2004) conducted a study entitled ‘An analysis of computer-mediated communication technologies as tools to enhance learning’. As the integration of computer-mediated communication (CMC) technologies into the higher educational settings requires faculties to change their roles from the direct instructional model to a model based on constructivist’s ideas, CMC instructional tools were provided in the study as a change by shifting a traditional teacher centered setting into a teacher facilitator environment. Teacher’s professional development had become an important task to effectively integrate technology into their courses. Questions concerning the implementation and value of CMC technologies and their impact in higher education were not clear. The purpose of this research study was to determine the extent to which CMC technologies promoted the achievement of stated goals and objectives for course taught in higher education. This study was directed by three research questions: (1) In what ways are higher education faculty using CMC technologies to
deliver their courses?, (2) What is the faculty’s primary instructional intent for the CMC technologies they selected for integration into the teaching process? And (3) In what ways does the integration of selected CMC technologies promote achievement of stated goals and objectives in their courses? The research study population consisted of 17 higher education faculties from the Trek 21 project at West Virginia University during the year 2001. These participants received technical training, enhanced web-designed courses, worked collaboratively and prepared instructional resources during a 7-day week period during summer 2001. The data collection was done by survey, course analysis and interview. Findings indicated that faculty was mainly using CMC technologies to support teaching practices and to improve teacher’s productivity. It’s use were basically targeted to increase interactivity, open avenues for feedback and provide online resources but less used for inquiry based and active learning. Faculty’s primary intent to integrate CMC technologies was to create different avenues to communicate with students and to offer them a learning environment that would support students outside the classroom. CMC promoted the achievement of goals and objectives with different degree of success mainly in two different areas: content delivery and course management and less regarding tele collaborative activity structures.

Charsky (2004) conducted a study on ‘evaluation of the effectiveness of integrating concept maps and computer games to teach historical understanding.’ The purpose of the study was to determine if one of scaffolding, concept mapping, would affect the participants’ games performance, game knowledge, and historical understanding. Three different ninth grade advanced global history classes participated in the study. Each class was randomly assigned a treatment condition. The results indicated that there was no significant difference found between the treatment groups in game knowledge, and historical understanding. However, the participants’ responses and comments made in journals shows that the students did learn about theoretical history and history in general. The results also indicated that the no concept map groups’ motivation for the treatment improved compared to their motivation for regular class room instruction.

Eteokleous (2004) conducted a study on ‘Computer technology integration in Cyprus elementary schools.’ The purpose of this study was to evaluate the current situation
in Cyprus elementary classrooms regarding computer technology integration. The study examined how Cyprus elementary teachers use computers and the factors that influence computer integration in their classroom practices. The value of the proposed study lied in its potential to help policymakers, educators and stakeholders that have the power to take decisions and design policies, in gaining understanding on how computers are used in the classroom and the factors that influence their use. To address the research questions that guided the study, an evaluative case study design was applied. It employed a mixed method approach through the usage of structured questionnaires and semi-structured, open ended interviews as the major methods of data collection.

The results of the quantitative analysis indicated that while Cyprus teachers use computers rather extensively for their own purposes, they use them less frequently in their classes. Regression analysis revealed that teacher’s education, school climate, teacher’s professional behavior and teacher’s attitudes towards the use of computers in education, were significant predictors for classroom computer use of the teachers. The results of the qualitative analysis summarize the factors that influence teachers in applying computers in their classroom practices. A general uniformity across the three categories of teachers revealed, in terms of the factors that function as barriers in applying computers in the classrooms. The factors can be summarized as lack of resources, tyranny of the curriculum, incomplete and inadequate professional development training.

McLaughlin (2004) conducted a study entitled “Towards a new paradigm for teaching and learning: A case study of the process of integrating instructional design and technology at Florida Community College at Jacksonville”. The study examined the process by which administrators, faculty and instructional design staff at Florida Community College converted four traditionally formatted courses to online courses in order to integrate innovative instructional design and learning strategies with instructional technology. The study also examined the design and development of an electronic instructional design assistant that would enable the user to systematically design curriculum that incorporated learning and motivational theory. The researcher used case study design to describe the model and processes the college administration used to implement the project. The purpose of this study was to explore how one
institution of higher education addressed the gap that exists between systematic and collaborative instructional design and the use of instructional technology in online course development. Data for the study was collected through semi-structured interview and a review of project related records, reports, guidelines and artifacts. Data was also obtained through field observations and researcher participation in training and professional development sessions with faculty and staff. The findings of the study revealed that administrators, faculty and instructional design staff at Florida Community College worked collaboratively to implemented the on line use of instructional technology and it was also appreciated by the students as it helped to make their learning easier.

