University of Gezira  
Faculty of Education- El-Hasahiesa  
Department of Foreign Languages  
Effect of CALT on EFL University Students'  
Performance, Teachers' and Students'  
Perspectives:  
A Case Study of Greater *Wad Medani* Locality, Gezira State, Sudan  

Mohanned Abd Elaziem Babikir Zeidan  
M.A Degree of Arts in English Language Teaching (ELT) University of Gezira (2013) 
Post Graduate Diploma in English Language Teaching (ELT) University of Gezira (2004)  
B.Ed. in English Language Teaching (ELT) University of Gezira (2002)  
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Effect of CALT on EFL University Students' Performance, Teachers' and Students' Perspectives:

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Effect of CALT on EFL University Students' Performance, Teachers' and Students' Perspectives:

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2016
Dedication

To
My family and friends
Acknowledgements

I wish to express my sincere gratitude and thanks to my main supervisor Dr. Ahmed Gasm Alseed for his assistance, guidance, great advice and supervision throughout this study.

Deep gratitude and best thanks are extended to my co-supervisor Prof. Abdul Majeed Altayib for his kind supervision, guidance and continuous support. My special gratitude is to my family for their support during this study.
Effect of CALT on EFL University Students' Performance: Teachers' and Students' Perspectives
A Case Study of Greater Wad Medani Locality, Gezira State, Sudan
Mohanned Abd Elaziem Babikir Zeidan

Abstract

Using computer has become an inevitable necessity nowadays especially in teaching and learning. Computer technology helps in educational organizations and in all fields. This study is concerned with “Effect of CALT on EFL University Students' Performance, Teachers’ and Students' Perspectives”. The study aims to point out the importance of using CALT in teaching and learning and to ensure that English language is introduced properly through CALT. More specifically to ascertain that CALT techniques are well motivating to learners by using modern educational techniques. Using CALT in classrooms may diminish teachers’ centered role. The descriptive analytical method of research was adopted in this study. The data for this study were collected by means of a questionnaire of (20) items administered to 100 students, besides an interview of (10) items distributed to 20 university teachers and English language institutes levels, in addition to (10) items as an observation check list. The data were analyzed by the SPSS program. As a result of the analysis, it is found that the use of computer technology offers opportunities for language learners to promote their proficiency in English languages. It is also found out that teachers are not the main source of knowledge. It is also found that computer provide opportunities for self – directed learning. According to the findings, the study recommended that the teachers of EFL should have considerable knowledge in computer courses. Students also should be motivated to learn computer. Administrates should provide universities and institutes with English language labs. In addition teachers should be given training courses in computers specially the practical side.
ملخص الدراسة

لقد أصبح استخدام الحاسوب مسألة مهمة وضرورية في عملية التعليم والتعلم. فالحاسوب يساعد على إدخال التكنولوجيا للمؤسسات التعليمية وكل المجالات الأخرى. هدفت الدراسة لمعرفة تأثير استخدام الحاسوب في تدريس اللغة الإنجليزية داخل الفصول كلغة أجنبية كما أنها هدفت أيضاً لمعرفة أهمية استخدام الحاسب الآلي في عملية التعليم والتعلم ولضمان تدريس اللغة الإنجليزية عن طريق الحاسوب بطريقة جيدة والتأكد أن الحاسوب يحفز الدارسين باستخدام الوسائل التعليمية الحديثة كما أنه يقلل من مهام المعلم. إتبعت الدراسة المنهج الوصفي التحليلي. وقد جمعت المعلومات حول الدراسة عن طريق بث بقية الدارسين. مقابلة للمعلمين وقائمة تحقيق داخل الفصول الدراسية ووزعت علي مائة دارس بالجامعات ومعاهد تدريس اللغة الإنجليزية بведение مدني. تم تحليل تلك البيانات عن طريق برنامج الحزم الإحصائية للعلوم الاجتماعية (SPSS). توصلت الدراسة إلى نتائج أهمها الحاسوب يساعد في تحسين مهارات الدارسين للغة الإنجليزية. ليس المعلم فقط المصدر الأساسي للمعلومات. الحاسوب يوفر فرصة التعلم الذاتي. توسيع الدراسة بصورة إجادة معلم اللغة الإنجليزية للحاسوب وأن الطلاب يجب تحفيزهم لدراسة الحاسب كما يجب علي الإدارات توفير مختبرات اللغة الإنجليزية في الجامعات ومعاهد تدريس اللغة الإنجليزية. إضافة إلى ذلك فإن معلمي اللغة الإنجليزية يجب أن ينالوا تدريبا في مجال إستخدام الحاسب مع ضرورة الإهتمام بالجانب التطبيقي.
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## CHAPTER ONE

