CHAPTER II

LITERATURE REVIEW
2.1 INTRODUCTION
Language teaching has evolved along different lines in the last twenty five years. Many teachers consider incorporating the latest resources – language techniques, new material and computers and the internet in their classes worldwide. Many books and articles have been written on this subject and these books and articles have proved to be valuable sources of ideas for classroom activities. The books and articles have also addressed the role of computers in the full process of language teaching, including theory, usability, activities, materials design and more. The reviewed books and articles are very useful and helpful, as they emphasize various methods and techniques of language learning as well as effective use of ICT in the classrooms.

There have been many writers who have expressed their views about Information and Communication Technology in the field of education. There are some researchers, who have conducted experiments to find out the use of technology in the teaching-learning process. This chapter focuses on the use of ICT in five different areas, namely, ICT in Education, in Secondary School Education, in Language Teaching, in English Language Teaching and in the Teaching of Grammar. The chapter takes a survey of some of the most significant ideas presented by several scholars on ICT.

2.2 LITERATURE ON ICT AND EDUCATION
2.2.1 Ambudkar
Ambudkar (2011) states that ICT can be used for motivating learners. ICT can help teachers to create interactive and learner-centric environment. It can be blended with traditional methods to improve the effectiveness of teaching-learning process. Better education in rural areas can be provided by establishing e-universities. With the help of ICT, access to education can be expanded to everyone at anytime and anywhere. ICT in classrooms can help individuals to prepare for workplace, due to acquaintance with computers and related technologies. Active, Collaborative, Creative, Integrative and Evaluative learning is possible due to ICT. The writer also focuses on the key challenges in integration of ICT in education. They are non-availability of infrastructure, high cost of technologies and unfriendly educational policies. The writer concludes with a hope that ICT can help to make India a developed country by changing the existing traditional education system.
2.2.2 Ayres

Ayres (2002) states that the use of computers in language learning has increased since 1990. UNITEC School of English and Applied Linguistics has integrated technology in the curriculum. This research paper examines the students’ attitude towards the use of computer-assisted language learning (CALL). It also tries to find out whether CALL is a chief competitor or a useful tool to teachers. The data was collected from 157 non-native undergraduate students. A questionnaire was prepared to gather information about learners’ views about CALL.

The results showed that 70% students perceived themselves to have moderate to high skill levels in Listening, Reading and Writing. 60% of learners had low computing skills, when they were asked to self-evaluate their general computing skills. They also indicated that CALL plays an important role in English language learning, especially in learning grammar, writing and vocabulary. When learners were asked to state their perception of CALL, 68% learners agreed that it was easy to use and simple, 60% agreed that it gave good control over learning, 80% agreed that it was relevant to needs, 67% agreed that it improved English skills and 64% agreed that computers were motivating and should be used more.

The researcher concludes that technology is a tool to be used in the language learning process. If technology is used carefully and judiciously, it contributes to the learning process and is not a replacement for classroom-based instruction.

2.2.3 Kok

Kok (2010) in his research paper defines the term ICT and mentions that computers in education became popular in early 1980s. ICTs in education are required as a new society requires new skills for productivity enhancement with a quest for quality learning. Further the writer mentions that ICT helps to enhance motivation, creativity and systematic collaborative work. It helps to develop more comprehensive assimilation of knowledge. The writer makes a point that ICT should be integrated in schools as per their requirements. It should be realistic, achievable and effective. At the same time, one must consider the country’s reality, priorities, long-term budgetary prospects and commitment. ICT should be combined with traditional technologies to achieve better results in developing countries.
The next section focuses upon the term ‘Digital Divide’. It refers to the disparity in ICT diffusion and use between industrial and developing countries. The digital divide between developing and developed countries can be bridged by introducing ICTs into elementary school systems. The writer further mentions that mere presence of ICTs in school would not bring miracles but effective implementation would help for improvement. The writer states that developing countries face the challenges related to access, pedagogy or assessment while using ICT to improve and reform education. The writer also mentions that little statistics are available related to technology integration in education from developing countries, whereas a lot of research is conducted in technologically advanced countries.

2.2.4 Kotkar et al.

Kotkar et al. (2012) mention that the use of technology has become an integral part of our lives. New technology is adopted by people in day-to-day situations. The same technology can be used in education to enhance the teaching-learning process. The book is a useful resource for teachers as well as learners. It provides details of technology and various tools. The book has eight chapters and each chapter introduces an aspect of ICT.

The first chapter defines the concept of ICT and its necessity in education and in day-to-day life. ICT helps to expand educational opportunities and increase efficiency. It enhances the quality of learning and teaching. ICT assists in fulfilling the requirement of lifelong learning. The second chapter deals with various ICT tools. The next three chapters focus upon ICT tools, namely, Word Processor, Spreadsheet and PowerPoint Presentation. Chapter six introduces the concept of internet, e-mail and World Wide Web. Chapter seven explores the use of ICT in Languages, Social Sciences and Arts. ICT can help to improve language learning skills. It can make teaching and learning of Social Sciences interesting. It can be useful for creation of artwork, design as well as learning music. The last chapter highlights various ethics and morals. It refers to cyber law and law regarding software piracy. The copyright issue is also focused upon.
2.2.5 Lewis

Lewis (2009) states that there has been a tremendous progress in educational technology and teachers have been using various instructional tools to make their teaching effective but ‘How do we ‘reach’ our students?’ is the question before all teachers. Technology is nothing without a teacher, a plan and the pedagogy behind using it. Today’s world is a digital world and teachers use teaching strategies of the analogue classroom. The book aims at filling the gap between the potentials of technology and current classroom practice. It provides guidelines for implementation of technology in the classroom and practical examples of activities. Today’s students are more interested in using technology as it is new and exciting but a teacher’s focus must be on language learning and should not divert from the language learning goals. The book has five parts and 12 chapters along with sections on glossary and useful websites.

The first part deals with ‘developing a technology plan’ which mainly deals with finding out the technology profile of teachers and describes two important concepts, ‘digital natives’ and ‘digital immigrants’. The essentials for operating with technology are ‘a computer, an internet provider, an internet connection, web browser software and a printer’. The author also discusses computer literary, information literacy and multimedia literacy. In the same section, some of the important issues like ‘internet security, training and implementation and evaluating technology based activities’ are discussed. The development of rubrics, which is a set of criteria for technology based activities, is also focused upon in this section. Before implementing technology in the classroom, it is essential to consider curriculum closely.

The second and third part deals with ‘Using Offline and Online Tools’. The offline software ‘Word Processor, PowerPoint and Interactive White Boards’ are very useful and can be utilized regularly in the language classroom. Various activities to be used in the classroom are also provided. Online resources like emails and chats can be integrated for developing language skills. The author distinguishes between ‘World Wide Web’ and ‘Internet’. Concepts like ‘web browsers’, ‘search engines’ and ‘webquests’ are focused upon. The fact that bookmarks and social bookmarking are useful for getting organized is also discussed. Guidelines for conducting polls and surveys are provided and how to create your own poll or survey is discussed in this section. It also gives information about creating tests and quizzes.
Part four is about ‘Using Advanced Online Tools: Web 2.0’. Web 2.0 is an umbrella term which refers to a new generation of internet tools. The section deals with the benefits of Web 2.0 to the language teachers and students. ‘Blogs, wikis, podcasts and digital portfolios’ are very useful for language learning. Blogs and wikis are probably the most common and accepted ICT tools as they are practical and easy to use. Podcasts provide students with excellent opportunities to access and create authentic digital audio and video material. The most widely accepted and well known portfolio assessment tool in the language teaching world is the ‘European Language Portfolio’.

‘Social Network’ is used to create a common space where people with shared interests can exchange ideas, experiences and information. Social networks provide rich opportunities to use English in a targeted, purposeful way. ‘Voiceheard’ is a free online tool which allows students to create presentations which combine images with commentary in the form of text or audio. ‘Virtual Learning Environments’ are software programs designed to manage, track and administer learning. Using VLEs, teachers and administrators can create courses, register students, assign tasks and monitor progress.

The future of technology in teaching-learning process is discussed in the last part ‘Looking forward’. Technology is a powerful tool that can be used to differentiate the classroom instruction and address individual learner needs. We as teachers need to use technology selectively by differentiating the learners. The concept of Personal Learning Environments is also discussed. The concept of ‘cloud computing’ is focused upon. It is essential to manage technology and don’t let technology manage you. Mobile phone, wikis, blogs, etc are all tools to help you and your students to be more productive. They are not ends in themselves.

*Bringing technology into the classroom* clearly shows how to use the range of new technologies available to English language teachers. It describes and explains computer technology in non-technical language. It also features practical classroom ideas and provides time-saving, confidence-building tips to get the best from technology.
2.2.6 Nelson et al.
Nelson et al. (1987) mention that the traditional media like films, overheads, audio recordings, etc are being used less and less. The researchers conducted a survey of 500 teachers of Illinois to find out the causes for the decline. 34% teachers reported that there was reduction in the use of traditional media, due to out-of-date materials. The survey clearly showed that videocassettes and computers were on the increase. The researchers state that if the present trend continues then the traditional media would be obsolete except computers and VCRs. This is because of available facilities in computers and VCRs like up-to-date software, easy duplication and convenience to users. At the same time, they are adaptable to large-group work, small-group situations and individualized instruction.

2.2.7 Survey conducted by PricewaterhouseCoopers
This survey (2010) provides details of using ICTs in Education in India. It mentions that India ranks 118th in the ICT development index. The use of ICT for improving quality of education in India was emphasized in 1992 in National Policy on Education. Central Advisory Board of Education recommended the use of ICT in schools in 2005. National Knowledge Network has been launched for digitization and networking of the educational institutions. The report refers to the national policy for ICT on education. The policy states that each school will be equipped with at least one computer lab and 10:1 student computer ratio.

The report gives details about the major initiatives for implementing ICT in education. ICT @ Schools Scheme was launched in 2004 to develop ICT skills and using ICT in teaching-learning process. Sarva Shiksha Abhiyan encourages the use of ICT and the satellite EDUSAT to supplement school education. Chalta-Phirta Mobile Bus has a TV, computers and other facilities in it. The bus goes in the slum clusters of New Delhi. Eklavya computer-aided self-learning provides animated multimedia software based on textbooks of classes 6 to 8 in Chhattisgarh. Navodaya Vidyalaya Samiti’s schools are equipped with computer labs. Almost 97% of Kendriya Vidyalayas have a computer lab. ICT is used in National Institute of Open Schooling. IGNOU provides audio-video programs to supplement their courseware. The National Mission on Education through ICT was launched in 2009 to enhance teaching-learning experience of
learners. The IT@School project was initiated in 2000 to provide ICT enabled education. The project is implemented in over 8000 schools in Kerala.

