Chapter Two: Review of Related Literature

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2.1 Introduction

The advent of new technologies in the learning & teaching process is always exciting. They add new dimensions to the class and spark students to a higher level of motivation and achievement. In recent years, the computer has established itself as an important feature of modern life. The computers have become much more powerful, smaller, more adaptable, more flexible, and more friendly. Recent past has shown a boom in interest for using computers in the teaching of foreign language and its learning. Besides being powerful and stimulating aids, computers offer great potential for language learning. With the great development of computers and Internet, more and more second language teachers and learners are using computers for foreign language teaching and learning today. Computer and its attached language learning programs have provided second language learners more independence from classrooms and allowed learners the option to work on their learning material everywhere and at any time of the day.

The computer is a device that processes information with great speed and accuracy. Computers process information by helping to create the information itself, by displaying, storing, recognizing, and communicating information to other computers. In general, they process numbers, words, still or moving pictures, and sounds. The computer has changed the way people work, learn, communicate, and play. It is used by students, teachers, and research scientists as a learning tool all over the world, as well as by individuals at home to study, work and entertain (Gündüz, 2005).

Until quite recently, CALL was a topic of relevance mostly for those who had special interests in this area. Recently, though, computers have become so widespread in schools and homes and their uses have expanded so dramatically that the majority of language teachers must now begin to think
about the implications of computers for language learning (Warschauer, 1996a).

2.2 Computer Assisted Language Learning (CALL)

CALL stands for Computer Assisted Language Learning. It is a term used by teachers and students to describe the use of computers as part of a language course (Hardisty & Windeatt: 1989). It is traditionally described as a means of 'presenting, reinforcing and testing' particular language items. The learner is first presented with a rule and some examples, and then answers a series of questions which test his/her knowledge of the rule, and the computer provides appropriate feedback and awards a mark, which may be stored for later inspection for the teacher. Jones & Fortescue (1987: cited in Gündüz, 2005:197), indicate that the traditional description of CALL is unfortunate and they present the computer as flexible classroom aid, which can be used by teachers and learners, in and out of class, in a variety of ways and for a variety of purposes. However, work with the computer, as any other teaching aid, needs to be linked with ordinary classroom work and CALL lessons, like other lessons, need to be planned carefully.

According to Levy, (1997) CALL may be defined as the search for and study of applications of the computer in language teaching and learning.

Chapelle (2001) states:

"Computer-assisted language learning (CALL) was the expression agreed upon at the 1983 TESOL convention in a meeting of all interested participants. This term is widely used to refer to the area of technology and second language teaching and learning despite the fact that revisions for the term are suggested regularly" (p.3).
CALL is limited to a great degree by developments in the area of hardware and software innovations and improvements, and it evolves continuously to incorporate new technologies. What is certain, however, is that CALL will continue to develop in the areas of speech production and recognition, as well as intelligent systems and virtual reality. (Chapelle 2003: as cited in Ruiz, Block, & Gonzalez)

Given the breadth of what may go on in computer-assisted language learning, a definition of CALL that accommodates its changing nature is any process in which a learner uses a computer and, as a result, improves his or her language (Beatty, 2003). CALL has come to encompass issues of materials design, technologies, pedagogical theories, and modes of instruction. Materials for CALL can include those, which are purpose-made for language learning, and those, which adapt existing computer-based materials, video, and other materials (Beatty, 2003).

In her recent book on CALL, English language learning and technology, Chapelle intentionally uses a variety of terms to signify the applications of technology in English language teaching and learning: CALL is one of them, alongside applied linguistics, technology-mediated tasks and computer mediated communications. (CALL is the only one that includes language learning (Chapelle, 2003, p. 33: cited in Levy, & Hubbard, 2005: p.p145-146)

Levy & Hubbard (2005) state that technology developments have been fundamental in helping us to develop a more sophisticated understanding of the nature of language and communication as well as facilitating language learning. In recent decades, the technology has been playing a greater, not a lesser, role in motivating the processes of change.
Chapelle, (2001) remarks:

Computer applications in second language acquisition (CASLA) began with the projects exploring development and use of computer assisted language learning (CALL) within the field of educational technology and were therefore, shaped by perspectives in education as well as by computer hardware and software developed for purposes other than language instruction. (p.3)

Nowadays CALL is used routinely in a variety of instructional situations. As a result, language teachers are increasingly required to possess CALL expertise that includes both practical skills and a thorough understanding of information technology (IT) theory. Teachers may need to design, implement, and evaluate CALL activities in their classrooms; they might be asked to supervise an institution-wide project or to work with other institutions to develop CALL-based exchange programs, or they may be put in charge of setting up and operating a multimedia language laboratory. It is thus becoming essential for teachers to be familiar with CALL options within the classroom, at the institutional level, and at the broader level of inter-institutional collaboration (Fotos & Browne, 2004).
2.3 CALL Related Acronyms

The field of CALL uses many acronyms. Figure 1.1 shows a list of the main acronyms.

Figure 2.1 List of CALL Related Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALL</td>
<td>Computer Assisted Language Learning</td>
</tr>
<tr>
<td>CAELL</td>
<td>Computer Assisted English Language Learning</td>
</tr>
<tr>
<td>CAI</td>
<td>Computer Assisted Instruction</td>
</tr>
<tr>
<td>ICALL</td>
<td>Intelligent Computer Assisted Language Learning</td>
</tr>
<tr>
<td>CELL</td>
<td>Computer Enhanced Language Learning</td>
</tr>
<tr>
<td>TELL</td>
<td>Technology Enhanced Language Learning</td>
</tr>
<tr>
<td>WELL</td>
<td>Web Enhanced Language Learning</td>
</tr>
</tbody>
</table>

The one commonality between the acronyms is the focus given to the computer as part of the language learning process. CALL will be used as a general term throughout this chapter to cover all of the above, unless otherwise stated. CAI refers to the use of the computer for instruction, regardless of what is being taught. ICALL refers to the integration of techniques from the fields of Artificial Intelligence and Computational Linguistics to enhance CALL applications. CELL effectively means the same thing as CALL. TELL is an acronym that is mainly used in North America that covers the same domain as CALL. WELL refers specifically to the use of the web (or Internet) in the language learning process. It is more specific than CALL but as computer technology becomes more Internet-focused, it will cover a greater part of the CALL domain.
2.4 History of CALL

Using computers in language learning is not a very new phenomenon. It dates back to the early 1960s, although it was confined in those days mainly to universities with prestigious computer science departments. By the early 1980s, however, CALL was in evidence in a large number of schools in the UK and the rest of Europe - and, of course, in the USA and Canada (Levy, 1997).

The origin of CALL can be traced back to the 1960s. Up until the late 1970s, CALL projects were confined mainly to universities, where computer programs were developed on large mainframe computers. The PLATO project, initiated at the University of Illinois in 1960, is an important landmark in the early development of CALL (Marty, 1981). In the late 1970s, the arrival of the personal computer (PC) brought computing within the range of a wider audience, resulting in a boom in the development of CALL programs and a flurry of publications. Early CALL favored an approach that drew heavily on practices associated with programmed instruction. This was reflected in the term CALI, which originated in the USA and was in common use until the early 1980s. Throughout the 1980s CALL widened its scope, embracing the communicative approach and a range of new technologies. CALL has now established itself as an important area of research in higher education (cited in Davies n.d)

According to Fotos & Browne (2004), linguists were using computers to create concordances for text analysis by the 1960s. The first electronic corpus, the Brown Corpus of Standard American English, was developed during this period. It consisted of about 1 million words, the minimum number required to provide a stable word-frequency list. Until the invention of microcomputers, language learners had to work non-interactively with mainframe computers by punching their data on cards, running the program, then waiting long periods
for the results. Early programs required the learner to choose one of two answers and the score was presented after the data had been processed. This linear type of program was the first generation of CALL software, and both researchers and educators acknowledged its limitations. The challenge was to create a learner interface that presented the computer as an interactive tutor evaluating the student and providing subsequent activities, a model characterizing CALL from its inception (Kern & Warschauer, 2000; Levy, 1997; Taylor, 1980).

According to Fotos & Browne, (2004) The emergence of increasingly powerful microcomputers in the 1980s presented a greater range of possibilities for learner interaction, and pioneer books on CALL methodology, such as Higgins and Johns' influential *Computers in Language Learning* (1984), Underwood's Seminal *Linguistics, Computers and the Language Teacher* (1984), and Ahmad et al. *Computers, Language Learning and Language Teaching* (1985), began to appear. This period also witnessed the establishment of key professional organizations such as the Computer Assisted Language Instruction Consortium (CALICO) in the United States and the European Association for Computer Assisted Language Learning (EuroCALL) in Europe, and publication of their journals, *CALICO Journal* and *ReCALL*. Respectively, language teachers themselves began to develop language-learning software using programs such as HyperCard, which were based on a non-linear concept of interactivity—one of the key concepts driving the subsequent development of the Internet (Levy, 1997).

Warschauer (2004) noted that the progress of CALL has been based on evolution from the mainframe computer to the personal computer to the networked, multimedia computer, and regular corresponding changes have occurred in CALL-based pedagogy. Table 2.1 illustrates some of the changes
that have occurred and are occurring in CALL since its inception in the 1960s. The stages have not occurred in a rigid sequence, with one following the other, from "bad CALL" to "good CALL" because any of these may be combined for different purposes. However, there has been a general transformation in CALL over the years, with new ideas and uses of computers being introduced.

Table 2.1: The Three Stages of CALL

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Mainframe</td>
<td>PCs</td>
<td>Multimedia and the Internet</td>
</tr>
<tr>
<td>English Teaching Paradigm</td>
<td>Grammar translation and audio-lingual</td>
<td>Communicative language teaching</td>
<td>Content based, English for Specific purposes/ English for Academic Purposes</td>
</tr>
<tr>
<td>View of language</td>
<td>Structural (a formal structural system)</td>
<td>Cognitive (a mentally constructed system)</td>
<td>Sociocognitive (Developed in social Interaction)</td>
</tr>
<tr>
<td>Principal use of computers</td>
<td>Drill and Practice</td>
<td>Cognitive (a mentally exercises)</td>
<td>Authentic discourse</td>
</tr>
<tr>
<td>Principal objective</td>
<td>Accuracy</td>
<td>Fluency</td>
<td>Agency</td>
</tr>
</tbody>
</table>

*Note. Based on Kern and Warschauer (2000), Warschauer (1996, 2000a).*

Warschauer (1996a) distinguishes three phases of CALL, illustrating the development of an increasing number of different ways in which the computer has been used in language learning and teaching:

1. Behavioristic CALL,
2. Communicative CALL,
3. Integrative CALL (Multimedia and the Internet)
2.4.1 Behavioristic CALL

The first phase of CALL, conceived in the 1950s and implemented in the 1960s and 1970s, was based on the dominant behaviorist theories of learning. Programs of this phase entailed repetitive language drills and can be referred to as "drill and practice". Drill and practice course-ware is based on the model of computer as tutor (Taylor, 1980). In other words, the computer serves as a vehicle for delivering instructional material to the students.

Warschauer (2004) noted that this approach followed the teaching techniques of structural linguistics. Here, CALL, primarily took the form of drill-and practice programs. However, by the end of the 1970s, such behavioristic approaches to language learning had given way to communicative approaches focusing on the meaning of language in use rather than on its form, and this reflected the changed nature of CALL activities.

CALL dominated the 1960s and 1970s and replicated the teaching techniques of structural linguistics and the audio-lingual method, a behaviorist model of language learning based on habit formation (Richards & Rodgers, 2001). Emulating techniques used in language laboratories at the time, CALL consisted mainly of drill-and-practice programs and was regarded as a supplement to classroom instruction rather than its replacement. However, it should be noted that even today numerous drill programs still exist for vocabulary study and grammar practice because repeated exposure to such material has been shown to promote its acquisition, and the computer provides both immediate feedback and presents material at the learner's pace, thereby encouraging learner autonomy (Chapelle, 2001; Ellis, 2002; Fotos, 2001; Healy, 1999).
The rationale behind drill and practice was not totally spurious, which explains in part the fact that CALL drills are still used today. Briefly put, that rationale is as follows:

- Repeated exposure to the same material is beneficial or even essential to learning.