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## CHAPTER TWO

**LITERATURE REVIEW**

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Definitions of Terms

CAI: Computer Assisted Instruction.
CBI: Computer Based Instruction.
CAL: Computer Assisted Learning.
CALL: Computer Assisted Language Learning.
ESL: English second language.
ICT: Information Communication Technology.
EFL: English foreign Language.
TICCIT: Time-shared, Interactive, Computer Controlled Information Television.
CCLS: Computer - collaborative learning system.
PLATO: Programmed Logic for Automatic Teaching Operation.
CHAPTER ONE
INTRODUCTION

1.1 Background

English language is commonly regarded as a global lingua franca, used by people throughout the world as a first, second or foreign language. English is increasingly taught as an international language. Computer Assisted Language Teaching (CALT) rises out of the field of Computer Assisted Instruction (CAI) and draws on other related fields such as Hubbard et al, (2006) Educational Psychology, Artificial Intelligence (AI), computational linguistics, instructional design, Levy (1997) Human Computer Interaction (HCI) and SLA (Second Language Acquisition). More recently, it has been impacted by developments in the field of WBI (Web Based Instruction). Indeed, there is a lot of crossover between CALT programs and WELL (Web Enhanced Language Learning) programs. It also describes some of the more common CALT related acronyms. It presents the interdisciplinary nature of CALT and outlines the difference between CALT tutors and tools.

The term CALI (computer-assisted language instruction) was in use before CALL, reflecting its origins as a subset of the general term CAI (computer-assisted instruction). CALI fell out of favour among language teachers, however, as it appeared to imply a teacher-centred approach (instructional), whereas language teachers are more inclined to prefer a student-centred approach, focusing on learning rather than instruction. Davies and Higgins (1982) CALT began to replace CALI in the early 1980s and it is now incorporated into the names of the growing number of professional associations worldwide. This distinction is sometimes reflected in an unfortunate division in CALL between those who see the computer primarily
as a machine for delivering interactive language learning and practice material--the computer as tutor--and those who see it mainly as a means for learners to experience the authentic language and communication opportunities and enhancements afforded by computers as a tool.

1.2 Statement of the Problem

Language learning and teaching is a two-way communication process. The old method of teaching and learning concentrated on using old teaching materials as amounts of papers and chalks which hinder learning successful, so the requirement of a new method is needed. CALT includes highly interactive and communicative support for language skills, including extensive use of multimedia CD-ROMs and the internet to facilitate teaching and learning process and to create learning environment more enjoyable.

1.3 Objectives of the Study

The study aims to:

1. ensure that English language is introduced properly through CALT.

2. ascertain the effect of using CALT on students levels in English language.

3. prove that CALT saves time and efforts in learning.

4. highlight some absence use of CALT techniques that teachers need to develop.

5. use CALT in classrooms diminish teachers centred role.

1.4 Questions of the Study

1. What is the importance of knowing how to use CALT techniques in a learning process?
2. How can CALT prepare students academically for learning situations?

3. To what extent does CALT improve students’ performance in English language?

4. What are the advantages of using CALT method on teaching for teachers?

5. How does CALT motivate students’ learning process?

1.5 Hypotheses of the Study

1. Knowing how to use CALT techniques in learning process is very important.

2. CALT prepares students' academicals learning situations.

3. CALT system helps students improve their performance in English language skills, especially speaking and writing skills through some selected activities.


5. CALT techniques motivate students’ learning process.

1.6 Significance of the Study

This research may enlighten the conception of CALT in teaching and learning specially in using modern teaching techniques. Moreover, the research may benefit syllabus designers as well as teachers by providing lights and hints in the scope of using computer technology in teaching.

1.7 Methodology of the Study

The study adopts a descriptive analytic method. The Data obtained will be analysed by using SPSS [Social Package for Statistical Sciences].
1. A questionnaire is used to collect data from students. The research project involves approximately 100 students.

2. An observation check list is used to collect data from classrooms.

3. An interview is used to collect data from teachers. The research project involves approximately 20 teachers who use CALT techniques.

1.8 Limitation of the study

The study is limited to the Academic of Electronic Studies and Aviation Science and City and Guilds English language and Computer Institute, Greater Wad Medani Locality, Gezira State, Sudan during academic 2015-2016.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter introduces the literature review of the study.

2.2 Historical Background of CALT

CALT began in the 1960s with mainframe-based drill and practice materials, especially those based on the University of Illinois' PLATO system. It remained an insignificant alternative for language learning outside of a few universities until the spread of the microcomputer into educational settings in the early 1980s. Early programs were written by teacher-developers on Apple II, IBM PC, and BBC computers, and were often distributed for free. Commercial programs, when available, were usually quite expensive but were generally more stable and technically sophisticated (though not as innovative). There was some work done with interactive laser disks during this time which provided the foundations for multimedia. The traditional language labs began to be replaced with dedicated computer labs for language learning, a trend that continues today.