Sankey and Nooriafshar (2005) developed multimedia version of an existing print based course. Initial responses were collected via an on line response form on a voluntary basis, primarily from the students cohort enrolled in USQ course MGT2102 ‘Optimisation Application II’. 101 students participated in coursework in 2002-03. Major findings of the study were (i) over 80 percent of the respondents found the multimedia version of the materials less or much less time consuming to work than the printed version of the material, (ii) the same percentage found the project management concepts presented as multimedia easier or quicker to understand than the print based version, (iii) 90 percent of the respondents reported that they felt the presentation of the project management concept was either good or very good.

Chitiyo (2006) conducted a study entitled ‘Integration of instructional technology by university lecturers in secondary school teacher education programmes in Zimbabwe: An exploratory study’. The objective of the study was to examine how the lecturers conceptualize IT integration, how they integrate IT into their instruction, what are the supports given to them by their institutions and the constrain they face during the process of IT integration. The qualitative methodology was used. For the purpose of data collection, three tools were used viz. questionnaire, interview and analysis of documents. Findings of the study revealed that majority of the lecturers were integrating IT largely as hardware in nature viewing it as audio-visual aids.

Floyd (2006) conducted a study on ‘the use of technology and its effect on students achievement. The result of the study revealed that when comparing surveys of
administrators, teachers and students with student test scores, the principal responses indicated a negative correlation to student test score result. The responses of the teachers in the teacher technology survey and the teacher pedagogy survey showed no correlation to student achievement and responses for the students in the student technology survey indicated a positive correlation to student achievement. The data showed that increase in student technology use increases student achievement score.

**Gilbert (2006)** did an experimental research entitled ‘Effectiveness of computer-assisted instruction blended with class-room teaching methods to acquire automotive psychomotor skills.’ The study was conducted to check the effectiveness of blending online computer – assisted instruction (CAI) with traditional classroom instruction were investigated in the Automotive technology Department at Southern Illinois University Carbondale. Results were determined by a psychomotor electrical diagnostic skill evaluation of two matched groups exposed to different blending methods of teaching basic electrical concepts. Following the course of blended instruction, active electrical circuit boards measured participants’ hands – on diagnostic problem solving abilities. Frequency trends within the response data set exhibited could be attributable to CAI blending methods. In conclusions of this research study, blended teaching methods experienced by the experimental group demonstrated a comparatively higher level of psychomotor electrical diagnostic skill capability in comparison to the control group.

**Paul (2007)** conducted a research entitled ‘An aural–oral approach to the teaching of English usage’. The objective of the study was to compare the effectiveness of a conventional reading – writing and aural-oral approach in teaching standard English usage to high school students. The sample of the control group consisted of 111 students. The experiment group consisted of 145 students. The control group was taught with reading-writing approach and the experimental group was taught English usage with aural-oral approach. The findings established the hypothesis of this investigation at 0.05 level of confidence. The result revealed that the high school students who were taught with aural–oral approach performed significantly better than the students of control group, taught with traditional reading-writing approach.
Thomas (2008) in his study compared three instructional methods, (i) teacher directed lecture and text based instruction, (ii) analog video instruction and (iii) multimedia anchored instruction on the knowledge, beliefs and skills of pre-service teachers. Participants were university professors and their pre-service teacher students of different universities of United States. Data were collected using multiple choice knowledge test, a beliefs survey to assess beliefs about self efficacy and readiness to manage challenging behavior and collect demographic data, a performance based skills assessment, and satisfaction surveys for both instructors and pre-service teacher participants. Major findings of the study were (1) using two tailed paired sample t-test, statistically significant differences in learning was found between pre and post test, (2) students in the MAI, AVI and TDI groups perceived themselves as having more self efficacy and being more able and willing to manage challenging behavior after instruction as demonstrated by the significant findings for time between pre and post test, (3) virtual lecture (AVI) was more powerful than face-to-face instruction and course readings (TDI).

Booth and Begg (2011) compared Flash simulation programme and the second life virtual reality programme, developed as a learning tool for students to practice basic laboratory procedures. A cohort of 93 Bioscience students participated in the between trial. Confident gains were assessed by collecting pre-demo and post-demo scores. Results showed that there was no difference in gains between the Flash and second life conditions but both had significantly higher confidence gain that the control condition. Students’ scores Flash significantly higher as a learning tool in an evaluation questionnaire. The majority of students preferred to use Flash finding it clear to use, quicker and with less distractions than the second life.