- A computer is ideal for carrying out repeated drills, since the machine does not get bored with presenting the same material and since it can provide immediate non-judgmental feedback.

- A computer can present such material on an individualized basis, allowing students to proceed at their own pace and freeing up class time for other activities.

2.4.2 Communicative CALL

The second phase of CALL was based on the communicative approach to teaching which became prominent in the 1970s and 80s. Proponents of this approach felt that the drill and practice programs of the previous decade did not allow enough authentic communication to be of much value.

One of the main advocates of this new approach was John Underwood, who in 1984, proposed a series of "Premises for 'Communicative' CALL" (Underwood, 1984, p. 52). According to Underwood, communicative call:

- focuses more on using forms rather than on the forms themselves;

- teaches grammar implicitly rather than explicitly;

- allows and encourages students to generate original utterances rather than just manipulate prefabricated language;
• does not judge and evaluate everything the students do, nor reward them with congratulatory messages, lights, or bells;

• avoids telling students they are wrong and is flexible to a variety of student responses;

• uses the target language exclusively and creates an environment in which using the target language feels natural, both on and off the screen; and

• will never try to do anything that a book can do just as well.

Warschauer (2004) states that the communicative approach followed a cognitive view of language learning that held that learners develop language as an internal mental system primarily through interaction, communicative CALL took the form of communicative exercises performed as a way of practicing English. The content of the interaction was not seen as important, nor was the learners' own speech or output. Rather, the provision of input was seen as essential for learners to develop their mental linguistic systems.

2.4.3 Integrative CALL

The present stage of CALL, integrative CALL, arose in the mid 1990s, and it made possible by the development of powerful desktop computers that support rapid use of the Internet, local area networks (LANs), multimedia, and linked resources known as hypermedia (Warschauer, 1996a).

Warschauer (2004) states that integrative CALL is based on a sociocognitive view of language learning. From this viewpoint, learning a second or foreign language involves apprenticing into new discourse communities. The purpose of interaction is seen as helping students enter these new communities and familiarizing themselves with new genres and
discourses, so the content of the interaction and the nature of the community are extremely important. It is no longer sufficient to engage in communication merely to practice language skills.

Integrative approaches to CALL are based on two important technological developments of the last decade—multimedia computers and the Internet. *Multimedia technology*—exemplified today by the CD-ROM—allows a variety of media (text, graphics, sound, animation, and video) to be accessed on a single machine. What makes multimedia even more powerful is that it also entails hypermedia. That means that the multimedia resources are all linked together and that learners can navigate their own path simply by pointing and clicking a mouse.

Currently, a typical multimedia language program might allow students to do a reading assignment in the target language, use a dictionary, study grammar and pronunciation related to the reading, perhaps access support materials and translations in the students' first language (L1), view a movie of the reading, and take a comprehension test on the reading content, receiving immediate feedback, all within the same program. This is a highly interactive and individualized approach, with the focus on content supported by modules instructing learners on specific skills (Kern & Warschauer, 2000).

According to Warschauer (1996a), hypermedia provides a number of advantages for language learning. Firstly, a more authentic learning environment is created, since listening is combined with seeing, just like in the real world. Secondly, skills are easily integrated, since the variety of media makes it natural to combine reading, writing, speaking and listening in a single activity. Third, students have great control over their learning, since they can not only go at their own pace, but even on their own individual path, going forward and backwards to different parts of the program, honing in on
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particular aspects and skipping other aspects altogether. Finally, a major advantage of hypermedia is that it facilitates a principle focus on the content, without sacrificing a secondary focus on language form or learning strategies.

Warschauer (1996a) states that multimedia technology as it currently exists thus only partially contributes to integrative CALL. Using multimedia may involve an integration of skills (e.g., listening with reading), but it too seldom involves a more important type of integration-integrating meaningful and authentic communication into all aspects of the language learning curriculum. Fortunately, though, another technological breakthrough is helping make that possible-electronic communication and the Internet.

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The rise of the Internet has promoted the use of CALL for information retrieval. Integrative CALL is the movement away from language-learning software and CD-ROMs to Web-based activities that allow learners flexible, self-paced access to information (Felix, 1998, 1999, 2000; Lin & Hsieh, 2001; Schcolnik, 2002; Warschauer, 1999).

According to Gündüz (2005) at the end of the 20th century, the computer-mediated communication and the Internet have reshaped the use of computers for language learning. Computers are no longer a tool for only
information processing and display but also a tool for information processing and communication. Language learners, with the help of the Internet, can now simultaneously communicate with others or speakers of the target language all over the world. Nonetheless, As Dhaif (1989) claims that computers can never replace the 'live' teacher, especially in language teaching, where the emphasis is on mutual communication between people. It can just play a role in teaching the second or foreign language as an aid to the teacher.

According to Warschauer (1996a), Computer-mediated communication (CMC), which has existed in primitive form since the 1960s but has only became wide-spread in the last five years, is probably the single computer application to date with the greatest impact on language teaching. For the first time, language learners can communicate directly, inexpensively, and conveniently with other learners or speakers of the target language 24 hours a day, from school, work, or home. This communication can be asynchronous (not simultaneous) through tools such as electronic mail (e-mail), which allows each participant to compose messages at their time and pace, or it can be synchronous (synchronous, "real time"), using programs such as MOOs, which allow people all around the world to have a simultaneous conversation by typing on their keyboards. It also allows not only one-to-one communication, but also one-to-many, allowing a teacher or student to share a message with a small group, the whole class, a partner class, or an international discussion list of hundreds or thousands of people.

Furthermore, Warschauer (1996a) asserts that CMC allows users to share not only brief messages, but also lengthy (formatted or unformatted) documents--thus facilitating collaborative writing--and also graphics, sounds, and video. Using the world wide web (www), students can search through millions of files around the world within minutes to locate and access authentic
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materials (e.g., newspaper and magazine articles, radio broadcasts, short videos, movie reviews, and book excerpts) exactly tailored to their own personal interests. They can also use the Web to publish their texts or multimedia materials to share with partner classes or with the public.

2.5 The Role of Computer in Language Learning and Teaching

The computer is a tool, incapable of taking action by itself. It has no inborn wisdom, no mind of its own, no initiative, and no inherent ability to learn or teach. It will perform, with remarkable speed, exactly on the basis of instruction given to it by a human user. These instruction can be typed into the computer from a keyboard, or can be assembled in computer programs, which consist of series of instruction for the computer to execute (Ahmad et al., 1985).

Gündüz (2005) notes that the computer is ‘the servant of the user’ and it should not be forgotten that its role in teaching is solely a teaching aid. Consequently, it is dependent on the teacher in many ways: for example, it is unable to create educational materials without the teacher. The teacher must specify all the linguistic material and instruction for its presentation. The teacher decides what degree of control the computer will have in his/her classes.

Recent years have shown a boom of interest in using computers for foreign language teaching and learning. A decade ago, the use of computers in the language classroom was of concern only to a small number of specialists in Western countries. However, with the advent of multimedia computing and the Internet, the role of computers in language instruction has now become an important issue confronting large numbers of language teachers throughout the world (Gündüz, 2005). Hence, as Brierley & Kemble (1991) state there is no
need for teachers to feel threatened of loosing their professions to the computers.

Ahmad et al. (1985) point out the secondary role of computer in education is that of a medium to serve the teacher in teaching and not to replace the teacher in class. This role is apparent if we analyze some acronyms such as CALL and CAI (Computer assisted Language Learning or Computer aided/assisted instruction) where the letter A stands for the words "Assisted or Aided "indicative of the role of computers only as a tool.

The computer is completely dependent on the teacher in many ways: for example, it is unable to create educational materials without a human to direct it. The teacher must specify all the linguistic material and instruction for its presentation. It is the teachers then who can make the computer assume various roles. Furthermore, the computer can be used as the mainstay of course, or for backup, revision, reinforcement, extension, or a variety of other purposes. It may communicate with the student visually by displaying text, graphics (diagrams, graphs, line drawings), or video images on screen; it may also present sound, in the form of speech, music and other audio outputs. The usual means of communication with the computer is by typing commands and responses on a keyboard.

Levy (1997) lays importance on CALL as a tool for helping teachers to perform their jobs better, assist them in designing teaching material so that it is more effective, and helping them in acquiring, through the process of teaching, knowledge by the method of practice and language use. The entire exercise is to make the teaching & learning process more effective and successful.

Kenning and Kenning (1983) see the computer as a tutor "assessing the learner's reply, recording it, pointing out mistakes, and giving explanations". In
this way, they claim, the learner is guided to find the correct answer and to adapt the material to suit his/her needs and preference. Acting as tutor is only one of the computer’s possible roles.

Jayachandran (2007) states that computers and language learning are closely inter-related and the judicious integration of both can enable students to organize and process their knowledge at the click of a mouse. This innovative approach to language learning, which is a variation from the conventional classroom based-instruction, will definitely yield exciting and rewarding results in language teaching.

According to Levy & Hubbard (2005), technology is intimately involved with speech (speech synthesis/recognition), grammar (natural language processing, computational linguistics), vocabulary (dictionary development, corpus linguistics), reading (reading on-screen), writing (word-processing), listening (digital archives), speaking, and communications. Technology-mediated communication (e-mail, chat, conferencing) is increasingly becoming popular, and discourse and learning communities are formed around the networks that are produced. However, it would have been more convenient if there was a specific nomenclature to denote the development and use of computer technology in relation to language teaching and learning.

According to Levy & Hubbard (2005), the wide variety of technologies mentioned above move well beyond general-purpose generic computer tools, often grouped under the label ‘Information and Communication Technologies’ (ICTs), such as e-mails, word processors and databases of different kinds. ICTs have made a strong and positive impact in the language & teaching in the classroom and, combined with the resources available through the World Wide Web and the Internet, embrace many of the technologies that are frequently used by language teachers and learners.
Over the years, a wide variety of teaching aids have been placed at the disposal of language teachers. Charts, slides, tape-recorders, videos, overhead projectors and many other technological innovations have taken the place of traditional chalk and board, though not completely. Computers are the latest among the aids used for instructional purposes. Besides being powerful and stimulating aids, computers offer great potential for language learning. (Jayachandran, 2007)

However, ICTs, as they are applied to language teaching and learning only, comprise a part of what we envisage by CALL. In many ways, they are limited to the goals and needs of the language classroom, and fail to reflect the research, design and development arm of CALL and the work that goes into making and evaluating new language learning tutors and tools. ICTs also represent well-established, mainstream technologies usually designed for native speakers of English language. As we understand it, CALL has a greater focus on non-native speakers, and embraces a wide variety of languages; this certainly includes English (Levy & Hubbard, 2005)

According to Fotos & Browne (2004), an important question at this point concerns the effectiveness of CALL: Does its use really promote language learning and student development? A large number of books describing and evaluating CALL, summarizing research on CALL effectiveness, and presenting CALL-based activities shown to promote language learning have been published recently, including Boswood (1997), Chapelle (2001), Crystal (2001), Debski & Levy (1999), Egbert & Hanson-Smith (1999), Felix (1998, 2002), Hanson-Smith (2000), Levy (1997), Warschauer & Kern (2000), and Warschauer, Shetzer, & Meloni (2000).

These works strongly emphasize the significant role of CALL in developing linguistic proficiency and communicative competence in L2
learners as well as promoting increased levels of learner autonomy, motivation, satisfaction, and self-confidence. For example, mid-1990s summaries of CALL research noted positive results from its use, indicating that CALL permitted students to control the pace of their learning and their interaction with others, and encouraged them to become better writers because they had an authentic audience and a purpose for writing (Pennington, 1996; Pennington & Stevens, 1992; Warschauer, 1995; Yates, 1996).

The use of CALL and distance learning activities was found to create classroom discourse communities and encouraged shy students to participate more fully (Palloff & Pratt, 1999; Warschauer, 1996b). Students also reported that CALL activities helped them develop their ideas and promoted learning from their classmates. In addition, developing expertise in using computers gave students feelings of pride and achievement and greatly encouraged their autonomy as learners (Warschauer, 1996b, 1999; Shetzer & Warschauer, 2000). Thus, CALL has been shown to produce a number of favorable learning outcomes.