In the late 1980s and early 90s Stockwell (2006) the Apple Macintosh replaced the Apple II in many educational settings in the US and became an immediate favourite among teacher-developers because of the support of HyperCard, a powerful but easy-to-use authoring program. The Mac had built-in sound, making it easier to work with than PCs, which had incompatible proprietary boards competing with one another. Early Macs (and HyperCard) did not support colour, however, so commercial programs continued to appear for PCs. The PC market was also dominant in most countries outside the US because the machines could be obtained much more cheaply than Macs.
Reasonably-priced authoring programs became available for PCs, and with the
development of the Windows operating system for PCs and standardization of
sound formats, the distinction between PC and Mac became less critical.
During this period, the use of the computer as a tool increased, especially as
teachers developed innovative techniques for using email and word processors
became integrated into writing classes. Some teachers helped students develop
their own (Hyper Card) projects or ones in similar applications developed for
the PC, such as Tool Book. It was observed that building collaborative
projects around the computer and using computer mediated communication
(CMC) activities had a strong effect on some students' motivations and
seemed to make it easier for shy students to become involved. Some teachers
built assignments around student interactions in multi-user domains MUD and
types of enriched chat environments.

2.3 Definitions of CALT

Computer-assisted language Teaching (CALT) is an approach to teaching
and learning in which the computer Davies (2007) and computer-based
resources such as the Internet are used to present, reinforce and assess
material to be learned. It usually includes a substantial interactive element. It
also includes the search for and the investigation of applications in language
teaching and learning. Except for self-study software, CALT is meant to
supplement face-to-face language instruction. Levy (1997: 1) states that CALL
is the search for and study of applications of the computer in language teaching and
learning.

CALT has also been known by several other terms such as technology-
enhanced language learning, computer-assisted language instruction and
computer-aided language learning but the field is the same. Computer
Assisted Language Teaching (CALT) Levy (1997) is an approach to language
teaching and learning in which computer technology is used as an aid to the
presentation, reinforcement and assessment of material to be learned, usually including a substantial interactive element. Computer Assisted Language Teaching (CALT) studies the role and the use of Information and Communication Technologies (ICT) in second/foreign language learning and teaching. It includes a wide range of activities spanning materials and courseware development, pedagogical practice and research. Typical CALT programs present a stimulus to which the learner must respond. The stimulus may be presented in any combination of text, still images, sound, and motion video. The learner responds by typing at the keyboard, pointing and clicking with the mouse, or speaking into a microphone. The computers offers feedback, indicating whether the learner’s response is right or wrong, and in the more sophisticated CALT programs, attempting to analyse the learner’s response and to pinpoint errors. Branching to help and remedial activities is a common feature of CALT programs.

Mandell and Mandell (1991:46) state that

*CALL is a type of instruction in which the student directly interacts with instructional materials, such as drills and tutorials, presented on the computer. The student responds to these materials. The computer evaluates the responses and directs the student to further study materials.*

CALT is sometimes called computer-aided instruction (CAI) or computer-based instruction (CBI). Computer-assisted language Teaching (CALT).

Bax (2003:17) states that

*The use of tutorials to present concepts, describe examples, measure performance, and present feedback to the learner, and simulations that require the learner to apply constructs to a language learning process in order to solve problems and make decisions.*
2.4 CALT Related Acronyms

This field has gone by a number of different names as groups of practitioners Levy (1997) have attempted to promote their own views and philosophies, in some cases in an attempt to distance the field from tutorial CALL, which is sometimes regarded as incompatible with integrationist and social constructivist approaches to language teaching. The list below is representative but not exhaustive:

**CALL** - Computer-assisted language learning sometimes expanded as computer-aided language learning.

**CELL** - Computer-enhanced language learning: suggests the computer's role is to make learning better.

**TELL** - Technology-enhanced language learning: this accommodates more than just computers, often bringing in video and seeing the computer as just one part of a larger system. It is increasingly popular as a generic term: for instance, while TESOL has a CALL Interest Section, California TESOL has a TELL Interest Group.

**TALL** - Technology-assisted language learning: variant of CALL and TELL.

**CALI** - Computer-assisted language instruction: with "instruction" in it, it's more teaching oriented.

**CBLT** - Computer-based language training: views elements of language learning as "training" and tends to use an approach with definable, measurable objectives.

**IT and ICT** - Information Technology/Information and Communication Technologies are common acronyms outside of language teaching, particularly in Europe; sometimes this is presented as IT or ICT for LT (Language Teaching).
NBLT - Network-Based Language Teaching: focuses on computers linked in networks, both locally and through the Internet, especially for computer-mediated communication.


MALL - Mobile Assisted Language Learning: learning with mobile devices like mobile phones, tablets, and mp3 players (sometimes also used for Multimedia Assisted language Learning).