Some of the private organizations and NGOs have made efforts for implementing ICT in education. National Institute of Information Technology offers training programs in ICT to teachers. Azim Premji Foundation has initiated the Computer-Aided Learning Program. Intel Education Initiative has trained teachers in using technology in classrooms.

Even though there have been many efforts for using ICT in education, there are many constraints for effective implementation of ICT. Due to Low Literacy Level, learners are not competent enough to receive IT education. Educational standards would need to be raised before the citizens can become digitally literate. Another constraint is of ‘Technophobia’. Teachers are typically wary of technology. Monitoring and Evaluation is another barrier. There is no monitoring system to see whether students actually use computers while learning. Identifying quality content is a common constraint for schools looking to use ICT-enabled teaching-learning practices. Another constraint is of Institutional fragmentation. As the digital divide is acute, it becomes difficult for the policy-makers to frame universal policies. Other constraints include linguistic diversity, income disparity, cost of maintenance, access to electricity, high cost of teacher training and lack of trained teachers.

2.2.8 Punie et al.

Punie et al. (2006) examine the impact of ICT on education and training in Europe. 20 studies and reports have been reviewed to find out the significance of ICT on learning. The report expresses a view that ICT has an important role to play in changing and modernizing educational systems and ways of learning. Today’s young or digital generation widely uses ICT in day-to-day life. Thus, it is difficult to imagine future learning situations without ICT. The study also mentions that regular computer users perform better in key school subjects compared to those with limited experience with computers.

The report indicates that ICT is most widespread in tertiary education. ICT usage in schools and vocational education is moderate. It also highlights that ICT has more impact on administrative
services than classroom teaching and learning. The main reason is the resistance by teachers because of lack of time, motivation and insufficient ICT literacy. The report suggests that appropriate training needs to be given to facilitators to adopt ICT in their daily practice.

2.2.9 Roni & Debbie
Roni & Debbie present various views on ICT and education. They deal with different approaches and attitudes towards the subject. The first section focuses on the views on computerization of education. Then it analyzes six representative texts dealing with ICT and education. The third part discusses three emerging paradigms on ICT and education. The study concludes by claiming that a rational discussion on the issue is possible once one is aware of different views on the topic.

In the first section, the writers deal with two parameters namely, approaches and attitudes, while expressing views on the computerization of education. They discuss seven approaches, which are on horizontal axis. The administrative approach sees the sheer existence of technology and focuses on the quantity and quality of equipment. The curricular approach deals with using technology in the curriculum either as the disciplinary form or the integrative form. The didactic approach conceptualizes that technology can lead to the introduction of new teaching-learning methods. The organizational approach believes that the introduction of ICT requires organizational changes, consisting of flexible attitudes to time, place, authority, roles and curriculum. The systemic approach mentions that changing the attitude and attributes of the system on a systemic level will help to bring ICT in education. The cultural approach considers the ICT revolution as a deep cultural revolution, which will bring dramatic changes in education. The ideological approach considers the changes in light of values and relates them to the aims of education.

Further they discuss the vertical parameter, which reflects the attitude one adopts regarding implementation of ICT in education. The agnostic is the attitude of those who don’t have clear opinion about the impact of ICT on education. The conservative is the attitude of those who believe that ICT is an additional tool for teachers. The moderate is the attitude of those who believe that schools need to go through an extensive change while integrating ICT. The radical is
the attitude of those who believe that schools are going to change radically in all their parameters related to teaching-learning process. The extreme radical is the attitude of those who believe that ICT is a Trojan horse inside the base of the prevailing educational system, and that the latter will not survive it.

The second part analyzes six representative texts which express different views on ICT and education. These texts were chosen on the basis of the following three parameters:

a) The level of the educational system: elementary, high school, etc.

b) The literary genre they belong to: proceedings of an international conference on the subject, a book or a paper.

c) The cultural context they refer to: either European or North American.

Based on the analysis of the representative texts, the third section focuses on the three emerging paradigms on ICT and education. The Technocrat paradigm characterizes those who avoid any discussion about school change. This group includes those who have agnostic attitude and reflect administrative, curricular or didactic approaches combined with a conservative attitude. The Reformist paradigm characterizes those who see ICT as a tool for promoting the right didactics. This group includes those who have didactic-moderate and organizational-moderate attitude. The Holistic paradigm characterizes those who have an explicit set of assertions regarding the socio-cultural situation and the desired values and the impact of ICT on it. This group includes those who have either conservative or radical and extreme radical attitude.

Finally the study suggests that we need to look into the process of ICT introduction in education. Further it mentions that we must initiate a rational discourse between the different theories and form a model for ICT introduction in education.

2.2.10 Sansanwal

Sansanwal (2009) mentions that the learner-centric approach of Gurukul System is not possible in today’s situation due to more number of students in the class. In today’s classrooms, teachers use different teaching aids as well as Programmed Learning Material. But these resources are either unavailable or costly and time consuming. Further, the writer states that computer can be
used in teaching-learning process. Computer Assisted Instruction has proved to be useful for developing language skills and mathematical abilities. But many schools lack computer facilities and trained teachers. In the next part, the writer mentions that ICT helps to bring rich material in the classrooms. It provides opportunities to the learners to use maximum senses. It can provide access to different sources of information in a comprehensive manner. It can help learners in concentration, better understanding and long retention of information. With the help of ICT, learners can interact with facilitators and other learners. The writer further states that ICT can be used in diagnostic testing, psychological testing, remedial teaching and evaluation. ICT can help to develop virtual laboratory, which can help students to practice experiments repeatedly. ICT helps to develop Web Based Instruction for developing reasoning and thinking. ICT can help in developing instructional material by digitalizing lectures of subject experts.

2.2.11 Tolani-Brown et al.
Tolani-Brown et al. (2009) focus on the impact of ICTs on students’ learning in developing countries. The writers mention that very few experiments have been conducted to find out the educational benefits of ICT. In developing countries, the focus is on why and how to use ICT in the teaching-learning process. It does not deal with the use of ICT for achieving the desired learning outcomes. The authors interviewed 40 experts from United States, Europe, India, Nepal, Zambia and Afghanistan to understand the benefits and challenges of ICT in education. The study mentions that developing countries lack standardized evaluation framework for educational interventions using ICTs. These countries lack training to researchers for evaluation. They have limited funding and resources. The focus is on updating materials, infrastructure and resources and not on appropriate implementation to accomplish the desired results. The writers mention that the present evaluation relies on self-reported data, which might have positive bias. Thus, it should analyze whether the intended goals are achieved or not. At the same time, the researcher should find out the ‘failures’ of ICT use in education for planning and implementation of ICT in future. The paper concludes by stating that ICTs are important tools for quality improvement in the field of education.
2.2.12 Vaishampayn et al.
Vaishampayn et al. (2010) have divided the book into two parts. The first part deals with ICT and the second part focuses on Instructional Systems. There are five chapters each in both the sections. In the beginning, the writers deal with ICT in Education. The writers state that as computers are used in various fields, they can be used in teaching-learning process as well. Technology will not be able to replace traditional teaching but it would boost the process of learning. Due to the status of developing nation, we lack proper infrastructure for integrating ICT in school education. We also lack trained staff, computers, other power devices and internet connectivity. But the government and NGOs have taken certain steps to overcome these challenges. Further the book provides details of Hardware Devices as well as certain Software and Viruses and its management. The writers also give details of e-mail, online conferencing, websites, search engines, etc. The book also deals with ICT supported Teaching-Learning Strategies. The writers mention that the use of technology in education can help to achieve continuous evaluation, efficient teaching strategies, active learning atmosphere as well as individual and group learning. Computer Assisted Learning, Project Based Learning, Collaborative Learning and Technology Aided Learning are also explained. In the last chapter, the writers provide information about E-Learning. E-learning models are developed to impart quality education to learners. Teachers and learners should refer to different websites to learn the strengths of Web Based Learning (WBL). The WBL complements the classroom teaching. It facilitates communication between students and teacher and also amongst students. The chapter also gives information about Virtual Classroom and EDUSAT i.e. educational satellite.

2.2.13 Vani et al.
Vani et al. (2013) state that ICT has not only opened new avenues but has also brought new challenges to learners and teachers. The article tries to focus upon the new learning environments, opportunities and challenges faced by teachers while implementing ICT in the learning process. They mention that to achieve the desired goals, ICT should be implemented creatively. They state that in ICT environment, teachers’ role is that of a facilitator and a teacher needs to motivate and reflect his digital literacy. It has also changed the school culture, teaching methods and strategies. Teachers need to undergo training to acquaint themselves with these changes. Teachers need to respond to these changes with a positive attitude. They further
mention that very few teachers have been students with an ICT learning environment and experienced teachers face difficulties in using it in the classrooms. They opine that technology cannot replace good teaching but it can enhance it. They also mention some of the challenges like not having right infrastructure, technical support and lack of finance as well as limited availability of quality software.

2.2.14 National Mission on Education through ICT: Mission Document, Government of India

This mission document provides details of implementation of ICT in education in India. It mentions that the conventional approach needs to be supported with ICT to meet the needs of learners. It will help to open alternative routes to achieve full utilization of available human resources. Digital divide and low percentage of digital literacy in the field of education are the major weaknesses in India. But strong technological and communication backbone will help to empower the mass of learners. The next section mentions that ICT as a tool in education should be utilized fully to enhance the quality of education. The government needs to adopt a holistic approach along with different institutes to implement ICT in education. One should remember that ICT can act as a multiplier for capacity building without compromising the quality.

The objectives of the Mission are to use ICT for providing knowledge resources to learners, to provide e-books & e-journals, to spread Digital Literacy, to develop interfaces which would help children with special needs, to deliver content through EDUSAT, to provide e-Learning support to every higher education institution for technology assisted learning and to help to set up virtual labs, lab centers & finishing schools for quality enhancement. The scope of work for the Mission is to provide support to upload quality e-content on ‘Sakshat’, an Educational Portal, to facilitate learners, to undertake quality assurance of e-learning content, to extend support for creating the knowledge network among the institutions of higher education, to launch a mass movement to spread digital literacy & to bridge the gap of Digital Divide and to encourage research in development.