Computers are effecting fundamental changes, not only in the society outside the classroom walls, but also within them. The invasion of the electronic media has revolutionized language-teaching methodology. Computers are now used as effective tools in teaching grammar, vocabulary, syntax, and comprehension and even in developing interactive communication skills and in creating writing activities.

Talking about bridging the gap between computers and language teaching gives the perspective that CALL programmes have the potential to be used as individual teaching programmes (Jayachandran, 2007).

Fotos & Browne (2004) point out that most researchers agree that a major shift is taking place (Crystal, 2001; Murray, 2000; Warschauer, 2003).
shift in the use of general technology and a shift in education, away from the teacher-centered classroom towards a learner-centered system, where the learner is in control of the lesson content and the learning process. CALL has historically been rooted in educational technology, and findings from the general field of education will continue to be influential in determining its future directions.

The general differences between education in the pre-computer industrial society and education in the computer-based information society are summarized in Table 2.2. The most effective uses of CALL support this new model of education and language teachers need to be able to respond by creating CALL-based activities for their particular instructional situation. A quote that has made the rounds of language teaching e-mail lists and online journals during the past several years states the situation clearly: "Technology will not replace teachers; teachers who use technology will replace those who don't!" (p.7).

Teachers must therefore find opportunities to gain CALL skills by taking courses in computer technology, teaching themselves, and using their colleagues and the World Wide Web as resources, this last option suggested to be especially significant in skills development (Egbert, Paulus, & Nakamichi, 2002).
**Table 2.2: Education in the Pre-Computer Society vs. Education in the Information Society**

<table>
<thead>
<tr>
<th>Education in the Pre-Computer Society</th>
<th>Education in the Information Society</th>
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<tbody>
<tr>
<td><strong>School</strong></td>
<td><strong>Teacher</strong></td>
</tr>
<tr>
<td>Isolated from society</td>
<td>Initiates and controls instruction</td>
</tr>
<tr>
<td>Information on school functioning is confidential</td>
<td>Teacher-fronted instruction of the whole class. Evaluates students. Low emphasis on communication skills</td>
</tr>
<tr>
<td>Integrated in society Information on school functioning is openly available</td>
<td>Empowers students to find appropriate instruction for their particular learning styles and strategy preferences</td>
</tr>
<tr>
<td><strong>Student</strong></td>
<td><strong>Teacher</strong></td>
</tr>
<tr>
<td>Mostly passive learning</td>
<td>Empowers students to find appropriate instruction for their particular learning styles and strategy preferences</td>
</tr>
<tr>
<td>Learning mostly at school</td>
<td>Teacher as facilitator guides the students’ in dependent learning; students often work in groups or pairs or singly</td>
</tr>
<tr>
<td>Little teamwork</td>
<td>Helps students evaluate their own progress. High emphasis on communication skills</td>
</tr>
<tr>
<td>Answers questions from textbooks or teacher</td>
<td>Low interest in learning</td>
</tr>
<tr>
<td>Actively in charge of own learning</td>
<td>High interest in learning</td>
</tr>
<tr>
<td>Learning at school and outside of school</td>
<td></td>
</tr>
<tr>
<td>Much teamwork</td>
<td></td>
</tr>
<tr>
<td>Asks questions; learns to find answers to questions</td>
<td></td>
</tr>
<tr>
<td>High interest in learning</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Pelgrum (2001, p. 164).

To be realistic, although most teachers throughout the world still use chalk and blackboard, CALL is used routinely in language instruction in highly developed countries, such as the USA, Japan, and Western European countries including Turkey to provide supplementary practice in the four skills writing, reading, speaking and listening, as well as grammar and problem solving. Though, as Chapelle points, “instructors need to understand how CALL can
best be used to offer effective instruction to language learners” (1990: 199 as cited in Gündüz, 2005:195).

2.6 CALL Modules

There are several types of CALL modules. They include writing, communication, multimedia, The Internet, corpora and concordancing distance learning, computer-assisted test, blogs, edublog, photoblog, video blogging, mobile blogging, podcast, online games, wikis, social networking, interactive whiteboard & e-dictionaries. A brief discussion on follows below:

2.6.1 Writing

One of the most important of CALL activities is writing; this includes word processing, text analysis, and desktop publishing, often combined with communication over a LAN. Though, student use of spell checkers and grammar checkers is common in these types of activities, much more sophisticated and interactive approaches are also possible. Many L2 teachers, for example, now request their students to use computers to write essays, which they e-mail to each other, or post their essays on a LAN. The students then discuss and correct each other's writing engaging in meaningful discourse and creating knowledge through interaction.

The word processor is a computer program used for editing texts, and checking and correcting writing errors. It is the most useful type of all computer programs. Brierley & Kemble (1991) described it as the most enabling and beneficial of all the computer software.

Word-processing programs transform the computer into a sophisticated and flexible writing aid that can improve learners' writing skills and their attitude towards writing. The main principle of word-processing programs is
based on the ability to manipulate text freely. By writing text into the memory of a computer, the writer can play round with his text until entirely satisfied. The word-processor provides useful practice for guided and free writing.

Vocabulary, grammar, punctuation and reading tests have an obvious relevance to the sub-skills that are needed for writing. By providing something to write about, the computer stimulates both writing and speaking.

Several researchers (e.g., Bernhardt, Edwards, & Wojahn, 1989; Haas, 1989; Pennington, 1996a, 1996b, 1996c, 1996d; Williamson & Pence, 1989) have observed a unique mode of writing in a computer context. As cited in Pennington (2004), Chadwick & Bruce (1989) remark:

*Computers change the writing process in that their various text manipulation features allow writers to jump backwards and forwards in their texts, revise and rephrase, delete and insert and at the same time provide the writer with a hard copy at any stage. Once the first draft is completed the student can read and reread, make any number of changes without the generation of nonproductive labor or fear of spoiling the presentation of the text. The student no longer faces the frustrating dilemma of whether to rewrite the whole, involving meaningless copying, or leave changes with he [or she] knows should be made but wants to avoid.... The student can therefore exhaust his [or her] own intuitions about what is good or bad, what needs changing or leaving alone, before requesting feedback from a tutor [or teacher] (p. 18)*
2.6.2 Communication

The second type of CALL activity is communicating, this includes e-mail exchanges, student discussions with each other, or with their teacher on LANs, MOOs (Multiple user-domain-Object-Oriented). These are sites on the Internet where students do role-playing games and talk with each other, and have real-time chat. These activities are particularly useful for foreign language teaching where students share the same L1, because they create the need to use the foreign language for authentic communication.

According to Hubbard (2004), a growing area of CALL is that of computer-mediated communication (CMC). CMC typically involves two basic parameters: time (synchronous [real time] or asynchronous [delayed]) and medium (text or voice, both audio and audio video). Combining these two parameters yields the following types of applications:

• Synchronous text (e.g., chat and instant messaging).
• Asynchronous text (e.g., e-mail and discussion boards).
• Synchronous voice (e.g., Internet telephony and audio or video conferencing).
• Asynchronous voice (e.g., voice-mail and voice discussion boards).

According to Fotos (2004), a survey of ESL learner attitudes towards CMC reported the following findings. Participation in e-mail projects helped the students develop their thoughts and ideas, enabled them to learn about different cultures, and helped them to improve their English proficiency, giving them feelings of accomplishment and enjoyment. These positive results also produced enhanced motivation to study the target language.
Researchers also suggest that e-mail exchange encourages students to recognize that the L2 is more than just a focus for study but is actually a powerful medium for communication. (Beauvois, 1998; Gu & Zhe, 1999; Shetzer & Warschauer, 2000; Warschauer, 2003).

Oral communication is very important in language learning process. In today's language classrooms, considerable emphasis is given to oral activities in which learners use the language they have learned to communicate with each other. These activities include simulations, role-plays and discussions. Computer simulations provide a stimulus for such a work, as they offer both a focus for oral activity and a continually changing scenario for learners to talk about. Computers have a useful contribution to the development of oral skills if they are used wisely (Hammersmith, 1998).

Dialogue studies can be made on the computers with movies as aids; students watching the dialogue delivering can see the conversation, setting and cultural atmosphere clearly. They can also see the body movements and the semiotic background of the conversations, earn a powerful experience, and thus improve their communicative competence. All these pave the way to their communicative performance by reinforcing their accuracy, intelligibility and fluency.

The main advantage of computer simulations is that they are very motivating. They give learners instant feedback on the effects of their decisions, and this feedback itself stimulates arguments and comments, suggestions and counter suggestions.

2.6.3 Multimedia

The third type of CALL activity is the use of multimedia; this includes courseware presented on CD-ROM or online for study of specific skills such as
pronunciation or grammar, and integrated skills-based or communicative practice where hyperlinks allow students to access a range of supplementary material for learning support. Often teacher-created programs are course-specific and are designed to quiz students over material covered in class.

Computer-based learning activities, called ‘courseware’ were developed using programming languages and were stored on mainframe for students to access as need (Chapelle, 2001).

Early CALL software was text-based and characterized by low interactivity. However, today's hypermedia programs provide students with practice in using target forms, listening exercises, dictionary assistance, pronunciation exercises, translation, and communicative usages of the forms through authentic texts, sound, and video clips software (Cummins, 2002; Wachman, 1999).

According to Iwabuchi & Fotos (2004), the term hypermedia refers to the combination of hypertext (clickable text linked to further information in the form of text, sound, graphics, video, or animation) and multimedia (a combination of text, video, sound, and graph). Most language-learning software today consists of hypermedia and, because of the large amount of memory required, if such programs are not network or Web based, they are produced on CD-ROMs.

2.6.4 Internet

The forth type of CALL activity is the Internet, such as web-based language application. Taylor & Gitsaki (2004) state, that recently the widespread availability of the Internet and their applications in educational institutions have helped reshape the use of computers for language learning. Increasingly, L2 educators are finding ways to use the infinite number of
resources available on the Web to help their students improve their communication and language skills.

According to Susser & Robb (2004), the World Wide Web is now an established medium for language learning and instruction. Individuals can use a variety of e-learning sites to study foreign languages.

According to Davies, Walker, Rendall & Hewer (2011) there are several ways in which the Web can assist with teaching languages. The Web contains vast amounts of authentic materials consisting of texts, pictures, and audio and video recordings. Authentic materials can easily be downloaded from the Web and converted into activities and resources for word-processed handouts, for PowerPoint presentations, for offline use with a browser. When searching for authentic materials look especially at the websites maintained by newspapers, magazines, radio stations and TV stations. Students can find resources or use materials at websites specified by the teacher. Teachers and students can create their own Web pages for on- or offline use.

2.6.5 Corpora and Concordancing

The fifth type of CALL activity is the use of corpora and concordancing, or using a corpus to examine the range of usages for grammar and vocabulary items, and using online dictionaries for definitions and usage information. Concordancing software searches through huge files of texts (called corpora, which is the plural of corpus) in order to find all the uses of a particular word (or collocation). While very confusing for beginners, concordancers can be a wonderful tool for advanced students of language, linguistics, or literature.

Corpora have been used for many years as the basis of linguistic research and for the compilation of dictionaries and reference works. It is also possible for the teacher to use a concordancer to find examples of authentic
usage to demonstrate a point of grammar or typical collocations, and to generate exercises based on the examples found.

The best concordancer for language students and teachers is Oxford's Micro Concord. The program includes as an optional extra several large (total 1,000,000 words) taken from British newspapers. This program and other concordancers as well, can be used with any other text files available in electronic form (Warschauer, 1996).

2.6.6 Distance learning

The sixth type of CALL activity is distance learning. In the United States, the United Kingdom and Europe, many college professors now teach some or all of their courses online. Research on distance learning and courses with online components suggests that online students make the same gains as those achieved by students receiving a regular lecture (McIntyre & Wolff, 1998). Although it began only recently, distance learning via the Internet has already developed into an important field, with a rapidly increasing number of publications on its implementation and evaluation (e.g., Abbey, 2000; Belanger & Jordan, 2000; Lau, 2000; Palloff & Pratt, 1999; White & Weight, 2000). An additional aspect of distance learning is the teacher creation of Web pages to disseminate their lesson plans, course material, research papers, and other material. Many teachers now routinely take attendance online and post course outlines, specific activities, tests, drills, and so on, on their home pages (Fotos & Browne, 2004).