Richard (2011) analyzed the impact of multimedia resources from Discovery Education on Science achievement of fifth and eighth grade students in Charlotte-Mecklenburg schools over a three year period of time. The end of grade science examination results of over 60,000 students were compared to teacher and student usage of Discovery Education Streaming and Discovery Education Science from 2007 through 2010. The results were mixed and indicated that during some school years the use of the media resources led to increased student achievement in science, while in
other years the data indicated that student achievement in science was not impacted or impacted in a slightly negative manner.

2.4.0 IMPLICATION OF REVIEW OF RELATED STUDIES FOR THE PRESENT STUDY

The researcher comprehensively reviewed 23 Indian studies conducted during the year 1973 and 2011, and 33 foreign studies conducted during the year 1965 and 2011. Studies reviewed both in India and abroad are related to the problems in Teaching learning of English, use of different methods and approaches to teach English effectively, Use of technology for teaching of English and other subjects. Researches were found related to all the levels i.e. from primary school levels to the higher education level. 10 survey type of studies were reported in the area of teaching learning in English and rest of the studies were found experimental in nature related to English language teaching and the teaching of other subjects. 13 Indian studies and four foreign studies were found reviewed in this section related to teaching learning of English. Two studies were found in the area of teaching English grammar.

From these reviewed literature, the researcher has found that there has been a great concern regarding the teaching - learning of English either in the form of developing a new strategy with or without the help of computer or in the form of studying the status of teaching learning in English or the problems facing by learners in the process of teaching and learning in English. The studies by Dewal (1973), Jain (1987), Jayshree (1989), Ngagbam (2000), Kulik (1991), Ross and Schulz (1999), Eteokleous (2004),McLaughlin (2004) were conducted to study the status of English language teaching at different levels of education. It is clearly visible from these review that several efforts have been done for the betterment of English language teaching and learning by native and foreign researchers. All the researches have been related with the difficulties in teaching or learning of English and the remediation. In the study conducted by Joseph (1983) one can find that he was corresponding to the needs of the teachers for computers being an effective technology in the present time and so many researchers have tried to use computers in language teaching and language learning process. Apart from these, many researches have been conducted to see the effectiveness of the different methods of teaching English. Those researches have
been based on CAI, PLM, CALM, CALL, multimedia etc. The researchers attempted in these areas were, Joseph (1983), Kapadia (1988), Sharma (1989), Dubey (1990), Das (1998), Ilaangovan (1998), Zyoud (1999), Patel (2009), Hsu (1994), Lyson (2002), and Paul (2007) out of which the studies conducted by Joseph (1983) and Patel (2009) were related to teaching learning of English grammar. None of these studies were found using multimedia package for the development of teaching learning of English. However the studies conducted by Menon (1984), Jayaraman (2006), Patil (2006), Shikhare (2007), George (2011), Krishnan (1983), Colon et al. (2000), Neo and Neo (2001), Toth (2002) and Richard (2011) were conducted to study the effectiveness of multimedia but in different subjects other than English. The study conducted by Das (1998) was found measuring the effectiveness of the CAI presented in different modes and that too was for teaching rhymes at lower standard. And two researches (Khirwadkar, 1998 and Zyoud, 1999) have been found which were measuring the effectiveness of the CAI. The study conducted by Khirwadkar (1998) was for the students of higher secondary but it was meant for teaching chemistry. And the study conducted by Zyoud (1999) was for teaching English grammar, but it was for the students of Gujarati medium and it was conducted with old syllabus and the then approach of teaching grammar was structural approach. The study conducted by Sabharwal (1978) was on the comparison of different teaching methods in the teaching of English. Majority of the studies related to the study the effectiveness of CAI, PLM, CALM, CALL, multimedia etc. were found effective in enhancing the achievement of students in the concern subjects. In some of these studies it was also found that all these computer mediated learning have a positive impact on the students in terms of their reaction towards the package, or/ and interest towards learning etc. Most of the studies those used interventions and revealed their experimental designs were found following experimental research following quasi experimental design. There were few studies which contrasts the findings of the said studies. Those were the studies conducted by Sabharwal(1978) and Charsky (2004) showed that computer mediated instructional strategy is not significantly superior than the traditional strategy. Both the studies aimed to check the effectiveness of Programmed Auto Learning vis-à-vis other methods, and it was found that the grammar translation method and the bilingual methods were more effective than the programme learning.
Very few studies i.e. studies conducted by Joseph (1983) and Patel (2009) were found from the available review of related literature relating to the teaching of English Grammar. None of these studies were found using multimedia package for the development of teaching learning of English. Hence, the researcher attempt will be to find out whether multimedia package can play a role in improving the achievement of students in English grammar.