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"Computer Assisted Language Learning" (CALL)

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Abstract

This article will provide an overview of computers; an overview of the history of CALL, its pros and cons, the internet, World Wide Web, Multimedia, and research related to the uses of computers in the language classroom. Also, it also aims to provide some background for the beginners on using the Internet in language classes today. It discusses some of the common types of Internet activities that are being used today, what the minimum requirements are for using the Internet for language learning, and some easy activities you can adapt for your classes. Some special terminology related to computers will also be used in this paper. For example, computer assisted language learning (CALL) refers to the sets of instructions which need to be loaded into the computer for it to be able to work in the language classroom. It should be borne in mind that CALL does not refer to the use of a computer by a teacher to type out a worksheet or a class list or preparing his/her own teaching alone. Hardware refers to any computer equipment used, including the computer itself, the keyboard, screen (or the monitor), the disc-drive, and the printer. Software (computer programs) refers to the sets of instructions which need to be loaded into the computer for it to be able to work.

Key words: CALL, computer assisted language learning, computer, hardware, software, internet

1. INTRODUCTION

In the second half of the 20th century, education technologies were one of the most developed areas in the world. Computers, which have entered the school life in the late 1950s in developed countries, are still developing day by day throughout the world. Today, they have become more powerful, faster, easier to use, more convenient and cheaper, and they can process and store much more data, as well. Equipment such as hard disks, CD-ROMs, laser disks and printers used with computers have also developed rapidly. Using these, a computer program can handle sound, pictures and video along with characters.

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. Learners of language, 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 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.

Today, there is huge amount of foreign language materials next to the traditional grammar book and dictionary. These materials include-course books, workbooks, programmed courses, cue carts, charts, newspapers, posters, picture cards, and cut outs, and so on. These are supplemented by other media, such as radio, television, slides, OHP, video tapes, games, toys, realia, as well as computers, multi media and the Internet.

The language laboratories which were found in the 1970s under the influence of the Audiolingual Method have given room to computer assisted language learning (CALL) work stations. “Micro computers used as word processors complement the audio facilities, enabling the interactive teaching of all four language skills reading, listening, speaking and writing”. (Crystal, 1987: 377). Crystal further adds that today a great variety of FLT exercises, such as sentence restructuring, checking of spelling, checking of translations, or dictation tasks, and cloze tests can be computationally controlled using texts displayed on the screen.

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.

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).

2. THE COMPUTER

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.

In Encarta Encyclopedia (2000) it is recorded that the first electronic digital computer was developed by the Hungarian-American mathematician John von Neumann to solve problems in mathematics, meteorology, economics, and hydrodynamics. Then, the American physicist John Mauchly proposed the electronic digital computer called ENIAC and build it with the American engineer J. Presper Eckert at the University of Pennsylvania in Philadelphia. ENIAC which is completed in 1945 is regarded as the first successful, general digital computer. However, it weighed more than 27,000 kg and contained more than 18,000 vacuum tubes. The computer's vacuum tubes were replaced by a team of six technicians each month and it had to be reprogrammed for each task. ENIAC initially was

used for military purposes. Fortunately, the technology of computer hardware, the physical parts of computer systems, has advanced tremendously since then. Today a single microprocessor of approximately 2 kg can do the same work as that pioneering machine (Snyder: 2000, in Encarta Encyclopedia).

2.1 How Do Computers Work?

The computer and its components are known as **hardware.** In other words, hardware is equipment involved in the function of a computer. Computer hardware consists of the components that can be physically handled. The function of these components is typically divided into three main categories: storage, input, and output. To illustrate, computer hardware includes memory that stores data and instructions on **CD-ROM**s and **Floppy Disks** via the CD-ROM drive and Disk drive; the central processing unit (**CPU**) that carries out instructions; the **Bus** the electronic circuitry that connects various computer components via wires or circuitry; the input devices, such as a keyboard or mouse, that allow the user to communicate with the computer; and the output devices, such as printers and video display monitors and speakers, that enable the computer to present information to the user. The last device the **Modem** enables connection to the internet via the telephone connection. The memory capacity of a computer is measured in kilobytes (K), that is, a computer with a capacity of 64 K can hold over 64000 characters, letters and numbers, in its memory (Ditto: 2000).