According to Davies, Walker, Rendall & Hewer (2011) there is an increasing number of websites that offer distance-learning materials, including whole courses delivered via the Web and email, using so-called Virtual Learning Environments (VLEs). A VLE is a Web-based package designed to
help teachers create online courses, together with facilities for teacher-learner communication and peer-to-peer communication. VLEs can be used to deliver learning materials within an institution or within a local education authority. They can also address a wider constituency and may even be used on a worldwide basis. VLEs have certain advantages in terms of ease of delivery and management of learning materials.

**2.6.7 Computer-assisted Test (CAT)**

The seventh type of CALL activity is computer-assisted test. There is extensive research on computer-assisted language testing (CALT), suggesting that computer-based tests, particularly those that respond to learners’ choices by presenting subsequent items at varying levels of difficulty, are effective in building language skills because they provide immediate feedback and multimedia support by access to dictionaries, grammatical explanations, and audio and video material for study of test items (Chalhoub-Deville, 1999; Chapelle, 2001). Because the Test of English as a Foreign Language (TOEFL) is now administered by computer, students routinely use CD-ROM TOEFL practice tests and other self tests.

Furthermore, many teachers have developed their own tests, checked them for reliability and validity, and posted them on home pages for others to use, or have developed freeware for course-specific test creation.

Thus, CALL is now an integral part of L2 classrooms and is likely to assume increasing importance as technology improves (Chapelle & Hegelheimer 2004).

**2.6.8 Blogs**

The eighth type of CALL activity is blog. Davies, Walker, Rendall & Hewer (2011), point out that in recent years there has been a veritable
explosion in the development of weblogs - or blogs for short. The first blogs that appeared took the form of a log, a kind of online diary. Blogs behave in similar ways to discussion lists, except that they often take the form of a journal or a collection of an individual's or group's ideas and thoughts, and they offer an easy facility for uploading new material to the Web. Educational uses of blogs include:

- Journals of school excursions abroad. The students may be encouraged to put together an electronic scrapbook in the foreign language, consisting of texts that they have written, photographs, video recordings and links to podcasts.

- Online courses in which the teacher sets the tasks and receives the coursework from the students. These may be open courses and viewable by the public or closed courses aimed at a specific group of students. Open blogs can motivate students, encouraging them to improve their writing because of the presence of other viewers. Such blogs may include Web resources specified by the teacher and day-by-day records of what the students have learned.

- Webquests and scavenger hunts are task-oriented activities in which the learner draws on material from different websites in order to achieve a specific goal, e.g. researching a topic and (i) answering a series of questions posed by the teacher, (ii) creating a presentation or (iii) writing an essay, etc. The skills that are required in a webquest or scavenger hunt mainly involve reading and listening, but there may also be communicative speaking exercises.

- Teacher training materials and hints and tips on using new technologies in the classroom.

- School and college newsletters.
According to Rebecca (2010), a blog is a blend of the term web log. It is a type of website or part of a website supposed to be updated with new content from time to time. Blogs are usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse-chronological order. Blog can also be used as a verb, meaning to maintain or add content to a blog. Most good quality blogs are interactive, allowing visitors to leave comments and even message each other blogs. This is the interactivity that distinguishes them from other static websites (Dilip & Qing 2010). Blogging can be seen as a form of social networking. Indeed, bloggers do not only produce content to post on their blogs but also build social relations with their readers and other bloggers (Alexia & Chiara, 2010).

A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic. The ability of readers to leave comments in an interactive format is an important part of many blogs. Most blogs are primarily textual, although some focus on education (edublog), photographs (photo blog), videos (video blogging or vlogging), audio (podcasting), Mobile blogging,

2.6.8.1 Edublog

An edublog is a blog written by someone in education. Examples might include blogs written by or for teachers, blogs maintained for the purpose of classroom instruction, or blogs written about educational policy. The collection of these blogs is called the edublogosphere by some, in keeping with the larger blogosphere, although that label is not necessarily universally agreed upon. Others refer to the community or collection of blogs and bloggers as the edusphere. Similarly, educators who blog are sometimes called edubloggers.
Chapter Two: Review of Related Literature

The use of blogs has become popular in educational institutions including public schools and colleges (Richardson, 2006). Blogs can be important tools for sharing useful information and tips among co-workers, dispersing information to students, or keeping in contact with parents. Teachers can create, monitor and edit blogs to ensure that the postings are appropriate and pertain to the classroom.

There are many teacher related blogs on the internet where teachers can share information with one another. This can include specific content that they are working on in their classroom or exemplary lessons that they wish to share with other teachers. It is a tool for educators to share ideas with one another on what has worked with students and what has not. Teachers can often rely on these sources to communicate with one another regarding any issues in education that they may be having including classroom management techniques and policies. In this way, the blog often acts as a support system for teachers where they can access ideas, tools, and gain support and recognition from other professionals in their field. Some of these blogs have become nationally recognized as useful tools, especially teacher blogs that are directly making a difference in the educational system.

Teachers use blogs as a way to communicate and enhance classroom instruction among their students. It is easy to introduce the use of blogs in the classroom and allows both the teacher and student the ability to edit and add content at any time. The ability for both the teacher and student to edit content allows the study to take place outside the classroom environment. Blogs increase exposure to other students from around the country or world while improving writing and communication skills. Teachers are using blogs as a way to post important information such as homework, important dates, missed lessons, projects, discussion boards, and other useful classroom information.
that is accessible by all. Students can access this information from home, or from any computer that is connected to the Internet.

Students can use blogs to communicate with other students for group projects as well. Students can also access the blog to ask each other questions regarding a missed assignment or lesson. It also gives students an opportunity to collaborate on poetry, various writing assignments, or readings. Students can respond initially to the text, including their thoughts, feelings, connections, questions etc. Other students would have the opportunity to respond and react to these responses. This would generate conversation amongst the students and develop their critical and analytical thinking skills. It also allows students who are shy and reserved in class to voice their opinions and insight using a different approach. With the use of blogs in the classroom students learn from one another and individually express themselves as well.

The use of blogs in education gives students a global perspective. Teachers from different states, countries, and continents are able to collaborate on different projects and learning. A classroom in China can collaborate with classrooms in Germany, Mexico, Australia, etc. with just a few clicks of a button. Learning through blogs allows students to take control of their own learning and steer it to their own needs. Students are able to see that opinions and even strategies vary based on location and culture. Children are all different, but a common thread of learning can unite them.

**2.6.8.2 Photoblog**

A photoblog (photolog or phlog) is a form of photo sharing and publishing in the format of a blog. It differs from a blog through the predominant use of and focus on photographs rather than text. Photo blogging (the action of posting photos to a photoblog) gained momentum in the early 2000s with the advent of the mob log and camera phones. There are three
basic types of photoblogs. Photoblogs on individual domains, photoblogs on blogging services such as Blogger that were designed primarily for text content, and photoblogs on photo specific blogging services such as Fotolog or Flickr.

The dynamic nature of blogs and photoblogs compared to static sites means that blogs require some form of content management system rather than being built by hand. These content management systems usually provide the photoblog's authors with a web service that allows the creation and management of posts and the uploading of images. The content management systems deliver web pages based on the data entered by the photoblog author. Access to photoblogs is usually unrestricted and available to anyone with internet access and a web browser.

2.6.8.3 Video blogging

Video blogging sometimes shortened to vlogging. Video blogging is a form of blogging for which the medium is video, and is a form of Web television. Entries often combine embedded video or a video link with supporting text, images, and other metadata. Entries can be recorded in one take or cut into multiple parts. It is also a very popular category on YouTube. Video logs (vlogs) also often take advantage of web syndication to allow for the distribution of video over the Internet using syndication formats, for automatic aggregation and playback on mobile devices and personal computers.

2.6.8.4 Mobile blogging

Mobile blogging (moblogging) is a method of publishing to a website or blog from a mobile phone or other handheld device. A moblog helps habitual bloggers to post write-ups directly from their phones even when on the
move (Knudsen, 2003). Mobile blogging has been made possible by technological convergence, as bloggers have been able to write, record and upload different media all from a single, mobile device. Mobile blogging is popular among people with camera phones which allow them to e-mail/ MMS or SMS photos and video that then appear as entries on a web site, or to use mobile browsers to publish content directly to any blogging platform with Mobile Posting compatibility.

2.6.8.5 Podcast

A podcast is a series of digital media files either audio or video that are released episodically and often downloaded through web syndication. The word replaced webcast in common use with the success of the iPod and its role in the rising popularity and innovation of web feeds.

The mode of delivery differentiates podcasting from other means of accessing media files over the Internet, such as direct download link, or streamed webcasting. A list of all the audio or video files currently associated with a given series is maintained centrally on the distributor's server as a web feed, and the listener or viewer employs special client application software known as a podcatcher that can access this web feed, check it for updates, and download any new files in the series. This process can be automated so that new files are downloaded automatically. Files are stored locally on the user's computer or other device ready for offline use, giving simple and convenient access to episodic content.

2.6.9 Online Game

The ninth type of CALL activity is an online game. An online game is a game played over some form of computer network. This usually means the Internet or equivalent technology. The expansion of online gaming has
reflected the overall expansion of computer networks from small local networks to the Internet and the growth of Internet access itself. Online games can range from simple text based games to games incorporating complex graphics and virtual worlds populated by many players simultaneously. Many online games have associated online communities, making online games a form of social activity beyond single player games.

2.6.10 Wikis

The tenth type of CALL activity is wikis. According to Davies, Walker, Rendall & Hewer (2011), wikis are another way of sharing information on the Web or initiating discussions is to set up a wiki. A wiki is essentially a series of interlinked Web pages that can be edited and added to by a group of people, i.e. an online resource for which content can be created collectively. It's distinguishing feature is that it allows anyone who views the wiki to add to or edit the existing content, but it's possible to set up a closed wiki that is used simply to impart information to its readers. Photographs and video recordings can also be embedded in a wiki. Wiki derives from the Hawaiian "wiki-wiki", meaning "quick". Wikipedia is the best known example of a wiki, a collaboratively written encyclopedia.

The essence of the Wiki concept can be described as follows:

- A wiki invites all users to edit any page or to create new pages within the wiki Web site, using only a plain-vanilla Web browser without any extra add-ons.

- Wiki promotes meaningful topic associations between different pages by making page link creation almost intuitively easy and showing whether an intended target page exists or not.
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- A wiki is not a carefully crafted site for casual visitors. Instead, it seeks to involve the visitor in an ongoing process of creation and collaboration that constantly changes the Web site landscape.

A wiki enables communities to write documents collaboratively, using a simple markup language and a web browser. Single pages in a wiki website is referred to as a “wiki page”, while the entire collection of pages, which are usually well interconnected by hyperlinks, is "the wiki". A wiki is essentially a database for creating, browsing, and searching through information. A wiki allows for non-linear, evolving, complex and networked text, argument and interaction (Black, Delaney & Fitzgerald, 2007).

2.6.11 Social Networking

The eleventh type of CALL activity is social networking. Social networking is a term applied to a type of website where people can seek other people who have similar interests, find out what is going on in their areas of interest, and share information and resources. Social networking is a controversial topic (Davies, Walker, Rendall & Hewer 2011).

Teachers and students are also using social networks as a communication tool. Because many students are already using a wide-range of social networking sites, teachers have begun to familiarize themselves with this trend and are now using it to their advantage. Teachers and professors are doing everything from creating chat-room forums and groups to extend classroom discussion to posting assignments, tests and quizzes, to assisting with homework outside of the classroom setting. Social networks are also being used to foster teacher-parent communication. These sites make it possible and more convenient for parents to ask questions and voice concerns without having to meet face-to-face. The advent of social networking platforms may also be affecting the way(s) in which learners engage with technology in
general. The use of online social networks by libraries is also an increasingly prevalent and growing tool that is being used to communicate with more potential library users, as well as extending the services provided by individual libraries.