The document mentions that the mission would not be successful without the support of various institutes under the MHRD like CBSE, KVS, NVS, NIOS, IGNOU, AICTE and NCERT. The
community participation will also help to achieve the success of the mission. These institutes would help to create e-content, which would be uploaded on the portal ‘Sakshat’. At present e-content in English would be prepared for all classes from nursery to research level. In future, language converter would help to transform it in other languages. The mission would support to develop a unified Enterprise Resource Package (ERP) system for Educational Institutions. In the first phase, a network system among the institutes of higher learning would be created. Further the same system can be expanded to cover secondary and primary schools. The document also provides details of proposed outcomes along with implementation strategies & guidelines.

2.2.15 Scaling ICT skills Training for Teachers in 21st century India. The Developing World: Partners in Learning Progress Report.

The report (2007) provides details of initiatives taken by Microsoft along with education departments, colleges and universities in several Indian states to incorporate mandatory pre-service ICT curriculum. The main focus is on developing ICT skills among pre-service teachers of Maharashtra, Andhra Pradesh, Tamil Nadu and Karnataka. Microsoft has already organized training sessions in Maharashtra, Hyderabad and Rajasthan. The participating teachers express that ICT helps students better comprehend complex concepts, ideas and processes. It offers students opportunities to simultaneously process new information through visual, auditory and other means. It helps learners to focus more attentively on lectures and demonstrations, grasping new concepts more quickly and retaining information more readily. It offers flexibility in the classroom. It helps to improve attendance and helps increasing completion of homework and boosting students’ grades. The Director of SCERT, Andhra Pradesh mentions that ICT is playing an increasingly key role in education today. It has the potential to have widespread impact in every aspect of education. Further, the report mentions the challenges before schools, which are insufficient technology infrastructure, limited ICT skills training and few teachers with any experience using computers.

The above discussion highlights the significance of ICT in education. ICT has an important role to play in changing and modernizing educational systems and ways of learning. It is playing an increasingly key role in education today and has the potential to have widespread impact in every aspect of education. It is difficult to imagine future learning situations without ICT, as ICT has
not only opened new avenues but has also brought new challenges to learners and teachers. One must remember that ICT is not a replacement for classroom-based instruction, as technology is nothing without a teacher, a plan and the pedagogy behind using it. One must remember that today’s digital generation widely uses ICT in day-to-day life, but teachers use teaching strategies of the analogue classroom. So teachers should make use of ICT and should focus on language learning and do not divert themselves from the language learning goals.

The reviewed literature states that ICT is helpful in many ways. It can motivate learners. Teachers can create active, collaborative, interactive and learner-centric environment. It can be blended with traditional methods to improve the effectiveness of teaching-learning process. It can provide access to education to everyone at anytime and anywhere. It helps to develop more comprehensive assimilation of knowledge. It can support in improving the quality of education. Continuous evaluation is possible due to ICT. It can act as a multiplier for capacity building without compromising the quality. It is useful to comprehend the complex concepts, ideas and processes better. It is useful to improve the attendance of learners as well.

Despite of many advantages, there are many challenges in integrating ICT in education in India. Even though India is ranked 118th in the ICT development index, India emphasized the use of ICT for improving quality of education in 1992 in National Policy on Education. Since then, there have been many efforts for implementing ICT in education. But there are many challenges before us. The major challenges are non-availability of infrastructure, high cost of technologies, unfriendly educational policies, lack of access to electricity, limited availability of quality software, technophobia, high cost of teacher training and lack of trained teachers. At the same time, many teachers are reluctant to use ICT. They resist due to lack of time, motivation, insufficient ICT literacy as well as lack of technical support. They also feel it is time consuming.

For effective implementation of ICT in education, teachers, students as well as authorities should have positive attitude to accept the changes brought due to ICT. Appropriate training needs to be given to teachers to adopt ICT in their daily practices. Teachers must remember that in ICT environment, their role is that of a facilitator and they need to motivate learners and reflect their digital literacy. They need to know that ICT has changed the school culture, teaching methods
and strategies. Finally, one must know that India has strong technological and communication support, which will help to empower the mass of learners.

**2.3 LITERATURE ON ICT AND SECONDARY SCHOOL EDUCATION**

**2.3.1 Balanskat et al.**

Balanskat et al. (2006) state that ICT in education and training has been a priority in most European countries. All EU countries have invested in ICT in schools. Few schools in some countries have embedded ICT into the curriculum to transform teaching-learning process. But most schools in most countries are in the early phase of ICT adoption. The aim of this review is to find out the impact of ICT at national and European level. The key findings state that ICT has an impact on learning and learners. ICT helps to motivate and to create positive effects on behavior, communication and process skills of learners. ICT encourages independent and cohesive learning along with teamwork during project work. It benefits children with special needs. ICT impacts positively on educational performance and attainment level of learners in primary schools, particularly in English. Schools with good ICT resources achieve better results.

ICT also has an impact on teachers and teaching. ICT helps to increase enthusiasm, positive attitude, efficiency and collaborative approach among teachers. Teachers use ICT to support traditional teaching practices. Teachers consider that ICT’s impact on primary learners is more as compared to secondary learners. Teachers, students and parents opine that ICT has a positive impact on learning. Teachers believe that subject-related performance improves due to ICT. It not only benefits bright but also weak learners.

The report summarizes that teachers’ poor ICT competence, limited access to ICT, inadequate maintenance of hardware and unsuitable educational software hinder the use of ICT in teaching-learning process. In some countries, rigid educational system impedes the integration of ICT into every day learning activities. The report recommends that policy makers need to plan for transformation. New competencies should be included in the curricula. They should motivate and reward teachers to use ICT. Schools should integrate the ICT strategy into their overall strategies. Schools should transform positive attitudes towards ICT into efficient widespread
practice. The research should be promoted, which will help to implement ICT into teaching-learning process.

2.3.2 Condie et al.
Condie et al. (2007) analyze the impact of ICT in schools across the United Kingdom. It is prepared by consulting more than 350 published literature sources. The report mentions that majority of secondary schools have sufficient computer-learner ratio. Teachers integrate innovative approaches using ICT to enhance learning experiences. It further mentions that significant numbers of schools lack an e-strategy that addresses future development and sustainability. The report makes a point that ICT has an impact in some contexts, with some learners and disciplines. The greatest impact is observed when ICT is integrated in every day classroom. ICT impact on motivation and behaviour is more convincing. ICT engages learners and helps for deeper understanding. ICT encourages creativity, collaborative activity, critical thinking, problem solving abilities and independent learning. ICT use in English is fairly consistent and helps improve writing and reading skills, supports collaboration and develops speaking and listening skills. It has positive impact on other subjects as well. It also addresses the needs of children with special needs, the disaffected and the children of travelers.

The report states that almost all schools are networked internally and linked to the internet. Thus, schools can maintain communication with parents, local community as well as schools and agencies in other countries. The report finally states that the progress of ICT in schools is uneven across and within schools and technologies. But ICT is embedded in the every day practices to support learning, teaching and attainment. Using ICT effectively in schools is about more than changing resources; it is about changing practices and culture.

2.3.3 Frey et al.
Frey et al. (2008) mention that their high school needed an updated technology policy and the focus of the present policy was on prohibition of cell phones, iPods, etc in the school premises. The members of the school came together to revise the policy and realized that it was an excellent opportunity to integrate technology into the school curriculum, as majority of the students had these devices. In the revised policy, members decided to increase the integration of
technology into the curriculum. The researchers expressed that technology could be used positively in the English classroom. They mentioned that instead of confiscating devices, we could train students to use it appropriately. The new revised policy, ‘Courtesy Policy’ instead of ‘Technology Policy’ was circulated among students and parents for their feedback. The new policy received positive feedback.

Implementation of revised policy resulted into many positive changes. Students started using technology at appropriate times for listening to music, messaging and interacting. The researchers thought if students could use technology for their personal reasons easily, why we as teachers couldn’t use technology in the English classrooms. Thus, the teachers decided to use cell phones, MP3s and iPods in English classrooms. Few free audio files of classics and stories were made available for listening on these devices. Students could listen to them at different places like on the bus, while exercising or while walking across campus. Teachers also started sending text messages from computer websites about interesting facts, prompts, reminders, etc.

The web-based learning was also promoted, where students had to complete their assignments by using a computer and share those with others via internet. Students realized that integration of technology appropriately helped them to learn English in a better way. Students could complete their projects by accessing technology in school within the school’s learning environment. The researchers conclude that many schools follow ‘technology-prohibited policy’ in this information age but schools should adopt ‘technology-friendly policy’, which would help students to use technology responsibly.

2.3.4 Nayak
Nayak (2013) states that ICT has an immense impact in the field of education. ICT has helped to enhance the efficiency of teachers and learners. It has also helped to increase motivation, collaborative learning and self-evaluation. This study tries to examine the potentiality of ICT to be used in a language classroom for instruction and assessment. Nayak mentions that ICT can provide access to different sources of information, which will help to enhance the quality of teaching-learning process. Computers have been used for instructional purposes, which have brought about radical changes in learning process. Computers can also be used in evaluation
process, which helps to reduce time, money and efforts spent for assessment. Teacher’s role has got a shift from an instructor to that of a facilitator.

The researcher mentions that English has been proved to be the most suitable language for the use of ICT. English teachers use audio-visual materials, instructional CDs, etc. to arouse and sustain the interest of learners. ICT can also help to develop communication skills. The language laboratories play an important role in enhancing the language skills of the learners. ICT enabled assessment promises to make both teaching and learning of a language authentic, enjoyable, error-free and reliable. As there are advantages of ICT, the disadvantages are no less in number. The researcher mentions that television has been used in learning process for many years but the present ICT scenario in the country is not very encouraging. Around 13.5% of all schools across India now have computer penetration, according to a recent report of the Union HRD ministry. In terms of percentage of schools which have computers in each state, Delhi stands first (68.85), followed by Kerala (60.9), Maharashtra (33.42), Gujarat (24.03) and Tamil Nadu (22.13). Though computers came to Indian classrooms in the year 1984-85, the level of adoption of modern technology in the teaching and learning process has been limited and uneven. Possibly there has been no comprehensive study or survey on the use of Information and Communication Technology (ICT) in schools in India.

Some of the important factors responsible for the slow growth of ICT are lack of regular flow of electricity, lack of skilled staff, poor maintenance of gadgets, non-involvement of teachers in planning and preparation of courseware, unsuitable course material, non-availability of intranet and internet services, inadequate policy formulation and financial constraints.