On the other hand, the programs that run the computer are called **Software.** Software, is the set of instructions a computer uses to manipulate data, such as a word- processing, (e.g., to write a letter), program or a video game. These programs are usually stored and transferred via the computer's hardware to and from the CPU. The interaction between the input and output hardware is controlled by software called the Basic Input Output System software (BIOS). Software programs are loaded on either disks or CD- ROMs (compact discs). There is a big variety of ready made language learning software in the market today. Some of these are WIDA, Oxford advanced Learner's Dictionary on CD- ROM, Learn to Speak English, Encarta Encyclopedia and many more.

2.2 What is the Role of the Computer in Teaching?

The computer is a human made tool which is incapable of action. That is, it has no

inborn wisdom, no initiative and inherent ability to learn or to teach. It will perform, with remarkable speed, the instructions exactly given to it by a human user. Thus, 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. All the linguistic material and instructions for its presentation must be specified by the teacher. It is the teacher who decides what degree of control the computer will have in her/his classes. Hence, as Brierley & Kemble (1991) state there is no need for teachers to feel threatened to loose their professions to the computer.

The computer can be situated in the classroom, in a special laboratory (CALL laboratory), in a specially designed area of a library or in any convenient location where the student, or small groups of students can work uninterruptedly (Ahmed, Corbett, Rogers & Sussex: 1985). It can be used as the mainstay of a course, or back up, revision, reinforcement, extension, and so on. It may communicate with the student visually by displaying text, graphics or video images on a screen; it can also present sound in the form of speech, music or other audio-output. The most common means of communication with the computer is by clicking on icons with the mouse or by typing commands and responses at a keyboard (Higgins: 1995). As a result, unique combinations of interactive and visual capabilities, computers have a beneficial effect on learner motivation.

3. COMPUTER ASSISTED LANGUAGE LEARNING (CALL)

The abbreviation 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 her/his knowledge of the rule and the computer gives appropriate feedback and awards a mark, which may be stored for later inspection for the teacher. Jones & Fortescue (1987) 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 the other lessons, need to be planned carefully.

3.1 The History of CALL

Although computers have been used since the first half of the 20th century, they were not used for educational purposes until the 1960s. The 1970s witnessed the evolution of CALL as a result of development in research related to the use of computers for linguistic purposes and for creating suitable language learning conditions. In America the computer-based introductory courses in the 1960s were pioneering projects in CALL, and were referred to as computer Assisted Instruction (CAI) The 1980s have witnessed the spread of computers both in educational institutions and in people's homes. Since the beginning of the '80s computers have also found their way into many schools. CALL software has also become more readily available on the market (Ittelson: 2000).

The emergence of inexpensive computer technology and mass storage media, including optical videodiscs and compact disks, has given instructional technologists better tools to work with. Compact disks are used to store large amounts of data, such as encyclopedias or motion pictures. In CALL centers with computers and software such as CD-ROM, CD-I, or videodiscs, a student who is interested in a particular topic can first scan an electronic encyclopedia, then view a film on the subject or look at related topics at the reach of a button. Thus, such learning centers present students with the advantages of reference materials and popularize computer-aided instruction. The computer laboratory has become an integral component of foreign-language programs in most educational institutions (Hardisty & Windeatt: 1989).

Computers have been used for language teaching for more than three decades. According to Warschauer & Healey (1998) the history of CALL can be divided into three stages: behaviouristic CALL, communicative CALL and integrative CALL.

Each stage corresponds to a certain pedagogical approach.

3.1.1 Behaviouristic CALL

It was formed in the late 1960s and used widely in the 1970s under the influence of Audio-lingual teaching method. In this stage of CALL, repetitive language drills, referred to as drill-and practice were used. The computer was seen as a mechanical tutor who never allowed students to work at an individual pace, which hindered motivation. Further, it included extensive drills, grammatical explanations and translation at

various intervals (Warschauer & Healey 1998).

3.1.2 Communicative CALL

It was the period of the 1980s. This period was the time that behaviouristic approach to language teaching was being rejected at both theoretical and pedagogical level, and also personal computers were creating greater possibilities for individual work at school. Communicative CALL corresponded to cognitive theories which stressed that learning was a process of discovery, expression and development. Under the influence of Communicative Language Teaching defendants of communicative CALL argued that computer based activities should focus more on using forms. Software developed in this period included text reconstruction program and simulations. In communicative CALL, the focus was not so much on what students did with the computer, but rather what they did with each other while working at the computer.