A social networking service is an online service, platform, or site that focuses on building and reflecting of social networks or social relations among people, who, for example, share interests and/or activities. A social network service consists of a representation of each user (often a profile), his/her social links, and a variety of additional services. Most social network services are web-based and provide means for users to interact over the Internet, such as e-mail and instant messaging. Online community services are sometimes considered as a social network service, though in a broader sense, social network service usually means an individual-centered service whereas online community services are group-centered. Social networking sites allow users to share ideas, activities, events, and interests within their individual networks.

The main types of social networking services are those that contain category places (such as former school year or classmates), means to connect with friends (usually with self-description pages), and a recommendation system linked to trust. Popular methods now combine many of these, with Facebook and Twitter widely used worldwide.

2.6.12 Interactive Whiteboard (IWB)

The twelfth type of CALL activity is an interactive whiteboard. An interactive whiteboard (IWB) is a large interactive display that connects to the computer and projector. A projector projects the computer's desktop onto the board's surface where users control the computer using a pen, finger, stylus, or other device. The board is typically mounted to a wall or floor stand. They are used in a variety of settings, including classrooms at all levels of education,
in corporate board rooms and work groups, in training rooms for professional sports coaching, in broadcasting studios and others.

In some classrooms, interactive whiteboards have replaced traditional whiteboards or flipcharts, or video/media systems such as a DVD player and TV combination. Even where traditional boards are used, the IWB often supplements them by connecting to a school network digital video distribution system. In other cases, IWBs interact with online shared annotation and drawing environments such as interactive vector based graphical websites.

The software supplied with the interactive whiteboard will usually allow the teacher to keep notes and annotations as an electronic file for later distribution either on paper or through a number of electronic formats. In addition, some interactive whiteboards allow teachers to record their instruction as digital video files and post the material for review by students later. This can be a very effective instructional strategy for students who benefit from repetition, who need to see the material presented again, for students who are absent from school, for struggling learners, and for review for examinations. Students will see the exact presentation that occurred in the classroom with the teacher’s audio input can record brief instructional blocks for review. This can help transform learning and instruction.

2.6.13 E-Dictionaries

The thirteenth type of CALL activity is the electronic dictionaries. An electronic dictionary is a dictionary whose data exists in digital form and can be accessed through a number of different media. Most types of dictionary are available in electronic form. These include general-purpose monolingual and bilingual dictionaries, historical dictionaries such as the *Oxford English Dictionary*, monolingual learner’s dictionaries, and specialized dictionaries of
every type, such as medical or legal dictionaries, thesauruses, travel dictionaries, dictionaries of idioms, and pronunciation guides.

Most of the early electronic dictionaries were, in effect, print dictionaries made available in digital form: the content was identical, but the electronic editions provided users with more powerful search functions. Soon the opportunities offered by digital media began to be exploited. Two obvious advantages are that limitations of space and the need to optimize its use become less pressing, so additional content can be provided; and the possibility arises of including multimedia content, such as audio pronunciations and video clips (De Schryver, 2003; Atkins & Rundell, 2008).

Some online dictionaries are regularly updated, keeping abreast of language change. Many dictionaries for special purposes, especially for professional and trade terminology, and regional dialects and language variations, are published on the websites of organizations and individual authors. Although they may often be presented in list form without a search function, because of the way in which the information is stored and transmitted, they are nevertheless electronic dictionaries. Electronic dictionary databases, especially those included with software dictionaries are often extensive and can contain up to 500,000 headwords and definitions, verb conjugation tables, and a grammar reference section.

2.8 Merits and Demerits of CALL

This section include two major subtitles the first is merits of CALL, which deal with how CALL has many advantages for second language learning. However the second is demerits of CALL, which focus on demerits of CALL, although computers in language classes have an important role in language learning process, there are some disadvantages of CALL.
2.8.1 Merits of CALL

With the great development of computers and Internet, more and more second language teachers and learners are using these technologies for foreign language teaching and learning today. Although the uses of computers in teaching and learning have positive effects on the achievement levels of second language learners, there still remain some barriers, which will be dealt later in the chapter.

Educators (Kenning, 1983; Ahmad, 1985; Jonassen, 1996; Salaberry, 1999; Rost, 2002; Wang, 2006; Han, 2008) indicate that the current computer technology has many advantages for second language learning. Computer and its attached language learning programs could provide second language learners more independence from classrooms and allowing learners the option to work on their learning material at any time of the day.

CALL has many merits for second language learning. The reasons for using CALL include: (a) experiential learning, (b) motivations, (c) enhance student achievement, (d) authentic materials for study, (e) greater interaction, (f) individualization, (g) independence from a single source of information, and (h) global understanding (Lee, 2000).

CALL can be convenient to create both independent and collaborative learning environments. Using networked computers as a way to provide interactive communication has been used extensively and with variable degrees of success in foreign language classrooms since the late 1980s (Kung, 2002). Inspired by the rapid development of technology from the 1980s, computer has now become an influential component of second language learning pedagogy. Educators recognize that utilizing computer technology and its attached language learning programs can be convenient to create both independent and
collaborative learning environments and provide students with language experiences as they move through the various stages of second language acquisition (Kung, 2002: as cited in Lai & Kritsonis, 2006).

CALL can facilitate a variety of learning tasks and have enormous effectiveness as learning & teaching tools. Wang (2006) points out that computer-assisted language teaching and learning has come to a new step, especially with the development of microcomputer and the Internet. Computers can facilitate a variety of learning tasks and have enormous potency as teaching tools. They can help both the students and the teachers.

Han (2008), Wang (2006), Gündüz (2005), & Taylor (1980) report that CALL is gaining more popularity in foreign language learning, it mainly enjoys the following merits for second language learners:

The growth of CALL can provide students real help in all aspects of language learning. According to Gündüz (2005), one of the most important advantages of the growth of CALL is that software vendors (and language teachers) no longer feel bound to grammar practice as the main goal of computer use in the language classroom. The movement for communicative teaching with computers is clearly expanding. The vocabulary software has started to be contextualized, to incorporate graphics, audio recording, playback, and video. More sophisticated error-checking can provide students real help in the feedback they receive, directing them to further practice or moving them to the next stage. Those who need extra help with those aspects of language that improve with practice can use small, focused programs to give them additional time and assistance outside the regular class time.

Classroom teaching becomes more effective with the help of computers. Computers are good to motivate students. Language teaching in the past was
conducted mainly in the classroom with teachers’ teaching and students’ passive learning, with the aids of, first, blackboard, then, recorders and videos. With computers, teachers can present pictures, videos, and written texts with or without sound. Students feel things are more real and more understandable. Through simulation and other techniques, computers can present abstract things in a concrete and easily understandable way. Many students who get bored and in traditional English classes become more and more interested in this new style of teaching and learning. Thus, students do not get bored easily and they may become more active.

Student’s learning becomes more individualized and autonomous. One major problem in English teaching and learning is that students, very often, have a variety of interests and levels of English proficiency. Their learning speeds and learning styles also vary greatly. Computers may help teachers to meet different students’ needs by providing students with different levels of learning materials, by offering students different studying methods and making students work at their own paces. This means that students become the center of learning, and teachers, instead, become the facilitators.

Thus, computer provided a platform for communication between teachers and students. In contrast to traditional second language classroom study, students can study more independently, leaving for the teachers more time to concentrate their efforts on those parts of second language teaching that are still hard or impossible by the computer, such as pronunciation, work on spoken dialogue, training for essay writing and presentation.

Such individualized instruction can initiate students’ active learning, promote learning with comprehension, and allow students themselves to see their progress.
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The teaching resources can be stored for a longer time and shared by other teachers and students. One big difference between computers and teachers is that computers will never get tired and can repeat the same thing again and again without complaining. Furthermore, computers can keep teaching resources for a longer time, which is almost impossible in the traditional classroom. The teaching resources can then be shared by other teachers and students.

Language learners have the option to study at anytime and anywhere. Traditionally, learners must go to a class themselves at a fixed time and in a fixed classroom. If the place has a network of computer laboratories, learners can use the same materials wherever they are. They can even study at home if their personal computers have a link to their school’s system or network.

CALL programs can be wonderful stimuli for second language learning. Currently, computer technology can provide many funny games and communicative activities, reduce the learning stress and anxiety, and provide repeated lessons as often as necessary. Those abilities will promote second language learners’ learning motivation. Through various communicative and interactive activities, computer technology can help second language learners, strengthen their linguistic skills, affect their learning attitude, and build their self-instruction strategies and self-confidence.

Computers can promote learning interaction between learners and teachers. When the computer technology combines with the Internet, it creates a channel for students to obtain a huge amount of human experience and guide students to enter the “Global Community”. In this way, students not only can extend their personal views, thoughts, and experience, but also can learn to live in the real world.
Warschauer (2000) indicated that the random access to Web pages would break the linear flow of instruction. By sending e-mails and joining newsgroups, second language learners can also communicate with people they never met before and interact with their own teachers or classmates. Shy or inhibited learners can greatly benefit from the individualized technology-learning environment, and studious learners can proceed at their own pace to achieve higher levels.

The writing process is another area where computers have added a great deal of value. Some programs help students in the pre-writing stage to generate and outline ideas. Most word processors now come with spelling checkers, giving weak spellers some help in finding their errors and recognizing the correct spelling from a list of options Gündüz (2005).

Computers are very useful for teaching composition. In the past, when a writing assignment is given, students have to write their draft first and then retype or copy it again. Writing is not only time-consuming, but also can not easily be stored for use afterwards. But with computers, students can use a word processing program to write their compositions and make corrections easily so that they do not have to retype or copy their final draft. They can also edit their writing before they turn it in to the teacher, and then to revise the composition based on their teacher’s comments. The teachers can check students’ writing, make corrections and provide suggestions, and even show it to other students. Furthermore, computers can help both language teachers and learners keep their writings and records for further use.

Furthermore, according to Higgins (1995) as cited in Gündüz (2005:206), pronunciation work in particular has benefited from CALL. Most pronunciation programs now incorporate some sort of voice recording and playback to let students compare their recording with a model. Most computer
programs stimulate some discussion among groups of learners even if oral practice is not the main purpose of the activity. Higgins suggests that the computer's main value is as an environment, which allows language experiments to be carried out.

Most drills now include games, as well, using the power of the computer and competition for collaboration towards a goal, the fun factor, to motivate language learning. These programs provide a varying amount of instruction along with the games. The other advantages of CALL are:

- multimodal practice with feedback,
- individualization in a large class,
- pair or small group work on projects,
- the fun factor,
- variety in the resources available and learning styles used,
- exploratory learning with large amounts of language data,

Gündüz, (2005) points out that CALL programs, besides teaching a foreign language, will provide the learner with some sort of computer literacy, which is becoming essential in our modern society and which could be of great help in future training and career prospects. The difference between the computer and other pieces of equipment, such as tape recorders and film projectors is its interactive capability as highlighted in the quotation below (cited in Kenning & Kenning: 1983:2):
"The unique property of the computer as a medium for education is its ability to interact with the student. Books and tape recording can tell a student what the rules are and what the right solutions are, but they cannot analyze the specific mistake the student has made and react in a manner which leads him not only to correct his mistake, but also to understand the principles behind the correct solution"

Therefore, CALL is different from other educational aids in the following.

• The computer gives individual attention to the learner and replies to him. Traditionally it acts as a tutor, assessing the learner's reply, recording it, pointing out mistakes, and giving explanations;

• It guides the learner towards the correct answer;

• It offers interactive learning; it can assess the learner's response;

• It can repeat an activity without any of the errors arising from repetition by humans;

• It can handle a very large volume of interaction and deliver to the student feedback;

• It can accommodate different speeds of learning; limits can be imposed on the time available for answering questions (for testing purposes).

2.8.2 Demerits of CALL

There are still many doubts whether computers can serve well in teaching language, and whether they can provide learners with efficient and effective practice.

According to Gündüz, (2005) although computers in language classes have an important role in language learning process, there are some
disadvantages of CALL. CALL requires computers and software as well as other equipments all of which are expensive. Once computer laboratories are established, it is may be difficult to re-equip them for several years. There are many limitations of equipment and facilities, and many teachers may not be able to do what they want to do.