The researcher suggests that technology has to be used to complement and enhance what the teacher does, not dominate over the teachers. It can be a facilitator, not a dictator. There should be sufficient scope in the curriculum to make use of ICT for the purposes of instruction and assessment. The teachers and students need to be computer literate and know how to make use of computers for educational purposes. Cheaper varieties of technology (like the popular tablets) are to be made available to the schools where students cannot afford to pay more, so that they are able to make use of this for language learning. Teachers should be recommended for in-service
professional development programmes where they can be trained in the design and development of digital materials both for instruction and assessment. Sufficient number of computers should be there to facilitate both individualized and collaborative learning. There should be a change in the attitude of the teachers, learners and management to do things in an innovative way with the help of ICT. The researcher concludes that technology has to be used as a tool to render assistance to achieve the goal of the profession to serve the end user as providers of information pin-pointedly, expeditiously and exhaustively. It is time to embrace these challenges to grasp the future and pull us forward.

2.3.5 Patru et al.

Patru et al. (2005) have prepared this handbook for teachers at all levels who are either working with or would like to know more about ICT in schools. It states that ICT can create a learner-centric environment. ICT can be combined with traditional technologies for effective learning and efficient education services in developing countries. At present, impact of ICT can be seen on the economies of all nations and it has a potential to impact every aspect of a school.

This handbook consists of seven chapters. In the beginning, the book provides basic perspectives of society, people, individuals, and their needs. It gives details of educational systems and use of ICT as a powerful and versatile means to support socio-cultural development, especially in the field of education. It also provides technical details of ICT tools to be used in education. A systematic overview of the traditional schools is also provided. It gives details of strong and weak points, problems, prospects and possible solutions for further development of the traditional schools. Further, it explores the elements of teaching-learning activities in view of different kinds of support, improvement and extension made possible by ICT. The details of use of ICT in schools are also provided. The book mentions the problems of practical use of ICT in schools and offers possible solutions. It also focuses on the fundamentals of computer science and technology. These fundamentals are relevant for different ICT applications and belong to what we call the ‘new literacy’. The final chapter brings together the several key themes, namely, the need to restructure schools, strategies of change and dimensions of ICT development. It also provides a section on ‘practical suggestions for planning’. The book provides a list of glossary at the end.
2.3.6 Schreurs

Schreurs (2007) makes a point that schools should have ICT vision and appropriate strategy should be formulated to accomplish it. The biggest challenge before schools is the integration of ICT in the learning process. In the first two phases of ICT integration, teachers learnt the basics of computers and internet. Third phase requires ICT to be a part of learning activities. This dream can become a reality only when management provides support to teachers. Long-term planning and regular monitoring can help integrating ICT in schools. Everyone should think of using resources effectively to enhance learning and should not bother about availability of resources. The writer further mentions that ICT can be directly beneficial to the learner and the teacher. It can also benefit parents, society and government indirectly. The schools should identify the strengths and the areas for improvements. Further, schools should work upon the areas of improvements and effectively implement ICT Vision.


The annual report mentions that secondary education serves as a bridge between elementary and higher education. So, the Ministry has launched Rashtriya Madhyamik Shiksha Abhiyan to universalize access to secondary education. ICT in Schools scheme is launched along with some other schemes during the initial two years of the XIth Five Year Plan. Draft Policy on ICT for School Education is being examined and would be finalized after considering received feedback from different stakeholders. Separate financial provision for strengthening Computer Aided Learning in schools for enhancing learning has been made under SSA. The amount can be utilized for purchasing computers, developing e-learning material in local languages and training teachers in computer use.

ICT enabled education can help improving quality while ensuring equity. So, NCTE and Intel Technology have signed a MoU to provide training in ICT use to teacher educators. Centrally Sponsored Scheme of ICT at Schools provides opportunities to secondary stage students to build their capacity on ICT skills. It focuses on learning through computers. It is launched to bridge the digital divide amongst students of various socio economic and other geographical barriers. It aims to promote the usage of ICT for imparting computer literacy and computer aided learning.
It also aims to enhance the capacity of teachers to use ICT in teaching processes. It further aims to enable students to acquire skills needed for the digital world for higher studies and the workplace.

2.3.8 Draft of National Policy on Information and Communication Technology in School Education. Department of School Education and Literacy, Ministry of Human Resource Development, Government of India

The National Policy on Education mentions that a comprehensive scheme, ‘ICT at Schools’ is introduced in 2004, to improve the quality of education. Use of ICT for quality improvement is highlighted in National Curriculum Framework 2005, Sarva Shiksha Abhiyan and Universal Secondary Education Report, 2005. The initiative of ICT Policy in School Education is inspired by the tremendous potential of ICT for enhancing outreach and quality of education. The ICT Policy in School Education aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness. The policy envisages three stages of ICT implementations at the school level – ICT literacy and Competency Enhancement, ICT enabled teaching - learning and introduction of ICT related elective subjects at senior Secondary level. It also provides details about ICT infrastructure and maximum utilization of available resources. It deals with creation and dissemination of digital resources. CIET, NCERT, IGNOU and SIETs would play a proactive role in developing and sharing of digital content. These resources would be made available to teachers and students by the school library.

Further, the policy mentions that capacity building of teachers can help implementing ICT efficiently. So, in-service and pre-service training on ICT use will be provided to teachers before the commencement of academic year. All school heads will also undergo training in ICT use. They would be guided on implementation of School Education Management Information System. States and Districts Education Department personnel at all levels will be oriented to infuse ICT into their work. The policy mentions the use of ICT for Children with Special Needs, Vocational Education and Open and Distance Learning. It also states that ICT should be used for effective School Management by implementing automated & ICT managed administrative processes.
2.3.9 Using ICT in Learning and Teaching: Secondary Schools

This article outlines the good practices on the use of ICT in 49 secondary schools. It is found that use of ICT makes a key contribution, if used appropriately. Teachers of these schools allowed learners to use ICT independently. Learners used ICT to develop their reading and writing skills of English. They used it for consolidation tasks as well. Learners’ needs were taken into consideration while assigning tasks. At the same time, learners were allowed to work at their own level and pace. The article gives reference to use of ICT in different subjects, namely, Mathematics, Modern Foreign Languages like German & French, Biology & Science, History & Modern Studies, Business Education, Music and Physical Education. Further, it states that there were recurrent and significant weaknesses in ICT use in English subject. ICT was being used effectively in improving presentation of learners’ work, drafting skills and research activities. ICT was not used prominently in mathematics, modern foreign languages and physical education. It was used sometimes in sciences and history & modern studies. But it was significantly used in business education and music subjects. The major issue in most of the schools was the need for staff development in ICT.

The above discussion highlights the significance of ICT in secondary school education. ICT in education has been a priority in most of the European countries. At the same time, majority of secondary schools have sufficient computer-learner ratio. Teachers innovatively integrate ICT in every day classroom. The findings show that ICT impacts positively on educational performance and attainment level of learners. It has positive impact on English as well as other secondary school subjects. The study suggests that research should be promoted to boost ICT implementation into teaching-learning process. In one of the secondary schools, teachers revised the technology policy and decided to integrate technology into the curriculum. Teachers decided to use cell phones, MP3s and iPods in English classrooms on an experimental basis. The policy received positive feedback and learners enjoyed learning English through technology.

The reviewed literature suggests that schools should have vision, appropriate strategy, long term planning and regular monitoring for effective implementation of ICT. Management should provide appropriate support in implementing ‘ICT Vision’. ICT can provide access to different sources of information to enhance learning like audio-visual material and CDs. ICT can also be
used in evaluation process, as ICT enabled assessment is authentic, enjoyable, error-free and reliable.

One of the important issues is that there is no comprehensive survey on the use of ICT in schools in India. But the government of India has been taking efforts to implement ICT in schools. The Government of India launched ‘ICT in Schools’ scheme during the Eleventh Five Year Plan. ‘Draft Policy on ICT for School Education’ is in the pipeline and would be implemented soon. Separate financial provision for strengthening Computer Aided Learning in schools has been made under Sarva Shiksha Abhiyan. As per the policy, ICT would be implemented at the school level in three stages. In the first stage, the focus would be on ICT literacy and Competency Enhancement. In the second phase ICT would be implemented in teaching-learning process and in the last stage, ICT would be used in elective subjects at senior Secondary level. Digital resources would also be created by respective subject experts. NCTE and Intel Technology have signed a MoU to provide training in ICT use to teacher educators. ‘Centrally sponsored Scheme of ICT at Schools’ would help students to learn through computers, which will enable them to acquire skills to compete in this digital world.

2.4 LITERATURE ON ICT AND LANGUAGE TEACHING

2.4.1 Han

Han (2013) mentions that computers are widely used in second language teaching-learning process and computers have a positive impact on learners. The writer provides details of three phases of CALL, namely, behavioristic CALL, communicative CALL and integrative CALL. The first phase of CALL was implemented in the 1960s and 1970s. In this phase, repetitive language drills were practised with the help of computer. The second phase of CALL became prominent in the 1970s and 1980s. In this phase, computers were used to foster interactivity between learner-computer and learner-learner. Integrative CALL became a reality, due to development in technology and World Wide Web in mid-1990s. In this phase, learners could interact with each other from anywhere and anytime. Integration of various language skills was possible, with the help of technology.
In the next part of the paper, the writer examines the benefits and barriers of computers in language teaching-learning process. The writer mentions that CALL programs could offer second language learners more independence from classrooms, they can study at any time and anywhere, CALL programs can be wonderful stimuli for second language learning, computer can promote learning interaction between learners and teachers and computers can help classroom teaching with a variety of materials and approaches.

The major barriers mentioned are financial barriers as well as technological barriers. At the same time, teachers as well as students need training to learn to use computers. Further, the author states that language educators need to use technology wisely to enhance the teaching-learning process by overcoming barriers.

2.4.2 Harrell
Harrell (1998) states that thinking about computers in education means thinking about using computers as a tool in education. In the beginning, the writer focuses upon behaviourist model of learning & constructionism and suggests that computers can be incorporated in language study by using these approaches. Further, he states that a teacher’s focus should be on lifelong learning and to achieve the same, one should make use of different technological devices – especially the ubiquitous computer. Computers allow self-paced learning and learning from each other due to its interactive nature. Computers can analyze the answers of students and rectify errors unlike books and tape recorder, which can tell the rules and the right solutions. The reality is many youngsters learn effectively through visual media rather than print media. Instant feedback from computers encourages students and avoids students’ frustration. He states that when the subject is made fun, kids will learn, so will adults.