3.1.3 Interactive CALL

By the 1990s communicative CALL began to be criticized. New second language acquisition theories and socio-cognitive views influenced many teachers and lead them to use more social and learner-centered methods. This time, emphasis was put on language use in authentic social contexts. Task-based, project-based and content-based approaches all sought to integrate learners in authentic environments, and also to integrate the various skills of language learning and use. In integrative approaches, students are enabled to use a variety of technological tools as an ongoing process of language learning and use rather than visiting the computer lab once a week basis for isolated exercises.

4. CALL METHODOLOGY

Computers are not very good at teaching themselves. How effective computers are in the language classroom depends on the way the teacher and students use them. Computers allow the user to carry out tasks which are impossible in other media such as providing feedback automatically on certain kinds of exercises or editing a piece of writing by deleting, moving and inserting text. Students can do some exercises on their own and have them marked by the computer. Multiple-choice and total deletion programs provide examples of this. Students can carry out exploratory work which is not assessed by the computer but which allows them to see the results of their decisions. Hardisty & Windeatt

(1989) say that the examples of this can be seen in word-processing, spreadsheet and simulation programs.

Again they argue that students should have an opportunity to discuss with the teacher the activities they have done on the computer, otherwise they cannot learn effectively from them. In this respect, the methodology used in CALL classes is similar to that which is used in non-CALL classes, but there are some points that have to be distinguished. The main characteristics of the methodology for CALL are:

1- The use of a variety of interaction patterns in class:

Students can work individually, in pairs, and groups, or as a whole class in CALL laboratories.

2- Information-transfer and information-and opinion-gap tasks:

a) Information-transfer activities

In CALL generally activities involve transferring information from one medium to another; that is, from one student to another, or from one group to another group. Students listen to a tape-recording of a story and then sequence the events of the story, or match sentences spoken with the characters in a story, or load a text written by another group of students into a word-processor. The networked computers provide the optimum conditions for information-transfer activities.

b) Information-gap activities

CALL lessons frequently involve an information-gap, with one student, or group of students needing information from others in the class to complete an activity. Sometimes the computer itself has the information hidden. The programs which involve total or partial deletion are examples of activities based on such an information gap.

c) Opinion-gap or problem solving activities

A number of CALL lessons are based on opinion-gap activities. The students have different opinions concerning a problem-solving scenario, such as the cheapest way of allocating resources in a spreadsheet, or a simulation. Alternatively, the difference of opinion may be over the best ending to a short story written on a word-processor. Assigning different roles to students can lead to creativity.

3- Fluency and accuracy practice

One of the characteristics of many CALL programs is that the students have to pronounce or

type in exactly the answer the computer expects because the computer can only accept the answers it has been programmed to accept. This limitation is very useful in practice because it provides motivation for the students to use the language as accurately as possible.

4- Computer-work, pre-computer work and post-computer work

There are three stages in CALL activities:

a) Pre-computer work before students make use of the machines;

b) Work done at the computer;

c) Post-computer work done away from the computer (Hardisty and Windeatt: 1989).

5. TYPES OF SOFTWARE

There are mainly four types of software used in CALL:

a) Do what I tell you

The machine controls to get a great extent the nature and order of events. This includes drills, exercises, quizzes, and tests, and at the end programmed learning it gives the student a task, such as: 'write a sentence to complete or a question to answer'. Then, it tells the student whether s/he is right or wrong and invites her/him to try again if s/he was wrong. When the student has found the right answer, s/he can go on with the next task.

b) Guess what was there

All the words of a text are masked out and the student has to point to single words and buy them. The minimum number of words that the student needs in order to answer a comprehension question are displayed at the end of the text.

c) Can I help you?

This type of software describes uses of the computer as a tool. The computer's natural role is that of a slave, obeying orders and carrying out jobs for its master on demand, and the obvious language job is word-processing. All the word-processors have a search and replace function that can be used to create practice material from any piece of text which has been typed in. For instance, the teacher can replace all the articles with XXX and then print out the text so that the learners write them back in the gaps.

d) How do I get out of this?

This type consists of activities such as simulations, games, puzzles, many of which were not created for language learners at all. As seen above, CALL software is very diverse. It includes drills, tutorials, games, simulations and information databases. Good software

should be easy to use and have a clear purpose. It should be based on instructional theory so that it can be used for self-study at home. Additionally, CALL software should be enjoyable. 'Oxford Advanced Learner's Dictionary' is one among the many software programs in the market (Higgins, 1995).