In contrast with the merits that computers bring to foreign language teaching and learning, computers are not free from weakness. Computers are quite expensive and upgraded version replaces the older once very fast. Though the prices of computers have come down, but older computers become obsolete so fast that replacements require expenditure, which make them unaffordable for the majority of people. It is thus a big problem for schools and universities, which cannot afford many computers or to keep pace with newer versions. Computer hardware, software, and programmes are continually updated with the technological development, which puts more pressure on educators and learners who want to catch up with new technology. Some scholars argue that CALL will increase educational costs and harm the equity of education. When computers become a basic requirement for students to purchase, low-budget schools and low-income students usually would not afford computers. It will cause unfair educational conditions for the poor schools and students.

Computers are not very good at teaching the teachers, and the software does not run the lesson for the teacher. The teacher can adapt, improve and compensate for shortcomings in the software. It can take longer for the teacher to learn a piece of CALL software than handle a textbook, because s/he has to work through it, rather than just skimming through it. The teacher must feel comfortable in the computer lab and with the medium in order to be able to use it effectively. In addition, it is important to use the appropriate program for the
students' level. If it is not correct for their level, the activity cannot be prevented from becoming a chaos of uncertainty (Higgins, 1988).

Computers can only do what they are programmed to do. Computers, after all, are machines. Complicated and powerful as they are, they still cannot take the place of teachers. They cannot communicate meaningfully with the users because they do not recognize natural language fully. They can only respond to certain commands that are already programmed in advance. Thus, many programs fail to meet users’ individual demands. Second language learners’ learning situations are varying nature, dynamic and ever changing. Due to the limitations of computer’s artificial intelligence, the computer technology is unable to deal with learners’ unexpected learning problems and response to learners’ questions immediately as the teachers do.

Both teachers and students need training to learn to use computers. Acceptance of the new technologies is an important barrier for language teachers and learners because many of them may not be interested in computers and the Internet. They may usually prefer to teach in a traditional classroom because to teach CALL lessons requires them to learn many new things about computers and the Internet beside language. For students, it will take them a long time and much energy to learn the basic skills for using a computer before they can even begin to use them to study a subject. Many teachers do not have enough technical knowledge about computers and the Internet, and new programs and software are developing so fast that teachers sometimes feel they need to learn a new program.

No matter how simple computers and software are, students need to learn a great deal to use them. Some students can never really adjust to using computers. They are never comfortable with them, so these students often make mistakes. On some occasions, the computer programs used with learners
or demonstrated to teachers can be overtaken by a power cut, or mechanical failure. Therefore, teachers should be trained in the use of computers (Higgins, 1988).

Computers cannot handle unexpected situations due to technological barriers. Language teachers sometimes have barriers, which are related to the system, such as viruses, connection problems or problems caused by the students unconsciously. Computers may have technical problems and then may result breakdowns. Though it does not happen frequently. However, a breakdown in the middle of classroom teaching may leave the teachers embarrassed, and waste a lot of time. A breakdown during students’ autonomous learning may result in a loss of data and works, and students would then have to do some exercises from the beginning again because everything is programmed in advance. This is really a big challenge for students who are not very skillful with computers.

Some other demerits can be listed as follows:

• Learners who do not have prior experience in using the keyboard may waste much of valuable time identifying in order to print their responses;

• Working with computers normally means that the learners work in isolation. This obviously does not help in developing normal communication among the learners, which is a crucial aim in any language lesson. Suggestion about organizing pair work around the computer have been impressive only in theory, but in practice learners tend, for convenience, to revert to their mother tongue in discussing their strategies and responses;

• Computers are not suitable to all the activities that go on in the classroom;

• Computers cannot cope with the unexpected happenings and ambiguity;
• Computers cannot conduct open-ended dialogues and cannot give feedback to open-ended questions;

• The time and effort required to develop CALL programs could be considerable, and thus their cost and effectiveness becomes questionable. It requires competence in the target subject area, pedagogical skills and computing experience;

• It is more tiring to read from a screen than from a printed text; or to scroll the screen than turn over the page (Mirescu: 1997; Stokes: 1999; Kenning and Kenning: 1983; Ahmed, Corbett, Rogers & Sussex: 1985: as cited in Gündüz, 2005:207-208).

After discussing the merits and demerits of computer-assisted learning and teaching for current foreign language learning, we can find it necessary to apply computers in current second language classroom, although it still has demerits and weaknesses. Therefore, when we try to apply CALL programs to enhance their teaching or to help student learning, we should realize what the merits and demerits are in current CALL programs in order to avoid for misemploying CALL programs and get its maximum benefits for our EFL teaching and learning.

2.9 EFL Learners’ Attitude towards CALL

Learners’ attitude towards CALL could play an important role in learning of English as a foreign language. A study on students’ attitudes towards CALL could be useful in understanding the relationship between CALL and student proficiency in learning.

Attitudes towards computer-assisted language learning among school-level Jordanian English-language students are investigated in this study. This
section focuses on the definition of attitudes; the relationship between attitudes and language learning, attitudes and CALL, we also undertake literature review of the related studies devoted to attitudes towards CALL.

2.9.1 Definition of Attitudes

According to Gardner (1985), the concept of attitudes is rather complex. Gardner defines attitude as “an evaluative reaction to some referent or attitude object, inferred on the basis of the individual’s beliefs or opinion about the referent” (p. 9).

According to Mantle-Bromley (1995), “What is termed attitude refers to affect and is evaluative, emotional reaction (i.e., the degree of like or dislike associated with attitudinal object)” (p. 373). Min (1998) also noted “Attitudes are an evaluative response to the environment, ideas, objects, and other people” (p. 23).

According to Frankfort-Nachmias & Nachmias (1996), “individuals express their attitudes through speech and behavior only when they perceive the object of the attitude. Attitudes can be described by their context (what the attitude is about), their direction (positive, neutral, or negative feelings about the object or issue in question), and their intensity (an attitude may be held with greater or lesser enthusiasm)” (p. 252).

In this study, attitudes refer to students’ feelings about or towards CALL. In the educational field, instructors need to understand learners’ attitude in order to influence students towards achievement (Mager, 1984).
2.9.2 Attitudes towards Language Learning

Gardner & Lambert (1972), Raymond & Roberts (1983) & Titone (1990) have recognized attitude as the most important factor in academic success and confirmed that attitude towards an area of study is more important than aptitude. According to Gardner and Lambert, the learners’ attitude towards the language influence how successful he or she will be in the language-learning process.

Language learning is influenced by many factors and the most significant and facilitating factor is positive attitude (Hammerly, 1982). In 1970, Bartley argued that attitudes towards language learning are probably the most important factor in academic success.

Hakuta (1985) commented on the significance of attitude in the learning of a second language:

*The importance of a positive attitude towards the target language has been shown in a variety of foreign-language-learning contexts in Canada and the United States.* (p. 158)

Research on second or foreign language acquisition (Gardner, 1985b) has found that learners’ attitudes towards the language-learning situation influence their learning process in a second or foreign language class.

According to Mantle-Bromley and Miller (1991), improvement of attitude on the part of students was indicated: “positive attitudes keep students in the language program longer; and positive attitudes increase desired student behaviors in the classroom” (p. 424).

Thaipakdee (1992) noted, “Students’ attitudes towards learning are a primary factor in their learning environment” (p. 54). Moreover, Tang (1995)
reported that learners’ attitudes are important data to be collected for sound instructional design. Thaipakdee and Tang indicated that attitudes are inferred from an individual’s viewpoint, idea, and feelings towards CALL. Moreover, such attitudes can influence an individual’s performance when learning CALL or using CALL, including the student’s cognition (viewpoint or ideas towards CALL), emotions (feelings), and proficiency since attitudes towards CALL could be either positive or negative. Attitudes towards CALL have a great influence on further usage of it, negative attitudes towards CALL may hinder computer competency (Wu, 1997). Thus, a study on students’ attitudes towards CALL could be useful in understanding the relationship between CALL and student proficiency in learning.

Attitudes play an important role in the learning process. Therefore, there is a need to understand how different attitudes could be used to foster English language learning in school. Thus, a study on learners’ attitudes towards the use of CALL in English language learning should enhance the ability of curriculum designers and teachers to understand Jordanian school students’ attitudes towards CALL.

2.9.3 Related Studies Conducted on Learners’ Attitudes towards CALL

There is sparse empirical research on Computer Assisted Instruction (CAI) and CALL, which specifically deal with attitudes. These prior studies have indicated that CAI and CALL related attitudes play a role in influencing the extent to which learner’s access computer technology. Many researchers are interested in using computers as a medium for teaching / learning English. Therefore, many studies were conducted on using CALL for teaching English. To the best of the researcher’s knowledge, only a few studies were conducted in various aspects of using CALL in teaching English in Jordan.
Warschauer (1996) surveyed learners’ feelings and attitudes towards computer writing and e-mail communication, integrating the issue of computer writing and CMC, surveying 167 university students in different ESL and EFL academic writing settings, conclude that language students have positive attitudes towards using computers for writing and communication in language classrooms. They could write better, be more creative and save time using word processing compared to writing by hand. Factors influencing students’ attitudes towards computers are considered to be instrumental benefits of computer-mediated communication, the feeling of personal empowerment and a sense of achievement are some of the noteworthy benefits.

Brosnan (1998), in a study of 48 primary (6-11 year-olds) school children in South London, United Kingdom, investigated gender differences in the role of psychology in children’s computer-related attitudes and attainments. Findings indicated that boys had more favorable attitudes towards computers than girls, and boys held more positive attitudes and achieved higher levels of computer-related attainments than girls.

A study conducted by Almahboub (2000) examined attitudes towards computers and gender differences of sixth-grade Kuwaiti students. The main conclusion of the study found positive attitudes towards computer use; however, girls had significantly more positive attitudes towards computers than did boys.

Beazley (2000) investigated how 761 females and males used web sites for courses at a large public university. Self-report survey data were collected at the start and end of the term from undergraduate students enrolled in six courses in the humanities and social and physical sciences. The findings showed that males held more favorable attitudes towards using web sites for courses, in general, than did females.
Cunningham (2000) investigated students’ attitudes towards the word processing experience in the EFL writing classes. A total of thirty-seven Japanese female undergraduate EFL learners enrolled in writing classes completed survey questionnaires eliciting their attitudes towards their experience in the computer-assisted classrooms. The findings indicated that the students believed that the computer helped them to improve their writing skills; students also found it was not difficult to learn to use the computer. Student’s positive attitudes towards writing on the computer should contribute to improving their writing abilities by increasing their willingness to write and revise, and to write and share their writings with others.

Smith (2000) examined the phenomenon of students’ positive or negative response to using CALL as a language learning approach. He concluded that there is a relationship between students’ attitude towards the type of teaching/learning and their attitude towards certain CALL activities. In other words, students’ good attitude towards CALL helped them benefit more from technology in learning language skills.

Chiu (2003) investigated attitudes towards computer-assisted language learning among 300 Taiwanese college students in Pingtung, Taiwan. The methodology employed a replication design and questionnaire approach. Findings indicated that Taiwanese college students hold positive attitude learning English, using computers, and using computers when learning English. Moreover, male Taiwanese college students held more favorable attitudes than females towards the use of computers when learning English.

Almekhlafi (2004) conducted a study on independent CALL use by elementary school students in the United Arab Emirates (UAE). It investigated the effect of CALL on students' achievement of English as a foreign language (EFL) and their attitude towards CALL use. Participants in the present study
were 83 elementary-prep school students with an age span of 11 to 13 years. They were studying EFL in the academic year 2003-2004.

The study was conducted in a model school, technology infrastructure and access was granted to all students. Study results showed that the higher the computer skills, and the more computer experience, and the more time using computers, the more benefit language learners get from CALL. Furthermore, CALL users had a positive attitude towards using CALL and had a high intention and satisfaction to use it in the future due to their perception of its utility and educational benefits. Results also showed a high self-perception of knowledge gain as a result of using CALL.

Carballo-Calero (2005) conducted a survey of the attitudes of a group of University students towards using computers to study English. The study surveyed 50 Spanish students at the University of Vigo (Spain). Every student had experienced computer-assisted language learning for one hour a week for an entire semester. The focus of this research was to determine whether familiarization with computers for language learning can improve student’s attitudes towards CALL. In particular, it was found that, after having used computers in one semester, the students in this survey showed more positive attitudes towards CALL than students who had never used them before. Evidence suggests that we should start seriously thinking about the importance of familiarizing our students with computers for language learning from their first learning stages.