As each coin has two sides, same is the case with computers. Computers cannot always answer just any question posed by a learner. The cost, accessibility and availability of appropriate software are other obstacles. Thus, implementation of computers is restricted to an elite group of learners and cannot be utilized in poor or developing geographical areas.
Further, he mentions four basic types of CALL, namely, ‘Basic Drills’, where computer is a ‘Drill Instructor’, ‘Discrete-skill practice in non-drill format’, where computer is a ‘Tutor’, ‘Global acquisition and Production’, where computer is a ‘Tool’ and ‘Teacher Utilities’, where computer is a ‘Tool for a Teacher’. He states that for CALL to work properly, one must consider the four components meticulously, ‘the target population’ i.e. learners, ‘goals’ i.e. what learners are supposed to learn, ‘task’ i.e. the materials and skills involved and ‘instruction’ i.e. the externally planned activities. He mentions that using computers as a tool in above mentioned approaches can help to learn a foreign or second language efficiently. The writer concludes that for CALL to be truly effective, teachers, students and administrators must work hand in hand.

2.4.3 Lai et al.

Lai et al. (2006) state that educators believe computer as an influential component of second language learning. The article mainly focuses on the advantages and disadvantages of computer technology in second language learning. The writer mentions the advantages of CALL programs. CALL can help learners to work independently and at any time. Experiential and interactive learning is possible due to computer technology. Global understanding can be created with the help of computer technology. It can reduce stress and build self-confidence by learning through fun games as well as communicative and interactive activities. The performances can be recorded, analyzed and appropriate feedback can be provided to learners. Internet can help learners to interact with fellow learners and teachers. They can also download various learning materials for self study.

Further, the writer provides disadvantages of CALL programs. Educational cost will increase due to expensive computer hardware and software. Teachers as well as learners lack appropriate knowledge of technology. The software of CALL programs mainly deals with reading, listening and writing skills. The available speaking programs have limited functions to perform. Lastly, computers cannot handle unexpected situations. The writer concludes that CALL programs need to be implemented effectively to help learning and to enhance teaching skills.
2.4.4 Levy

In this article, Levy (2009) has described the technologies in use for second language learning. The researcher has focused upon the relevant technologies to be used in different language skills. Different websites and CALL softwares are useful for practice and feedback while teaching of grammar. Vocabulary can be taught with the help of courseware, online activities, dictionaries and computer-mediated communication technologies. Hot Potatoes Software provides six tutorial activities for vocabulary and grammar learning. Flash audio player is useful to listen to the pronunciation of words. A teacher can use WordChamp and Lexical Tutor, which are online vocabulary building tools. Mobile phones, Personal Digital Assistants (PDAs), MP3 players and digital voice recorders can also be used for vocabulary development.

Reading Skill can be taught by using computer-based programs, electronic dictionaries and internet as a source of materials for extensive reading. ‘Word’ is one of the most widely accepted tools for teaching of ‘Writing Skill’. FipsOrtho, spell-check software, is specially designed for French learners. Interactive iWRITE system is a corpus-based online grammar resource, which can be used to develop grammatical accuracy in L2 writing. Blog, emails, student-designed webpages, power point presentations, weblogs and wikis can also be used to help learners to express themselves.

Computer-aided pronunciation training (CAPT) is helpful to learners to pronounce accurately. Tsubota et al. created software for Japanese learners of English to develop their pronunciation skill. An internet-based support system can also be used for pronunciation practice. Digitized audio and video can be used to develop ‘Listening Skill’. With the help of internet, a wide range of audios and videos can be made available to learners. These files can also be stored for future use. A learner can listen to these files by using MP3 players as well. CDs, DVDs provide a lot of listening material. Podcast can also play a vital role in developing listening skill.

Speaking skill can be developed by using interactive voice chat, audio blogs or voiced bulletin boards. A teacher can also make use of audio and video conferencing. Skype and Let’s Chat are other tools for developing speaking skills. Culture can be taught by accessing websites to expose
to the target culture. Email, chat, discussion forums, wikis and video conferencing can be used to exchange views about culture of different states or countries.

The researcher mentions that for using these technologies efficiently, teacher education and learners training is must. If teachers and learners use these technologies regularly, the purpose of the technology would be achieved. They must remember that technology is there to serve language learning and not vice versa.

2.4.5 Rathore
Rathore (2011) states that ICT is the buzz word of 21st century and it has changed the nature of teaching-learning process. Different digital technologies are used in ELT to help learners to acquire language quickly and flexibly. Using ICT can help learners to test accuracy and review & modify their work. It can help to communicate confidently, effectively and independently. It can help to develop their creativity as well. Language skills i.e. LSRW can be integrated by using ICT. It can help a language class to be interactive. The writer refers to various research projects conducted in the USA and the UK, which have successfully implemented ICT in teaching of language skills. The writer concludes that ICT cannot be ignored and language teachers should try to use it quite often in the classroom.

2.4.6 Salehi et al.
Salehi et al. (2012) mention that educational researchers’ have been researching for more than two decades on the use of ICT in education. Since 1960s, teachers have been using technology devices like televisions, tape recorders and video recorders in teaching-learning process. They mention that there are many challenges in implementing ICT in the curriculum. Thus, the researchers conducted this study to find out the discouraging factors in using ICT in the classroom. 30 high school English teachers from five main educational districts in the city of Isfahan, Iran responded to the questionnaire. All the participants were familiar with the use of ICT in general. The questionnaire was based on ‘teachers’ familiarity with ICT and the factors that discourage teachers to use ICT in the classroom’.
The analysis of data reveals interesting facts. The section ‘Teachers’ familiarity with ICT’ shows that majority of teachers i.e. 70% were frequent users of ICT. 23% respondents were limited users of ICT and remaining teachers had never used ICT. When they were asked to inform about the use of ICT in the classroom, around 77% of teachers stated that they never use ICT in the classroom. Only around 17% of teachers make use of ICT frequently in the classroom. The section ‘Factors discouraging teachers to use ICT’ shows that due to insufficient technical support and little access to internet, teachers do not use ICT in the classroom. Shortage of class time was another important discouraging factor. The researchers conclude that the high school teachers are familiar with ICT and its usage but they do not bother to integrate into the curriculum due to various discouraging factors.

2.4.7 Son

Son (2004) states that Computer Assisted Language Learning (CALL) plays a vital role in teaching-learning process. The key issues related to the application of CALL in language teaching and language teacher education have been carefully examined in this book. The book focuses on how CALL can be developed and used for the benefits of learners. It presents the findings of recent work in CALL that are of direct relevance to second language teaching and learning. It addresses issues such as the creation of online learning environments and systems, the importance of cultural contexts, the roles of language teachers, the use of computer – mediated communication (CMC) in teacher development, the impact of collaboration and interaction in CMC environments on second language development and the study of feedback on learners’ pronunciation and writing.

All nine chapters of the book deal with implementation of CALL in classroom teaching-learning process. The concepts, contexts and practices related to CALL are discussed in detail. In the beginning, the theoretical models for language learning and the progress achieved so far in one such model is discussed. These models are based on post-modern thinking and are currently under development. The development of a technology-enhanced foreign/second language learning framework and some aspects of its implementation have also been described. It introduces an intellectual framework for language teaching and describes a learning system through networked databases of multimedia materials. The expanding use of computers in
education field in the 21st Century has also been discussed. The use of technology has fostered the development of many novel tools including online virtual environments known as Multiuser Object-Orientated (MOOs) domains.

The chapter, ‘CALL initiatives and the Korean cultural learning context’ deals with the historic reforms in education system and the impact of ICT in Korean context. It emphasizes that one must consider the local cultural context and learning environment, while implementing CALL. The next chapter ‘Language teacher trainees as multimedia designers: Voices from a CALL classroom’ describes the developmental stages of a CALL course. An elective CALL course was implemented in a language teacher education program. The results suggest that teacher development can be effectively promoted by computer-mediated communication. The impact of online text chats on learners’ willingness to communicate and self-confidence is discussed in the next chapter. Results of the study suggest that chat sessions allowed learners to organize their thoughts by using appropriate vocabulary, which helped them to improve their speaking tasks.

The chapter ‘Making feedback last: An integrated approach to feedback in language learning’ examines the use of a speech analysis tool offering audio and visual feedback. The last chapter of the book investigates users’ needs and expectations of computer-based essay marking systems with a focus on feedback on ESL students’ essays. With the advancement of information technology, computer-based essay marking systems have been developed in Malaysia to reduce the workload of human markers.

2.4.8 Son

Son (2009) discusses the issues related to Internet-based language learning (IBLL) in this book. It deals with the effective use of internet for improving language learning and teaching. The findings of recent work in IBLL are of direct relevance to second language learning and teaching. The book particularly deals with Web-based language learning, course management systems, digital storytelling, online dictation exercises, Web authoring projects, Web based portfolios and blogging.
The book includes eight chapters describing and discussing a range of IBLL pedagogies and technologies. The book focuses on the role of meta-cognition and strategy use in Web-based language learning. It looks into the use of Moodle in a process writing course. It also demonstrates examples of digital storytelling in the context of indigenous education. Further, the book examines the teaching of English reduced forms with online dictation exercises. The writer also suggests practical steps for setting up and working through a Web authoring project. The book also discusses the use of Web-based portfolios in language teacher education. It investigates learners’ voices in blogs. Finally, the writer presents a language teacher’s reflections on blogging.

2.4.9 Yunus et al.

Yunus et al. (2009) provide details of a survey conducted in Kuala Terengganu, Malaysia in this paper. By using questionnaire, the writer tried to find out learners’ attitude towards using ICT for learning English. The paper mentions various advantages of ICT. ICT can help to present information in an interesting and lively manner. Learners can become active and perform collaborative tasks. They can learn grammar, vocabulary and other skills at their own pace. Teachers can share their views with peers and learners. The major challenges are also discussed. Many institutes lack access to computer and internet due to its high cost. They lack telephone and electricity infrastructure. Teachers and learners lack computer literacy and expertise. Technophobia and wrong perception towards ICT is another hindrance.

The next section discusses the findings. Many learners have positive attitude towards using ICT in English language learning. They prefer to learn English by using ICT due to its attractiveness. Learners use ICT to find out information and words & their meanings. It helps them to broaden their knowledge and boost their motivation. ICT helps them to enrich their vocabulary, grammar and writing skills. Learners want to learn English, as it is interesting and important. Further, the writer suggests that teachers in school must encourage and guide learners to use ICT for enhancing their language skills. Teachers as well as learners should acquire ICT skills for their betterment. At the same time, Ministry of education should organize computer courses to upgrade teachers’ knowledge. Finally, the writer states that learners should be encouraged to use ICT in English language learning. They should know that ICT can provide variety of learning
opportunities to develop their language skills. The writer refers to previous studies as well. These studies show that the CALL software was successfully implemented for improving language skills of learners.