According to Warschauer & Healey (1998) the reason to buy software is providing an integrated teaching that will:

1- provide realistic, native-speaker models of the language in a variety of media;
2- offer a language learning curriculum;
3- do a needs assessment;
4- determine the best next step for the learner and provide practice with that skill area;
5- record what the student has done, along with an evaluation;
6- be available at any time and require no additional pay.

6. CALL AND LANGUAGE SKILLS

Computers offer learners various activities for developing different language skills. They can provide a useful and motivating medium for both integrated skills and separate activities. Warschauer & Healey (1998) describe them as follows:

6.1. Reading Skills

There are three main ways in which computers are useful in helping language learners develop reading skills.

a) Incidental reading. Most of the CALL programs, whether oriented towards reading or not, involve the learner in reading text for the successful completion of the activity.

b) Reading comprehension. Traditional question and answer CALL programs are used for reading comprehension as well as grammar and vocabulary development.

c) Text manipulation. There are a number of ways in which computers can manipulate continuous text which involve the learner in close study of the content and structure of the text. An example might be shadow reading which provides students with authentic texts. Additionally, sentence structure, speed reading and cloze-reading are some of the alternative ways of developing reading skills. An example for **software** matching activity might be the JMS Newline activity: 'Match the slang words with their definitions'. Another activity might be JMS Newline Software: Speed Practice Reading Comprehension activity (Sperling,

1998).

6. 2. Writing Skills

The Word Processing program is one of the most common purposes for which computers are used and it is regarded as the most powerful to use when starting to work with CALL. In order to use word processors learners have to be familiar to the keyboard of the computer and they also have to learn the following before using the computer:

- Learn how to start a word processor
- Learn how to delete and insert a letter, a word or a larger chunk of text
- Learn how to save text
- Print a text
- Moving words, lines, sentences, etc. around.

Word-processing programs transform the computer into a sophisticated and flexible writing aid that can improve learners' writing skills and their attitude toward 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 (Duber: 2000). By providing something to write about, the computer stimulates both writing and speaking. An example might be the following activity from the Redhouse Dictionary CD-ROM: ‘Put the jumbled idioms in order and write them in your notebook’.

6.3. Speaking Skills

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 discussion. 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 by the computers with the aid of the movies; students

watching these dialogues can see the conversation, setting and cultural atmosphere clearly. They can also see the body movements and the semiotic background of the conversations and earn a powerful experience and thus improve their communicative competence. These all pave the way to their communicative performances through 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. An activity for improving listening and speaking skills might be a listening activity from 'Learn to Speak English Software 1': Spoken English Demo: Communication Skills.

6.4. Listening Skills

Listening activities that use the computer are more complex than the other kinds of CALL materials since they involve equipment other than the computer itself. One of the simplest ways of giving practice in listening comprehension is to use a multiple-choice or fill-in program in conjunction with a cassette recorder or the latest multimedia containing a recorder. In addition to the normal feedback given after a wrong answer, the computer can let the learner hear the relevant part of the tape again. If a separate cassette recorder is used, the error message can give the learner appropriate counter numbers. Another simple technique is to use a tape with a test-reconstruction program which enables learners to reconstruct a summary of a recorded anecdote on screen by the help of the tape.

Such activities not only help to integrate listening and writing skills but also evaluate learners' listening comprehension skills in a more active way than is generally possible in a non-CALL class (Jones & Fortescue: 1987). An activity for improving listening skills might be a listening activity from 'JMS Newline Software', The Listening Learner: Listening Comprehension, Spoken English.

6.5. Grammar Development

Computer software and the **World Wide Web** provide both students and teachers with materials which integrate language skills, as well as with separate activities for grammar, vocabulary, reading, and the like. Some grammar activities that can be done on the computer might be: matching, multiple choice, fill in the gaps or complete the following (Blackie: 1999; Sperling: 1998). Sample multiple choice grammar quizzes are

provided in ***www.eslcafe.com***. The quizzes can be done either online or after printing them. You do not have to subscribe or pay for it: it's free! After finishing the exercise you can ask for immediate feedback by clicking on the submission button.