Ates, Altunay & Altun (2006) conducted a study on 30 school students (20 female and 10 male) in Izmir, Turkey. This study aimed to find out the effects of computer-assisted English instruction (CAEI) on high school preparatory students’ attitudes towards computers and English. The participants were administered questionnaires concerning attitude towards computers and
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English three times, both before and after computer assisted English instruction. The findings of the study indicate that computer assisted English instruction had a positive effect on high school students’ attitudes towards computers and English. Students showed interest in computers and motivation for learning English with interactive applications that have affected them to show more positive attitudes. Females showed more positive attitude towards computer than males. As the students’ behaviors revealed, CAE lessons were enjoyable and entertaining for them.

AbuSeileek (2007) conducted a study on 50 Saudi EFL learners in King Saud University, Saudi Arabia. This study focused on assessment of the efficacy of computer-based pronunciation instruction for enabling EFL learners in advanced English language classes at the university level to perceive and produce correct stress patterns. The findings of the study reveal that computer-assisted pronunciation instruction is effective in improving the EFL learners’ ability to produce and perceive correctly different stress patterns in words, phrases, and sentences, and that students also have a positive attitude towards computer-assisted pronunciation instruction and activities.

Bulut & AbuSeileek (2007) conducted a study on 112 students at the Department of English Language and Literature at King Saud University, Saudi Arabia. The sample of the study consisted of students enrolled in the basic language skills courses of Listening, Speaking, Reading and Writing. The students were enrolled in seven sections: Listening and Speaking I (31 students), Listening and Speaking II (10 students in section 1 and 18 students in section 2), Reading I (28 students), Reading II (13 students), and Paragraph Writing (12 students).

This study investigated the relationship between students’ attitude towards CALL and their achievement in the language skills of Listening,
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Speaking, Reading and Writing. A five-point Likert scale attitude questionnaire and achievement tests for separate language skills were used to collect data from the students who participated in the research. The findings of the study revealed that students who participated in the study had a positive attitude towards CALL in general and using CALL for these four language skills. In addition, the results of the study did not yield any significant relationship between student attitude towards CALL for language skills and their achievement.

Akbulut (2008) conducted a survey on a hundred and fifty five freshman students at a Turkish State University in Eskisehir, Turkey, participated in the study. All of them were native speakers of Turkish and speak English at an advanced level. Findings suggest that learners have positive attitudes towards CALL because of computers’ potential to sustain independence, learning, collaboration, instrumental benefits, empowerment, comfort and communication.

Yun-hong (2009) conducted a study in China on university students’ attitudes towards computer-aided English learning. Yun-hong investigated students’ attitudes towards issues of different aspects, concerning teaching and learning in CALL environment. The result indicate that all the students prefer English teaching assisted by multi-media approaches, which is more interesting and appealing to them, further more students have quite different attitudes. Fifty eight percent of the interviewees confessed that they benefit a lot from technology-assisted teaching and learning, and they make great efforts both in class and after class to learn English. Teaching and learning in the CALL environment bring to them higher efficiency in their acquisition of knowledge and skills.
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In addition, the research found negative attitudes study on the part of some students towards computers in English as a foreign language classroom. Brown (1987) notes, negative attitudes can negatively influence success in learning a language.

Min (1998) examined the attitudes of 603 Korean adult students towards computers in English as a foreign language classroom. The results of the study suggested that this sample of Korean adult language learners did not hold positive attitudes towards the use of computers in English-language learning. One reason for these findings might be that the sample group lacked previous learning experience with computers.

Ayres (2002) examined students’ attitudes towards the use of CALL, and their perceived view of its relevancy to their course of study. His study also seeks to clarify just how students see the role of CALL as a chief competitor with the classroom teacher or as one of many useful tools. The learners who took part in this study totaled 157 non-native speaker undergraduates who were enrolled in various certificate and diploma courses at the School of English and Applied Linguistics. The results indicated that learners appreciate and value the learning that they do using the computers. The application of CALL within existing programmes of study ranks high from the learners' perspectives. CALL has high face validity with learners, while they do not see it as a worthwhile replacement for classroom-based learning. The use of CALL especially seemed to assist students in the areas of spelling, writing and grammar practice.

In summary, these studies indicate that attitudes seem to be essential factors in a positive learning environment. Students’ attitudes towards learning are indeed a primary factor in their learning environment. Contradictory findings from prior studies on attitudes towards language learning, attitudes
towards computers, and attitudes towards CALL and CAI suggest the importance of conducting further study in this educational area.

Based on the findings of these attitudinal studies, it appears that CAI and CALL learning is generally evaluated in a positive light. Most research findings showed that, in general, CAI and CALL have positive effects on students’ academic attitudes and on learning a language using CAI and CALL. Gardner (1985) hypothesized that L2 learners with positive attitudes towards the target culture and people will learn the target language more effectively than those who do not have such positive attitudes. These findings of prior research could be interpreted from a variety of viewpoints, but one central interpretation is that a learner’s attitudes influence language learning.

However, the learners’ attitude towards CALL could play an important role in learning of English as a foreign language. Unfortunately, researchers and scholars within Jordan lack important information in this area and to date, there is a lack of research on learners’ attitudes towards CALL based on a Jordanian population. For this reason, a research study which investigates CALL and its role in learning of English as a foreign language and learners’ attitudes towards CALL in Jordan may provide an empirical base for future studies on EFL learners’ attitudes towards CALL.

2.10 English Language Education in Jordan

2.10.1 Introduction

Jordan, officially the Hashemite Kingdom of Jordan, and also known as the JK (short for The Jordanian Kingdom), is a kingdom on the East Bank of the Jordan River Western Asia. It borders Saudi Arabia to the southeast, Iraq to the east, Syria to the north and West Bank and Israel to the west. The capital city of Jordan is Amman.
Jordan has given great attention to education in particular. The role played by a good education system has been significant in the development of Jordan from a predominantly agrarian to an industrialized nation. Jordan's education system ranks number one in the Arab World and is one of the highest in the developing world. UNESCO ranked Jordan's education system 18th worldwide for providing gender equality in education. Jordan is ranked 90 out of 177 in the Human Development Index. Despite strained resources, the Ministry of Education developed highly advanced national curriculum and many other nations in the region have developed their education system using Jordan as a model. The Jordanian Ministry of Education is now making it mandatory for students to be computer literate to enable them to apply their
computer literacy to their regular studies, most especially in the scientific and mathematical courses. Its educational system is of international standards and its secondary education program is recognized in world-class universities (Abu Rumman, 2010).

English instruction in Jordan has a long history and unique prestige in the education system. It started in the early 1920s with the foundation of the Emirate of Trans-Jordan. At the time, English was taught only in a few schools. There were no specialized teachers, no specific curriculum, nor were there any prescribed textbooks. In contrast, English now has reached the smallest and remotest villages and towns; it is taught by thousands of professionally qualified teachers using state-of-the-art curriculum documents and textbooks.

The unique status of English in the education system is particularly evident by the fact that it is the only obligatory foreign language for all school students. A student’s failure in English on the General Secondary Certificate Examination (i.e., High School Examination) automatically means an inability to join higher education institutions, namely, universities, intermediate colleges and vocational training centers. At the post-secondary level, Jordan has approximately 25 universities, both public and private, which offer different types of programs in English. Hamdan & Abu Hatab (2009)

With regard to the status of English in Jordan, Al-Khatib (2008: 229) highlighted the significant policy change that took place in 2000, when a new curriculum for the basic education stage was adopted along with the introduction of teaching English as a school subject to grades one to four. This change extended the period of English instruction at school level from eight years to twelve years.
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The acquisition of English by Jordanian students was seen by the JMOE as integral to educational and economic development in Jordan. For this reason, in 1999, the teaching of English also was mandated by a royal decree in all Jordanian public and private schools beginning in first grade (JMOE, 1999: as cited in Abu Samak, 2006:104).

According to Jafar (2008), English is taught in Jordan throughout the whole span of the 12- school years from K-12 as a foreign language for educational and instrumental reasons and it is considered a prerequisite for most prestigious jobs. The Ministry of Education pays sufficient attention to teaching English and following up of the curriculum and teachers’ training. The main goal of teaching English in Jordan is to enable the learners to communicate with others on the personal and formal levels.

2.10.2 English Language Education in Jordanian Schools

The Jordanian Ministry of Education (JMOE) is responsible for the pre-primary, primary and secondary levels of education. The structure of the educational system in Jordan consists of a two-year cycle of pre-school education, ten years of compulsory basic education, and two years of secondary academic or vocational education after which the students sit for a General Certificate of Secondary Education Exam. Basic Education is a 10-year compulsory level of education. Textbooks are standard books distributed by the Ministry of Education. In Jordan, education is free in primary and secondary schools and is made compulsory all through the age of fifteen. More than half of the Jordan population is below the age of 30 years. About 42.2 percent are 14 years or younger, whereas 31.4% fall between 15–29 years of age; almost one-third of the Jordanians are enrolled in educational facilities. As of 2007/2008, the gross primary enrollment rate is 95.7%, which is higher than the regional average of 93%.
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The Secondary Education level consists of two years’ study for students aged 16 to 18 who have completed the basic cycle (10 years). At the end of the two-year period, students sit for the General Secondary Examination in the appropriate branch and those who pass are awarded the (General Secondary Education Certificate). The academic stream qualifies students for entrance to universities.

Hamdan & Abu Hatab (2009) state that the history of introducing English in Jordanian schools dates back to the early 1920s, when English was taught in a few locations, in the cities of Karak, Salt and Irbid. Neither curricula nor textbooks were specified, and the grammar-translation method was the only teaching model, if any. The earliest English curriculum documents (Ministry of Education 1969) outlined the general and specific objectives for teaching English. By the end of the basic education stage, the pupils were expected to understand simple English spoken at normal speed, communicate sensibly with English speakers within certain reasonable areas, read simple English with ease and understanding, and write a paragraph or two in English.

By the end of the Secondary School stage, the students were expected to understand English, spoken in different contexts, speak correct English, read and understand English texts easily and accurately, write accurate extracts that exceed a paragraph, and acquire the required linguistic skills needed for advanced jobs after the secondary stage.

The 1990 curriculum document, which adopted a communicative approach to language teaching, reformulated the general goals of teaching English in the Basic Education stage. The 1990 curriculum outlined the following goals:
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1. Make use of the English sound system, namely, understand simple English spoken at normal speed by native speakers.

2. Understand and communicate intelligibly using a variety of notions and linguistic functions based on everyday situations such as greetings, leave-taking, polite formulations and expressions, etc.

3. Read and understand English texts of general nature within a vocabulary of about 4,000 words: for example, stories, descriptions, expository prose, etc.

4. Master the graphemes (letters) of English and shape them correctly, legibly and neatly, use English punctuation system correctly, spell correctly, write properly structured sentences, and write a logical well-structured paragraph (Ministry of Education, 1990).

In 2005, a further update of the objectives of English language teaching was introduced. They were expanded to include the following:

1. Acquire the skills necessary for the efficient utilization of information technology, as well as the linguistic register used.

2. Acquire a positive attitude towards English and realize its importance as a world language and as a means for promoting mutual understanding among people and countries as well as a means for professional development of the individual (Ministry of Education, 2005: 4–5).

Kitao (2002) suggested some ideas for using the Internet in secondary schools to increase international understanding, identifying the Internet as one supplementary tool for teaching English, and that an entire course should not be built around it. He believed that the Internet can become more useful both for improving students' English and improving international understanding. To
achieve these goals, teachers have to familiarize themselves with computers, software, and other advanced activities and practice them well.

English in Jordan has started to be viewed as a common medium for communication, which the nation can use to promote its relations and cooperation with the world at large. It is viewed as a necessary tool for economic, social, cultural and technological development.

### 2.10.3 English Language Education in Jordanian Universities

The post-secondary education is the responsibility of the Ministry of Higher Education and Scientific Research (MOHESR).