The above discussion highlights the significance of ICT in language teaching. ICT is the buzzword of twenty-first century and it has changed the nature of teaching-learning process. Different digital technologies are used to help learners to acquire language quickly and flexibly. Teachers focus on lifelong learning by using computer as a teaching aid and use computer in language study. Educators believe computer is an influential component of second language learning. Thus, computers are widely used in teaching-learning of the second language in the USA. They are aware of the benefits of using computer in language study like it helps to create global understanding, reduce stress and build self-confidence. It can record and analyze the students’ performances and provide immediate feedback. It provides more independence to learners and they can learn at any time and anywhere.

Different language websites and CALL software are useful while teaching language skills, grammar and vocabulary. Mobile phones, Personal Digital Assistants (PDAs), MP3 players and digital voice recorders can also be used in language teaching. Computer Assisted Language Learning (CALL) and Internet Based Language Learning (IBLL) play a vital role in enhancing language learning process.

Even though there are many benefits of using technology in language learning, teachers do not bother to integrate it into their teaching due to various discouraging factors.

2.5 LITERATURE ON ICT AND ENGLISH LANGUAGE TEACHING

2.5.1 Adams et al.

Adams et al. (2007) in this book focus on the use of ICT for enhancing teaching and learning of secondary English. It provides research based findings of successful implementation of ICT in teaching of language skills. The writers mention that ICT provides an opportunity to learn innovatively and ICT is not a ‘solution’ but a means to bring positive change in English teaching.
In the beginning, the writers mention that computers in association with teachers can motivate and help learners to develop their language capabilities. They express that teachers can make use of ‘Word’ to develop learners’ writing skills. They can work and share their tasks via internet not only with classmates but also with learners from different countries. Further, the writers state that ICT can help to enhance the reading of texts as well as thinking and mind mapping skills. They can create web pages along with audios, video clips, etc. to develop their language skills. The book also focuses on the use of technology for teaching of literacy. Learners can exchange their views via email to develop their communication skills. They can gather information via internet for better understanding. ICT can help to develop Cognitive, Motivational and Interactional Skills. The writers also discuss the creation of narratives and databases in electronic form. Language teachers need to explore information theoretically, pedagogically and aesthetically.

The next chapter makes a point that reading can be improved by using computer-based texts. Hypertext can encourage writers and readers to work consciously and concretely. The viewpoint is supported by a study, which was conducted in a Canadian University on ‘manipulation of a modernist short story for electronic media’. The book also states that technology can be implemented in English classroom to promote worthwhile learning outcomes. Even though new technologies have been adopted during the 1990s, they are occasionally used. The writers conclude that new technologies are essential for teaching and learning in English classrooms. Further, the writers mention that computer applications were used by teachers between 1980s and 1990s for drafting purpose. ICT was used enthusiastically but was not evaluated appropriately due to lack of curriculum framework and uniform policies during this period. In 1999, the government of England stated that ICT could be used as a tool for enhancing learning experience. Hence, teachers started exploring various avenues of using ICT in teaching of language skills. The majority of research between 1990 and 2000 focused on the primary school English rather than secondary school English. Total 212 studies were identified to find the impact of ICT on literacy learning. The writer opines that there is a need of research on the use of ICT in English secondary classrooms. At the same time, a country specific policy on ICT and ELT should be framed rigorously for achieving long term goals.
2.5.2 Barad

Barad (2009) in this research paper deals with the use of ICT in Teaching English Language and Literature. The objectives of the experiments were to find out the usefulness of ICT to student community, the role of ICT in teaching English language and literature, methods for overcoming students’ problems and the utility of ICT to empower student community as well as to improve their proficiency of learning.

In the first experiment, the researcher prepared OHP transparencies to present the lesson along with graphics and a movie to make it more interesting. The examination results proved that the students were benefited by this method of learning. In the second experiment, surveys were conducted online. The results of the surveys were analyzed and a report was prepared. This activity helped learners to improve their writing skills and usage of tenses appropriately. In the third experiment, a game of portfolio management was played to teach share marketing. Later, the statistics was discussed in the classroom. The experiment helped learners to enter into the field of Share Market. In the next two experiments, letters of inquiries and complaints were sent to companies via e-mails. The letters were also sent to the editors of The Times of India as well as business magazines. Further, these letters, replies and discussions were presented in the class. This activity created a lot of interest among students and now some of them are freelance journalists.

In the sixth experiment, Collective Reading of literature was done by using Microsoft Encarta Encyclopedia. Encarta made teaching and learning very easy because of its rich resources which included multimedia and images. In the next experiment, Plays and Novels were taught through movies. PPTs of important scenes from movies and plays were prepared and discussed in the classroom. After reading a section of the text, the clipping was viewed for a better understanding. In the eighth experiment, poetry was taught by using its online audio version. In the next experiment, Critical Theories and Criticism was taught to learners. Chetan Bhagat and his three novels were selected for application purpose. Students posted their critical comments on the blog. The comments were reviewed and replied by the novelist. In the last experiment, a unit on Aristotle’s Poetics was created by using WikiEducator. The unit was open for expressions and
editing. After learning the unit, students could solve self-assessment questions. The teacher also provided links to websites for further reading.

In conclusion, the researcher mentions that a teacher, who uses ICT, is mentally free and confident. ICT has wider reach and a learner can learn with all senses. ICT helps to achieve the concept of ‘anytime and anywhere learning’. The paper also mentions some of the drawbacks in implementing ICT like technophobic teachers and learners, lack of proper infrastructure, electricity and internet connectivity.

2.5.3 Dudeney and Hockly

Initially, the book deals with the implementation of ICT in language classroom. The authors discuss the causes of technophobia and suggestions of overcoming it. The doubts of teachers related to use of technology in the classroom are discussed and provided with solutions. Various computer based activities, which can be conducted in the classroom, are also mentioned. It also states the importance and activities which can be conducted with the help of word processor. It provides details of creating materials by using word processor. Further, the book suggests that websites can be used for language teaching. It provides details of ELT as well as authentic websites. It guides teachers in finding useful websites and their evaluation. The details of using internet for conducting a lesson are also provided. The do’s and dont’s of teaching by using websites are mentioned at the end of the chapter. The book also addresses the issue of task based learning. The authors have suggested different internet- based projects to be carried out in the classroom. It also provides details of creation and use of webquests for language learning. The writers mention the benefits of using e-mail for learners. It gives guidelines for using e-mails effectively in the class and out of the class for language learning. The next chapter considers how chat can be used both in and outside the classroom. The reasons for which chat can be used by teachers for learners are also discussed. The various advantages and disadvantages of text and voice chat are discussed along with its implementation in the language classroom.
One of the chapters is about using blogs, wikis and podcasts in language teaching. Different websites for creating free blog and learner podcasts are provided. The book also refers to different online resources for language learning, namely, dictionaries, thesauruses, translators, corpuses and encyclopaedias. Further, it discusses the use of CDs and DVDs in classroom learning. It gives details about computer based testing and its advantages & disadvantages. The chapter devotes some space to interactive whiteboards and online resources. The writers also guide readers for creating online materials and using authoring tools to produce materials. The writers mention various authoring tools like Hot Potatoes, Clarity Software and Creative Technology. Towards the end, the book provides details about e-learning, online learning, discussion lists and online groups. It also discusses online teacher training courses. It also provides details of language learning in future. It deals with concepts like web 2.0, virtual learning and m-learning.

First two appendices are related to task file and it’s key. These tasks provide different activities related to the chapter. The book also provides glossary along with details of CD-ROM.

2.5.4 Dutt
Dutt (1990) has incorporated Communicative Language Learning (CLL) and Computer-Assisted Communicative Language Learning Materials (CALL) to develop the proficiency of English. The researcher believes that these resources need to be exploited appropriately to achieve the desired goals. The study was conducted by using experimental method to find out the effectiveness of CLL and CALL in English language learning. The findings of the research show that the computer medium was a better stimulating medium than the print medium. The materials used by the researcher were successful in creating an ‘acquisition-rich environment’. The researcher concludes that CLL and CALL materials are useful for the development of proficiency in English in Indian teaching-learning situation.

2.5.5 Fox
Fox (1987) conducted a pilot study by using three different kinds of activities, namely, computer based drills of basic grammatical structures, computer games and word processing using IBM Wordstar. During the study, students were divided into pairs or small groups and were
introduced to each of the computer-based activities. The observations of the researcher show that students did not recognize any benefit to be gained from doing the grammar drill exercises, nor did they recognize the benefit of collaborative talk in playing the computer games. However, they recognized the usefulness of word processing in developing writing skills and were most enthusiastic when they could work alone. In general, the students were very satisfied with the experience of computers they had gained and recognized improvement in their writing.

2.5.6 Francis
Francis (1997) states that each learner’s learning needs are different. They differ in terms of cognitive abilities and language learning aptitude. A teacher faces a lot of difficulties due to large number of students and cannot pay individual attention towards all of them. He mentions that educational technology can help teachers to provide individual attention. The researcher believes that if a language teacher makes use of various audio, visual aids and other related accessories then it leads to enhanced learning. He mentions that computer is one of the important modern teaching aids, which offers interactive learning. With the help of computers, an activity can be repeated many times and instant feedback can also be provided. In this study, the researcher has designed language software for English language development. The research was conducted by using experimental method and the results show that there is improvement in the learners due to use of computer instructions.

2.5.7 Galavis
Galavis (1998) states that computer is a useful tool for developing language skills in students of English as a foreign language. He states various advantages of using computer in a language class. He mentions that use of computers motivate students to learn. Computers can help to train students to become more independent learners. Computers provide access to authentic materials and audiences around the world through the internet. A computer enhanced environment may encourage language acquisition. He also states some of the disadvantages like many students and teachers reject a change from the traditional classes. Computers do not provide the sense of cooperation that can be found in a class with a teacher. He also provides certain guidelines for the use of computers in the EFL contexts. He concludes that computers are just one of the tools and they are not going to take over classroom teachers.
2.5.8 Hasan

Hasan (2011) has attempted to find out the effectiveness of CALL methods in improvement of various language skills of learners in Bangladesh. He believes that CALL helps to stimulate, motivate and provide a real life context to learn English easily, quickly and confidently. The research was conducted in private universities of Bangladesh. The findings show that most of the teachers and students recognize the importance of computer technology in English language education. They have positive attitude towards the integration of CALL in English language learning. Teachers also believe that there is a need to integrate authentic teaching tools to encourage learners. The researcher concludes that this is the right time to inculcate CALL in English language learning.

2.5.9 Jayakumar

Jayakumar (2001) states that most of the engineering students are keen to develop their professional skills but not much attention is paid towards the development of communication skills. These students are well acquainted with computers but lack in English language communication, which hinders their career growth. As a result Jawaharlal Nehru Technological University (JNTU) has introduced a special course in technical writing and communication skills for final year engineering students all over the state of Andhra Pradesh.