Another grammar test resource site which provides you with test on placement, general English, grammar or business English is the ***www.englishtown.com*** which requires subscription to do the mini tests or to release various grammar exercises as download material for EFL students to print them. For example, the grammar test on 'conditionals' in this site provides the learners with immediate feedback after each question. Here again, the tests can be done either online or after printing them. However, you cannot ask for immediate feedback if you print the material. Vocabulary related Computer software such as guessing games, do-it-yourself dictionaries or word building activities provide a nice challenge for students. A word game program such as the *Word Hunt* or the site *www, puzzlemaker.com* enables the students to learn and practice vocabulary easily.

7. ADVENTAGES AND DISADVANTAGES OF CALL PROGRAMS

Having settled the issue as to whether computers can or cannot teach real language from a communicative point of view, perhaps we should now put CALL programs in their real perspective and consider some of their advantages and limitations.

7.1 Advantages of CALL

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 towards communicative teaching with computers is clearly expanding. The vocabulary software has started to be contextualized and to incorporate graphics, audio recording and 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.

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.

Further, according to Higgins (1995) 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 group 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 toward 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,
- Real-lifeskill-building in computer use (Warschauer and Healey, 1998).

On a more general note, 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 correctsolution"

- 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, 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 can 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).

7. 2. Disadvantages of CALL

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 equipment all of which are expensive. Once computer laboratories are established, it is not possible 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.

Computers are not very good at teaching themselves, 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 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).

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). Some other disadvantages can be listed as following:

- Learners who do not have prior experience in using the keyboard may waste a

lot 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 between 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).

8.0 THE INTERNET

By the mid-1990's, experts estimated that more than fifty million computers were linked to the information superhighway by way of a network called the **Internet** (Net). The internet is a computer-based worldwide information network. It is composed of a large number of smaller interconnected networks called internets. These internets may connect tens, hundreds or thousands of computers, enabling them to share information through a series of fibreoptic cables (phone-lines) (Encarta: 2000).

With a 'Personal Computer' (PC) you can get connected to the internet via a '**Modem**' (Modulator- Demodulator) which is a very small device and can be attached to your computer. It connects your computer to another or other computers over communication/telephone lines. The internet is made up of a combination of various software applications, each with its own unique function. However, in order to take advantage of the greatest Internet software like the Netscape Navigator for exploring the Web you will need a late-model Macintosh or

PC running Microsoft Windows or Windows. Once on the Net you will be able to get access to:

- E-mail: Electronic mail which allows you to instantly send and receive messages from all over the world;
- WWW: world wide web;
- Chat: a way to communicate in real time to others.

On the Internet, there are databases that contain information on every branch of human knowledge and enterprise- from the most serious scientific topics to catalogues of jokes. Due to advances in the worldwide telecommunication systems, the Internet has become a global network and universities, businesses, and individual users in virtually every nation are on the Net.

8. 1 Internet and ELT

English teachers are in a constant need of additional teaching materials; therefore, the internet is an invaluable recourse for them. Since the most common objective for language learners is better communication, the internet will improve their communication skills. For the teacher aiming to provide the desirable dynamic learning environment, the need for appropriate and stimulating resources and experiences are never greater, and it is here that the Internet can make a significant and unique contribution. A teacher can get access to English teaching support of many kinds through the WWW sites specialized in English teaching; download a wealth of realia from newspapers, tourism and hobby-based WWW sites to use in class (Blackie: 1999).

The internet also widens the students' horizons, provides regular confirmation of the usefulness of proficiency in the language and gives powerful stimulus to the broader education process. Although the internet is a terrific resource for accessing full-text newspapers, magazines, journals, reference works and even books, there is the problem of where to begin, which might be overwhelming for novice users; for, there is an infinite amount of information and recourses. However, there are tools such as Search Engines, Directories, Libraries and Online Encyclopedias that can help find the information you are looking for, whether it is a particular EFL software or information on CALL (Encarta: 2000).

The rise of computer-mediated communication and the Internet has reshaped the uses

computers for language learning at the end of the 20th century. With arrival of the Internet, the computer-both in society and in the classroom-has been transformed from a tool for information processing and display to a tool for information processing and communication (Sperling: 1998). For the first time, learners of a language can now communicate inexpensively and quickly with other learners or speakers of the target language all over the world. This communication can be either synchronous (with all users logged on and chatting at the same time) or asynchronous (with a delayed message system such as electronic mail) (Warshauer: 1995). With the World Wide Web, learners of many languages have access to an unprecedented amount of authentic target-language information, as well as possibilities to publish and distribute their own multimedia information for an international audience. Dudeney (cited in Sperling, 1998) enthusiastically reports that the internet is like a library which is five minutes old. Similarly, Gray (cited in Sperling, 1998) states that the internet is such an amazing seemingly infinite collection of recourses that with access to all this information teachers can be more creative and up-to-date.