Access to higher education is open to holders of the General Secondary Education Certificate who can then choose between private community colleges, public community colleges or universities (public and private). The credit-hour system, which entitles students to select courses according to a study plan, is implemented at universities. The importance of university stems from the fact that they are responsible for preparing intellectual, scientific, literacy, artistic and professional leaderships at different levels and for all institutions of society and sectors. The university is responsible for conducting studies in all the fields and domains of knowledge. The university also has an important role in the field of public service in the society by offering practical services to the society on the part of teaching staff and students, utilizing its various facilities.

Abu Rumman, (2010) states that successive Jordanian governments have recommended the establishment of universities and work to develop and provide full support to them through directions and orientations of His Majesty, the late King Hussain. Thus, the first university in Jordan was established in 1962 and then many public and private universities were established in the
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kingdom totaling 26 in the year 2007. Of them, ten are public universities and sixteen are private universities, of which four are specialized in postgraduate studies. The government has enacted a series of laws concerning higher education in Jordanian universities. The Uniform Code of Universities Act 29 of 1987 confirmed that a university is a national institution of higher education and scientific research that aimed Firstly, at disseminating knowledge, developing and contributing to the progress of human thought. Secondly, providing opportunities of university education, theoretical and applied, to the qualified students and researchers. Thirdly, encouraging scientific research and development of scientific curriculum, intellectual independence, and personal initiative. Fourthly, developing sense of belonging to the nation and the spirit of responsibility and teamwork. Fifthly, deepening of the Islamic faith, spiritual and moral uplift and paying more attention to take care of Arab civilization and Islamic heritage. Sixthly, providing service to the Jordanian society and its needs and contribute to the service of the Arab society.

According to Hamdan & Abu Hatab (2009), since the foundation of the University of Jordan in 1962, English has played a considerable role in university education. It has been made the medium of instruction in all the scientific faculties, and consequently, the first Department of English was established there. In 1976, the Yarmouk University followed suit. Now the use of English as the medium of instruction in scientific and medical faculties and the establishment and expansion of departments of English and translation are two salient features of the overwhelming majority of the 27 universities in Jordan.

The status of English is also reflected in university requirements. Since the late 1990s, all university students, regardless of specialization, have been required to take two courses in English communication skills. Moreover, most
public universities offer MA programs in English language and literature, translation, methods of teaching English and linguistics. Recently the University of Jordan has decided to re-launch its PhD programs in English literature, linguistics and methods of teaching English, which had been frozen in 2002.

The increasing awareness of the link between English and the labor market led the University of Jordan and the University of Science and Technology to initiate BA programs in Applied English, which, as the study plans claim, are to produce graduates who would be better equipped and qualified to meet the market needs in both Jordan and neighboring Arab countries, particularly the Gulf region. Applied English students are exposed to various aspects of practical English who are in high demand in a variety of sectors such as tourism, banking, media and the press. Though these are relatively new programs, admission requirements are highly competitive. In the light of the fierce competition due to increased demand and success of the degree programs project, other universities might follow suit by offering similar degree programs.

Another important indicator of the explicitly increasing status of English in Jordanian higher education is that the Ministry of Higher Education has recently notified that all postgraduate students would have to obtain a score of 500 at the TOEFL (computer-based) or 6 at the IELTS exams in order to qualify for admission to scientific faculties and for graduate classes in the faculty of humanities and social sciences (Hamdan & Abu Hatab, 2009).
2.10.4 Integration of Information and Communication Technology (ICT) in Jordanian Education

Information and Communication Technology (ICT) is one of many tools that have been appropriated for use by teachers for the purposes of learning. However, ICT requires specific training in order for teachers to become competent and successful in utilizing it to its fullest potential.

The employment of computer technology in the field of second/foreign language instruction is intertwined with the use of CALL (Abu Samak, 2006). Jordan has realized the fundamental role of information and communication technology in the global economy where knowledge is becoming the primary engine of growth and development (Rousan, 2006).

In the Middle East, numerous international initiatives, such as the United Nations Development Program, have sought to help Arab countries embrace modernization by bringing about reforms in their educational systems (Information and Communication Technology for Development in Arab Region (ICTDAR, 2005). Consistent with these efforts, in 1999 King Abdullah II of Jordan initiated the installation of ICT in all schools throughout the kingdom in an attempt to make the country the "IT hub" of the Middle East. (Jordanian Ministry of Education, 2003, p. 1)

As a result of King Abdullah II's eagerness to turn Jordan into a regional IT hub, the year 2001 witnessed many major educational reforms across Jordan that promoted the teaching of English as a foreign language. These reforms included a mandate for “the introduction of English as a second language from grades one to four at all public institutions [and] the full computerization of the kingdom’s state–run secondary schools”(Jordan Times, 2001, para. 1).
In 2004, the office of the Middle East Partnership Initiative (MEPI) in the US awarded the Cisco Learning Institute (CLI) $2.9 million to produce and deliver English language education in Jordan (Chief Learning Officer, 2005). The US Department of State declared, “This award represents an ongoing investment by the US in Jordan’s educational development” (US Department of State, 2004, para. 1). CLI is already responsible for the development of K-12 math and science in Jordan, and its objective in this project is to develop and implement an interactive EFL curriculum. The U.S. Department of State has asserted, “This online learning program will combine industry leading EFL curricula and online learning technology and provide the Jordanian Ministry of Education with a scalable, cost-effective, and curriculum driven learning program to a wide number of students, teachers, and schools” (U.S. Department of State, 2004, para.3). CLI has specified that the English Interactive Online (EIO) program “will be used in a blended e-learning format by the Jordanian students and teachers in grades 7-12” (Chief Learning Officer, 2005, para. 3). The varied efforts made towards the integration of ICT in Jordanian education, and particularly for the purpose of English language learning, hold much promise for the development of the country (Abu Samak, 2006).

There is no doubt that just as the computer has established itself firmly in the world of business and communication technology, it has also succeeded in acquiring a fundamental role in the educational process. This role is becoming more powerful as computers become cheaper, smaller in size, more user-friendly and easier to handle. Computers are becoming more appealing to teachers because of their huge capabilities and extensive effectiveness. (Dhaif, 2004)
It is evident that the implementation and integration of both ICT and English instruction mandate in all Jordanian public and private schools is of great importance to JMOE. EFL teachers are seen as change agents who are thought to be highly responsible for bringing change and reform to the education system and the society as a whole (Abu Samak, 2006).

Access to the Internet is easily attained at schools and universities, clubs, cafes and even inside the houses in Jordan, round the clock. E-learning is taking place at many universities and even at some private sector schools. All universities have developed their own web sites to provide administrative services for their students, such as, registration, exam results, and other relevant services and activities. Students are encouraged to make the best use of the net to obtain information for their term papers, enrich their knowledge of languages, and widen their cultural horizons (Jafar, 2008).

Researchers in different fields related to education reported many encouraging outcomes for the implementation of technology in domains of learning and teaching. The following are some of the positive points reported in the literature as cited in Alqurashi (2009):

- Teaching with technology helped emphasizing the skills-based model of teaching and minimizing the use of lecture model of teaching. “By shifting faculty time and energy to technology and by reducing the labor-intensive nature of the traditional model of instruction, academic institutions can transfer the focus of learning to students who will be able to engage in a self-paced and self-directed learning activities” (Bartscherer, 1999: 6)
- Various types of technology made education more active and learner-centered which “enable the students to take greater responsibility for
their own learning, and give them the power to fulfill that responsibility” (Sosabowski et al., 1998).

- Computer-mediated discussions tend to be more diverse (multiple topics are discussed) and more inclusive (more students are involved) than face-to-face interactions (Harasim, et al., 1997).
- Computer-mediated discussions offered more opportunities for interactive and collaborative activities among members of the learning community (Poling, 1994).
- Students have constant access to course materials published on the world wide web (Kilian, 1996)
- Various technology-enhanced tools can motivate students and stimulate their interest in the learning process (Mereba, 2003).
- Technology-based instruction can change the type of relationship between students and professors in which students appreciate the role of their instructors as coaches not as gatekeepers (Sliwa, 1994).

According to Vygotsky (1978), all human learning is mediated through interaction with others, such as interactions with parents, peers, and teachers. Learners move along stages towards greater autonomy. For learners of English as a second/foreign language, the Internet offers great opportunities for authentic communication beyond the walls of the traditional classroom. Graddol (1997:16) and supports the idea that technology now lies at the heart of the globalization process, affects education, work and culture; and the world web is one of the products of modern technology.

Pelgrum (2001, as cited in Abu Samak, 2006) has observed that a shift has occurred in the roles of school, teacher, student, and parent due to the introduction of ICT in society.
Table 2.3: Comparison of the Role of Education in the Industrial Society and the Information Society

<table>
<thead>
<tr>
<th>Actor</th>
<th>Education in the Industrial Society</th>
<th>Education in the Information Society</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>• Isolated from society • Most information on school functioning is confidential</td>
<td>• Integrated in society • Information openly available</td>
</tr>
<tr>
<td>Teacher</td>
<td>• Initiator of instruction • Whole class teaching • Evaluates students • Places low emphasis on communication skills</td>
<td>• Helps students find appropriate instructional path • Guides students’ Independent learning • Helps students evaluate their progress • Places high emphasis on communication skills</td>
</tr>
<tr>
<td>Student</td>
<td>• Mostly passive • Learns mostly at school • Hardly any teamwork • Takes questions from books or teachers • Learns answers to questions • Low interest in learning</td>
<td>• More active • Learns at school and outside school • Much teamwork • Asks questions • Finds answers to questions • High interest in learning</td>
</tr>
<tr>
<td>Parent</td>
<td>• Hardly active in the learning process • No steering of instruction • No life-long learning model</td>
<td>• Very active in the learning process • Co-steering • Parents provide a model</td>
</tr>
</tbody>
</table>

*Note: Source: (Pelgrum, 2001, p. 2)
2.11. Summary

As evident from expanded form of the abbreviation, CALL. Levy, (1997) defined CALL as the search for and study of applications of the computer in language teaching and learning. Computer Application in Second Language Acquisition (CASLA) began with the projects exploring development and use of computer assisted language learning (CALL) within the field of educational technology and was therefore, shaped by perspectives in education as well as by computer hardware and software developed for purposes other than language instruction.

Recent past has shown a boom in interest for using computers in the teaching of foreign language and its learning. Beside being powerful and stimulating aids, computers offer great potential for language learning. With the great development of computers and the Internet, more and more second language teachers and learners are using computers for foreign language teaching and learning today. Computer and its attached language learning programs could provide second language learners more independence from classrooms and allowing learners the option to work on their learning material at any time of the day.

Classroom teaching becomes more effective with the help of computers. Computers have proved to be good to motivate students. Student’s learning becomes more individualized and autonomous. Computers may help teachers to meet different students’ needs by providing them with different levels of learning materials, by offering different studying methods, and by enabling students work at their own paces. CALL programs can be wonderful stimuli for second language learning. The technology has the proven potential to promote second language learners’ learning motivation. The computer can promote interactive process between learners and teachers. Computers are very useful
for teaching composition. Furthermore, computers can help both language teachers and learners keep their writing and record them for further use.

Learners’ attitude towards CALL could play an important role in learning English as a foreign language. A study on students’ attitudes towards CALL could be useful in understanding the relationship between CALL and student learning proficiency. Research on second or foreign language acquisition has found that learners’ attitudes towards the language-learning situation influence their learning process in a second or foreign language.

This chapter has explored the definition of CALL, its history, on the role of computer in teaching and learning process and the way in which it may be used to support teaching and learning of English as foreign language. Furthermore, this chapter has also focused on the effectiveness of CALL and it investigates whether the use of CALL really promotes language learning and student development. This study investigates the CALL activities that used in the classroom like writing, communicating, use of multimedia, the Internet, concordancing and referencing, distance learning and test taking. CALL and language skills. Also, it has investigated the merits and demerits of computer assisted learning and teaching for the present foreign language learning process in order to avoid for misemploying CALL programs so that maximum teaching and learning benefits for EFL may be obtained. Furthermore, definitions of attitudes, the relationship between attitudes and language learning, attitudes and CALL, have all been investigated. In addition, this chapter presented literature review of the related studies devoted to attitudes towards CALL. Finally, this chapter includes a profile of the English language education in Jordan. English language education in Jordanian schools, English language education in Jordanian universities and integration of Information and Communication Technology (ICT) in Jordanian educational structure.