The researcher believes that CALL strategies can evoke enthusiasm and motivate the learners. Learner’s communication skills can be enhanced by integrating computer and internet technology in language learning. But the reality is different; teachers as well as learners are reluctant to integrate technology in the classroom. Teachers lack expertise in programming skills and programs are designed by software experts who have very little knowledge of language pedagogy. This results into the negligence of the needs of learners and teachers. Thus, the researcher conducted this study to find out the expectations of language learners and teachers on CALL software and their perceptions about computer and CALL.

The study was conducted with the help of thirty students of two engineering colleges in Hyderabad. Students were introduced to the software and asked to solve exercises. A questionnaire was also administered and their feedback was recorded. Interviews of teachers and
students were conducted to find out their perception about computers and CALL. The results were analyzed and the study had the following outcomes:

- The learners wanted more user-friendly options as well as multimedia facilities to support learning.
- They also wanted link to online resources like dictionaries and thesauruses.
- The findings also show that pre-service, in-service and refresher courses should provide training in CALL strategies to teachers.

2.5.10 Jung

Jung (2006) states that globalization and technological development have transformed the teaching & learning of English in an unprecedented way. Non-native speakers of English desire to acquire the required English and ICT skills to participate in the information society. Taking this background into consideration, the researcher has investigated 591 Chinese university students to find out their technology ownership, their perceptions of English & technology and their perceived benefits of & barriers to using ICT in learning English.

The key findings of quantitative results show that over 80% of the participants have access to broadband and mainly surf internet for fun, downloading or listening to music or video, sending e-mails and doing classroom activities. Almost 40% reported that they spent less than one hour per week using ICT for studying English. The participants believed that the use of ICT would improve their skills in speaking, listening, and vocabulary.

The key findings of qualitative results show that majority of the participants perceived both ‘English and Computers as a Tool’. The participants reported learning communicative skills in English as the major benefit of using ICT in learning English. The primary benefit of ICT use is to improve learning with convenience and efficiency. Lack of ICT access was perceived as the primary barrier to ICT use in learning English. The other barriers mentioned are lack of fluency in English and ICT as well as lack of guidance.

The researcher concludes that integrating ICT into ELT requires substantial collaboration between researchers and educators in order to benefit learners. It is an era of opportunity to
revitalize foreign language education worldwide through technology. The researcher mentions that ‘It is time to … take advantage of the power of technology to improve learning outcomes… and realize the dreams of disadvantaged youth in developing countries.’

2.5.11 Lyngwa
Lyngwa (2003) tries to bring out the relevance and practicality of integrating technology into the current trend of English language teaching at the school level of education in Shillong. The researcher believes that technology offers a great number of learning materials. The tools of technology are practical, informative, up to date and suitable to the learner’s learning environment. The research was conducted by administering a questionnaire to find out the basic facts, attitudes and perceptions of English language teachers towards the use of authentic teaching tools in the classroom. The findings show that technology can enhance and arouse learner’s interests, creativity, involvement and participation in English language learning. The researcher concludes that language learning can be motivating, entertaining, challenging, practical and suitable with the help of technology.

2.5.12 Nagaraj
Nagaraj (1996) provides a comprehensive overview of English language teaching methodology, using a task based participative approach to allow readers to respond to the text. The author takes theory into the heart of the classroom and provides a perspective view of approaches, methods and techniques and implications of each.

Part I of the book deals with important methodologies which have influenced teaching and material production. The five chapters in this part are ‘The Grammar-Translation Method, The Structural-Oral-Situational Approach, Modern Approaches: The Notional-Functional Syllabus & The Communicative Approach, Humanistic Approaches: The Silent Way, Community Language Learning, Suggestopaedia & Total Physical Response and Other Methods: The Direct Method, The Audio-Lingual Method, The Reading Method, The Bilingual Method and Communicational Teaching’. The writer provides brief history of the methodologies along with their principles. The syllabus and the texts are also provided. All chapters include a section on ‘Application and various tasks to be performed’.
Part II discusses the teaching techniques and teaching aids which can maximize the teacher’s efforts in the classroom. It also recounts the testing criteria and procedures which help the teacher to evaluate the teaching done in class effectively. The three chapters of this section deal with ‘Techniques of Teaching English, Teaching Aids and Testing’.

The author refers to two main categories of language skills i.e. ‘Skill getting’ and ‘Skill using’ proposed by Rivers and Temperly. The author has suggested various listening and speaking techniques, which are closely interlinked. Various mechanics of reading along with the techniques of teaching reading skills are also mentioned. The importance of writing, various mechanics of writing and the process of writing are dealt with in detail. A section on ‘Integrating Skills’ provides a list of activities to be conducted by integrating various language skills. ‘Vocabulary Teaching’ section outlines the various vocabulary teaching techniques along with different activities. The next chapter focuses on the use of various teaching aids in English language classroom. The last chapter deals with ‘Testing’. Test is a procedure for measuring ability, knowledge or performance. A good test is measured by its validity, reliability, practicability, comparison and discrimination.

2.5.13 Qin et al.

Qin et al. (2011) state that Government of China has launched ‘College English Quality Course’ project to improve English teaching and learning efficiency. This successful project runs in more than 400 colleges and universities, where the focus is on teaching and learning English with ICT. While teaching English, ICT is used as a tool. At the same time, ICT becomes the environment in which English language is taught by presenting cross-cultural knowledge. The writers mention that teachers make use of ICT to plan their lessons and frequently use word processor and educational software for teaching English. The government’s positive attitude towards implementation of ICT in education field is also focused upon. The government expects teachers to improve their ICT skills to contribute constructively and efficiently to English Teaching. In conclusion, the writers mention that ICT integration will help to diversify English content, contexts and pedagogical methods and make English teaching interactive, flexible and innovative.
2.5.14 Shuja
Shuja (2001) mentions that the primary function of a language is interaction and communication. Various scientific and technical inventions have been introduced in English classrooms. So, to achieve communicative purpose various media like video, television and radio can be used by a language teacher. The writer mentions that when a teacher uses video in the classroom, a teacher has direct control over the recording. With the help of video, a teacher can conduct activities like silent viewing, sound without vision, prediction and gapped script. With the help of a television language teaching program, a teacher can bring outside world into the classroom. By using television program, a teacher can conduct activities like before viewing, while viewing and classroom follow-up. Radio is another means of communication, which offers a more intensive back up to the language presented on television. Radio helps to develop listening ability and graded radio English lessons can encourage learners to listen to programs intended for native speakers.

The writer concludes that media reflects changes in the English language and it is a rich source of language in use, vocabulary and idioms. So, the writer suggests that multi-media should be integrated effectively in the language class.

2.5.15 Tighe et al.
Tighe et al. (1988) state that due to development in the field of computers, they have been used prominently in the field of education. At present, computers are widely used by developed nations but the use of computers would increase for second language learning and teaching. They mention that computers can be used to enhance learning by giving additional practice, remediation and enrichment. Experience has shown that computers stimulate student interest in improving their proficiency with English. Further, computers can be used for developing listening, speaking, reading and writing skills of English language.

2.5.16 Tweddle
Tweddle (1997) mentions that English teachers have observed that computers can support collaboration, creativity as well as independent learning. Now, everyone has understood the role of the teacher, the function of the computer and the nature of pupils’ learning while using
computers. Changes in the English curriculum and developments in the technologies have brought significant changes in the educational context. The writer has tried to overview the last fifteen years of computers in English teaching-learning process. In the initial stages, English teachers experimented, developed their own software and used computers to develop learners’ writing skills. In the mid-1980s, teachers started sharing their knowledge by publishing books. In 1994, a project on ‘IT in developing English’ was initiated. Later in 1996, IT in English Project was commissioned. The writer also mentions that over fifteen years, technologies have changed drastically but changes have not taken place proportionately in the educational field due to limited available resources. The writer concludes that those who have been involved may feel that the last fifteen years have been a long, slow journey but in reality they have travelled a great distance.

The above discussion highlights the significance of ICT in English language teaching. ICT can help in enhancing teaching and learning of secondary English. ICT provides an opportunity to learn innovatively and it is not a ‘solution’ but a means to bring positive change in English teaching. A research has been carried out to find out the usefulness of ICT to student community and the role of ICT in teaching English language and literature. The findings show that ICT can empower student community and help to improve their language proficiency.

In one of the studies, Communicative Language Learning (CLL) and Computer-Assisted Communicative Language Learning (CALL) materials were incorporated to develop the proficiency of English of Indian learners. The findings show that the computer medium was a better stimulating medium in developing English proficiency than the print medium. In another study, the findings show that computer especially ‘word processor’ is useful in developing writing skills of English language.

The research conducted in private universities of Bangladesh show that teachers as well as students know the importance of computer technology in English language education. They have positive attitude towards implementing ICT in ELT. They are aware that CALL helps to stimulate, motivate and provide a real life context to learn English easily, quickly and confidently.
Government of China launched a project to improve English teaching and learning efficiency through ICT. The government’s positive attitude helped teachers to implement ICT in ELT. Teachers use ICT to plan their lessons and frequently use word processor and educational software for teaching English, which makes their teaching interactive, flexible and innovative. A study conducted in a Chinese university show that ICT is beneficial in ELT. The researcher mentions that it is the right time to take benefits of technology to improve language learning skills and realize the dreams of disadvantaged youth in developing countries.

A study conducted in Jawaharlal Nehru Technological University, India show that engineering students are keen to develop their communication skills through computer and internet technology. The findings of another research show that technology can enhance and arouse learner’s interests, creativity, involvement and participation in English language learning. Technology offers a great number of learning materials, which are practical, informative, up to date and suitable to the learner’s learning environment. With the help of technology, language learning can be motivating, entertaining, challenging, practical and suitable.

Computer is one of the useful tools of ICT and it is not going to take over a classroom teacher. Computers are widely used by developed nations to stimulate students’ interest in improving their proficiency in English language skills. Computers can support collaboration, creativity and independent learning. In the initial stages of computer, English teachers have experimented, developed their own software and used computers to develop learners’ writing skills. In the mid 80s, teachers started sharing their knowledge by publishing books. Later, in 1994, a project on ‘IT in developing English’ and in 1996, ‘IT in English Project’ were initiated.