In sum, the internet enables students of English to:

- Correspond in English by e-mail with other classes in other parts of the world;
- Develop individual-pen-pals to write to at out of class time;
- Communicate in real-time chat rooms;
- Share opinions and ideas across cultures on sports, music, food, hobbies, etc.;
- Conduct international surveys for class work;
- Read and listen to up to date news.

As for disadvantages, connecting to the internet might take long time, it might brake down in the middle of communication and it might be expensive. It should be borne in mind that the internet does not mean the end of the blackboard, whiteboard, the course book, the tape-recorder or the OHP; but it does provide tremendous opportunities, stimuli and resources for not only teachers but also students.

9. MULTIMEDIA

CALL concerns software programs designed specifically for teaching and learning languages. A major impact has been created by the arrival of CD-ROMs (Compact Disk-read only memory) another invaluable material for teachers and learners; multimedia and an integration of text, audio and video material all in one package is seen now, whereas

everything was 'text-based CALL' in the past (Jarvis, 2000).

Multimedia computing, the Internet, and the World Wide Web provide an incredible boost to Computer Assisted Language Learning (CALL) applications. First ignored, CALL is finally achieving the recognition it deserves thanks in large part to these developing technologies (Duber, 2000).

Personal computers enable users to interact with multimedia programs- that is, users become active participants rather than passive observers. Many computer programs combine several types of media, such as text, graphics, animation, and sound. However, most programs do not offer television and film clips or digital stereo sound. Such high-quality video and audio distinguish multimedia from other programs.

Desktop computers are now able to play natural human speech together with full-screen interactive video which was impossible just a few years ago. Users can now communicate and interact with one another in real-time (Duber, 2000).

The advantage of CD-ROM is that it can offer books, videos, audio-cassettes, language labs and computer language games as individual methods of study all together, in such a small package. However, it takes time for sound and pictures to appear on the screen, so the more video or audio it has, the longer everything is going to take. In today's world people are too impatient and not willing to wait any longer than two seconds before they expect something to happen.

The fun and the learning potential of the CD-ROM is that it enables individuals (or at most two or three students on one computer) control their own learning. Before buying and using CD-ROMs, it is worth understanding what you can expect and what you want and evaluate this form of material. Therefore, a language teacher should consider the following:

- How do you want to use it?
- What and how is it teaching?
- How easy is it to use?
- What back-up is there?
- What methodological features does it use?
- What makes it different to learning from a book?

If after all these considerations, the package appears to meet your demands and the price fits your budget then buying it would be worthwhile for language learning (Norman & L' Estrange 1999: 21). Some examples for CD-ROM packages are Encarta Encyclopedia by Microsoft, and Oxford Advanced Learner's Dictionary on CD-ROM. Several programs for language teaching now incorporate speech recognition, including The

Learning Company's *Learn to Speak* series.

10. CONCLUSION

The role of computers in language teaching has changed significantly in the last three decades. Previously, computers used in language teaching were limited to text. Simple simulations and exercises, primarily gap-filling and multiple-choice drills, abounded. Technological and pedagogical developments now allow us to integrate computer technology into the language learning process. Multimedia programs incorporating speech-recognition software can immerse students into rich environments for language practice. Concordance software with large language corpora provides students with the means to investigate language use in authentic contexts. And the Internet allows for a great number of opportunities to communicate in the target language, access textual and multimedia information, and publish for a global audience.

It can be seen that there is a boom in the use of computers in the past thirty years from having students work on computer fed drills to students' long-distance communication and collaboration in authentic research and multimedia publication. Since the computer is capable of playing so many different roles in and out of class, it is believed to be the most exciting and potentially useful aid so far available to language teachers and learners.

By the way, the computer is a mechanical device which can be used well or badly. Without careful choice and preparation of materials, careful lesson planning and classroom management, and training of both learners and teachers, the computer is useless. Therefore, the teacher plays a significant role in implementing the computer into the lesson plan. According to Higgins (1995), the value of CALL is that it allows a richer form of language exploration and play than has ever possible before. The use of computers is compatible with a variety of approaches, methods and techniques of learning and teaching. Jones & Fortescue (1987) warn that the computer is a resource and not a programmed-learning machine.

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