One must remember that over fifteen years technologies have changed drastically but changes have not taken place proportionately in the educational field due to limited availability of the resources. Even though, ICT has been successfully implemented in teaching of language skills, one must carry out research on the use of ICT in English secondary classrooms. At the same time, a country specific policy on ICT in ELT should be framed rigorously for achieving long term goals.
2.6 LITERATURE ON ICT AND THE TEACHING OF GRAMMAR

2.6.1 AbuSeileek et al.
AbuSeileek et al. (2007) conducted two experiments on 128 students of English Major in the English Department of King Saud University, Saudi Arabia in the academic year 2005 - 2006. The students were divided into four groups and these groups were taught by the same instructor by conducting experiments of two different kinds. The two experiments were conducted to find out the acquisition of verb tenses in English in computer-based and teacher-driven environments. The study was restricted to five verb tenses: simple present, simple past, present perfect, present continuous and simple future. They adopted two methods of teaching grammar, namely, computer-based and chalk and talk method. While teaching of verb tenses, the researchers used ‘the initial rule-oriented approach’ and ‘the structure-guessing approach’. After conducting a post-test, the effectiveness of these methods and approaches were compared. The study showed that both the methods were effective in teaching English verb tenses. However, the computer-based grammar instructional method seemed to be more effective than the teacher-driven instructional method in the acquisition of verb tenses.

2.6.2 Arnell
Arnell (2012) interviewed six teachers, five secondary teachers and one primary teacher in southern Sweden. The aim of the study was to find out how teachers use ICT in teaching English grammar. The teachers were from three different schools. First school had been using ICT for three years. Second school had recently started using it and the third school did not use ICT at all. After the analysis, it was found that only one teacher had a sound understanding of how to integrate ICT in English grammar teaching. It also showed that all six teachers were positive towards integration of ICT in English grammar teaching but they were not aware of the resources available. Further, the analysis showed that the teachers needed more training to use ICT in English grammar teaching successfully. The researcher mentioned in conclusion that there is still a long way to go to make ICT a natural part of English grammar teaching.

2.6.3 Gokhale
Gokhale (2010) mentions that teaching of grammar is essential to master a language. She states that every student learns English grammar for about fifteen years but is unable to communicate
in English well. This is mainly because grammar is taught for its own sake and teachers’ focus is always on grammatical rules rather than the communicative aspect of language. Teachers’ teach and examine grammar in isolation and not in relation to language skills. Students are passive recipients due to the teacher-centred approach and they do not get any opportunity to have fun while learning grammar.

The writer mentions that learner-centred and inductive approach need to be adopted while teaching grammar, as the main purpose of teaching grammar at the undergraduate level is to provide remediation and to enable students to take part in communicative interaction. The writer mentions that context based teaching plays a significant role in the teaching of grammar. Teachers can select topics which can provide an opportunity to the students to practice a particular grammatical item. A dictionary can be used as an effective tool for the teaching of grammar. At the same time, simple diagrams and pictures can facilitate the learning of grammar. Audio visual aids like film, photograph, television and songs can be used to sustain the interest of students in the learning process. Group Discussion as well as Role Plays can be conducted in the class. Literature can also be used to make grammar teaching interesting. The writer concludes that teaching grammar is a much more complicated and challenging task, but by using different strategies, a teacher can teach grammar effectively.

2.6.4 Joyce

Joyce (1998) mentions that the use of computers to teach grammar has not received enough attention but computer-based grammar instruction offers many potential benefits. There are some researchers who have conducted research to investigate the use of computer-based L2 grammar instruction. The results of these studies show that computer-based grammar instruction can be as effective or more effective than traditional instruction. Thus, the researcher conducted two experiments at different levels of English language proficiency, one at the first and second level of instruction and the other at the third and fourth level. The experiments were conducted on 53 students enrolled at a major university in Florida.

The two methods used for acquisition of English verb tenses were computer-based and teacher directed. During the experiments, students were taught with these two methods for seven days.
The test results showed that the computer-based students scored significantly better on open ended tests but there were no significant differences in scores on multiple choice or fill in the blanks tests. The researcher also conducted interviews and administered questionnaire to find out students’ views on computer-based instruction. Students were satisfied with the method and were willing to spend more time in learning. The researcher concludes that computer-based instruction can be an effective method of teaching L2 grammar.

2.6.5 Kale
Kale (2010) mentions that many teachers teach grammar by using the deductive method, which makes learning monotonous and does not help to acquire fluency. He states that by using technology, a teacher can make teaching interesting and interactive. Many language learning software and internet websites are available for the teaching of grammar. These would help to give individualized instructions as well as learners can study outside the classroom.

He further mentions that technology has changed the role of a teacher from ‘giver’ to that of a facilitator, guide and co-learner. Technology has also changed the role of a learner, who has become more independent. A learner can assimilate new information from various internet sources. The researcher mentions that technology can be useful for weak and slow learners. Students can increase their self esteem and knowledge with the help of technology. But very few people know about available resources and very few actually make use of it.

In the present study, the researcher has tried to find out the impact of computers and internet on teaching and learning of English grammar. The data was collected from the first year Mechanical Engineering students. The students were well acquainted with computers and considered grammar as one of the important aspects of language learning. The following statistics provide details about the study:

<table>
<thead>
<tr>
<th>Importance of Grammar in learning English language</th>
<th>84% Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16% Quite Important</td>
</tr>
<tr>
<td></td>
<td>0% Not at all important</td>
</tr>
<tr>
<td>Difficult Grammatical Aspect</td>
<td>49% Tenses</td>
</tr>
<tr>
<td></td>
<td>31% Clauses</td>
</tr>
</tbody>
</table>
Awareness about language learning software and websites

- 10% Articles
- 10% Prepositions

- 23% Know
- 45% Don’t Know
- 32% Know but don’t know how to use it

Computer or Human Teacher

- 37% Computer
- 56% Human Teacher
- 7% Both

The researcher also interviewed teachers of these colleges to know about the use of computer and internet in their teaching. 75% of them agreed that grammar is very important and 25% mentioned that grammar is not so important. Majority of them mentioned that students find tenses and prepositions difficult to study. All the teachers were well familiar with computers and internet but they rarely used them due to lack of time. Thus, they all followed the deductive method in teaching. In conclusion, the researcher states that computers and websites would help teachers to make their classes interactive, interesting and lively.

The above discussion highlights the significance of ICT in teaching of grammar. Teaching grammar is essential to master a language and a teacher must follow learner-centric and inductive approach while teaching grammar. A teacher must remember that teaching grammar is a challenging task, so one must use different strategies in one’s teaching. A teacher can use dictionary, audio-visual aids like film, photograph, television and songs to sustain the interest of students in the learning process. ICT can also be implemented in the teaching of English grammar.

The findings of the two experiments which were carried out in Saudi Arabia show that the computer-based grammar instructional method seems to be more effective than the teacher-driven instructional method in the acquisition of verb tenses. The findings of another study show that teachers have positive attitude towards integration of ICT in English grammar teaching.
They also expressed their wish to undergo ICT training. It was also found that only one teacher had a sound understanding of how to integrate ICT in English grammar teaching.

In another study, the findings show that there is a considerable impact of computers and internet on teaching and learning of English grammar. The researcher mentions that computers and websites make grammar teaching interactive, interesting and lively.

Despite many benefits of using computers in teaching of grammar, it has been neglected so far. The findings of the many studies show that computer-based grammar teaching is effective than the traditional method, but in reality it is rarely used.

2.7 CONCLUSION
The above discussion depicts that several scholars have provided valuable insights on how ICT could be integrated in language teaching. The scholars mention that ICT plays a vital role in changing the way of learning. It has opened new opportunities for learners and teachers and has brought new challenges before them. ICT is an important teaching tool to make teaching enjoyable. It motivates learners as they are interested to learn through new techniques. It helps to create active, collaborative, interactive and learner-centric environment. It supports to develop a more comprehensive assimilation of knowledge. It assists in improving the quality of education and the classroom attendance. It helps to carry out continuous evaluation, which is authentic, enjoyable, error-free and reliable.

In most of the European countries, English teachers make use of ICT regularly and it has a positive impact on educational performance and attainment level of learners. Teachers allow students to use cell phones and MP3s for learning English language. Educators of the USA believe that computer is an influential component of second language learning. They use computers in language study as it helps to create global understanding and plays an important role in building self-confidence. It provides more independence to learners and they can learn as per their wish. English teachers in China use ICT frequently to make their teaching interactive, flexible and innovative. Students wish to learn through computer and internet technology because it enhances and arouses their interest and creativity in English language learning.
The researchers state that ICT is not a solution but a means to bring about a positive change in English teaching. It empowers student community and helps to improve their language proficiency. Learning through computer medium is a better stimulating medium in developing English proficiency than the print medium. ‘Word processor’ facilitates in developing writing skills of English language. ICT helps to stimulate and provide a real life context to learn English easily, quickly and confidently. Computers support collaboration, creativity and independent learning. Language learning becomes motivating, entertaining, challenging, practical and suitable. ICT offers a great number of learning materials, which are practical, informative, up to date and suitable to the learner’s learning environment.

ICT can be used to teach English grammar as well. Teachers have positive attitude towards integrating ICT in English grammar teaching. Computers and websites help to make grammar teaching interactive, interesting and lively. Even though, there are many advantages of using computers in the teaching of grammar, it has been neglected so far and it is rarely used by teachers.

The government of India has launched *ICT in Schools* scheme and has also prepared a draft policy on *ICT for School Education*. The government is going to provide ICT training to teacher educators. But there is no comprehensive survey on the use of ICT in schools in India. The researchers point out the challenges in integrating ICT in education, which are non-availability of infrastructure, high cost of technologies, unfriendly educational policies, lack of access to electricity, limited availability of quality software, technophobia, high cost of teacher training and lack of trained teachers. At the same time, many teachers are reluctant to use ICT. They resist due to lack of time, motivation, insufficient ICT literacy as well as lack of technical support. They also feel it is time consuming. The scholars suggest that schools should have vision, appropriate strategy, long term planning and regular monitoring for effective implementation of ICT. The researchers mention that there have been many drastic changes in the field of technology but such changes have not taken place in the educational sector.

Thus, a lot has been said on the role of ICT in education, it is felt that a lot remains to be done. None of these studies have shown how ICT could be used for teaching tenses at secondary
school level effectively. The present study is a modest attempt in this direction. The present study throws light on how the use of ICT can facilitate the teaching of grammar. It is felt that nothing can substitute a good teacher. ICT alone cannot make wonders. However, if teachers make appropriate and effective use of ICT in the teaching of grammar and more specifically in the teaching of tenses, it is felt that our classrooms will become centres of edutainment and learning grammar will become a pleasurable activity for our students. It is hoped that this study would motivate teachers to make an optimum use of ICT in their classes. It is felt that the integration of ICT in language teaching is the need of an hour.