CALT Computer Assisted Language Testing.

2.5 The Chronological Development of CALT in Education

During the 1960s and 1970s, the use of computer-assisted instruction expanded in public schools with the introduction of the next generation of computers and microchips which were cheaper Bullough and Beatty (1991). In 1971, another important project, TICCIT (Time-shared, Interactive, Computer Controlled Information Television) was initiated at Brigham Young University Levy (1977). The system combined television technology with the computer to deliver instruction to the learners. During the 1980s, microcomputers started to be adopted by the schools and new developments such as CD-ROM, speech-based software, and interactive videos appeared. Also experiments were done in the integration of the computers into the curriculum. The 1990s and 2000s, with the introduction of fast, affordable processors, new software, wide-scale and fast access to the Internet made computers available in almost all public and private schools as well as homes for personal and educational use.

Table 1 lists the chronological development of CALL in education based on Bullough and Beatty (1991: 8).
<table>
<thead>
<tr>
<th>Year</th>
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<tr>
<td>1946</td>
<td>First generation computers were introduced</td>
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<tr>
<td>1959</td>
<td>Second generational- transistorized computer introduced by IBM</td>
</tr>
<tr>
<td>1960</td>
<td>The PLATO project begins at Illinois</td>
</tr>
<tr>
<td>1963</td>
<td>The Stanford Project begins</td>
</tr>
<tr>
<td>1964</td>
<td>Third generation computers, based on integrated circuits, appear; BASIC developed at Dartmouth</td>
</tr>
<tr>
<td>1965</td>
<td>Digital Equipment Corporation markets the inexpensive PDP-8 minicomputer; teaching of classes at the University of Illinois using PLATO</td>
</tr>
<tr>
<td>1967</td>
<td>The New York plan: expanded use of computer-assisted instruction in the public schools</td>
</tr>
<tr>
<td>1968</td>
<td>Logo introduced</td>
</tr>
<tr>
<td>1969</td>
<td>The first microprocessor chip developed by Intel</td>
</tr>
<tr>
<td>1972</td>
<td>Fourth generation begins with the introduction of expanded microchip by Intel</td>
</tr>
<tr>
<td>1975</td>
<td>First wide scale marketing of a microcomputer (Altair 8800)</td>
</tr>
<tr>
<td>1977</td>
<td>Commodore Pet, Apple I I and TRS 80 microcomputers introduced</td>
</tr>
<tr>
<td>Early 1980s</td>
<td>Wide-scale adoption of microcomputers by the schools; computer literacy movement; advances in technology such as CD-ROM, speech-based software, interactive video discs</td>
</tr>
<tr>
<td>Late 1980s</td>
<td>Experiments in the integration of computers into the established curriculum; research in intelligent computer-assisted instruction (ICAI)</td>
</tr>
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To this table, the following developments can be added:
1990s, the introduction of the Internet, fast and affordable processors
2000s. Wide use of fast Internet, satellite system, developments of DVDs
(very high capacity), video conferencing, new applications for language
teachers, and learners; computers available in almost all public and private
schools, Universities, at homes for personal and educational use.

2.6 CALT in the Past

“Behaviouristic CALT” was implemented in the 1960s and ’70s and
was based on the behaviourist theories tests Ahmad et al, (1985) of
learning, which included drill and practice. At this juncture, the use of
computers and software in language teaching was described Taylor (1980)
the “computer as a tutor.” One of the best known systems of its type was
the PLATO system that included central computers and terminals and
performed tasks such as vocabulary drills, grammar explanations and
drills, and translation.

“Communicative CALT,” was introduced in the 1970s and ’80s was
the result of a communicative approach, Brieley and Kemble (1991) which
was one of the mainstream methods in second/foreign language teaching
at that time. Since this approach emphasized the process of
communication and highlighted the use of the target language in real
settings, the programs that appeared in this period featured practice in a
non-drill format. Software that had not been specifically designed for
CALT was also employed for writing practice. This type of application in
CALT is the so-called “computer as a tool”.

2.7 CALT at Present

Currently, the “integrative CALT” which is a result of the expansion of
technological advancements such as multimedia technology and the
Internet. These two innovations Brieley and Kemble (ibid) allow the learners to access a more authentic learning environment. As known, multimedia enables one to integrate four skills, and the Internet provides opportunities to interact in an English language environment 24 hours a day. Although the scope of CALT has widened in the last 40 years, it is not yet a perfect solution for teaching/learning all aspects of a language. The quality of programs has not yet reached the level of assessing the users’ natural spoken language or the appropriateness of use in the context of the situation.

2.8 CALT in the Future

Technology improves day by day and each development broadens the view of what computers will be doing in education. Text-to-speech technology and distant learning projects together with video-conferencing are of the current Ehsani and Knodt (1998) developments that researchers find promising. ‘Text to Speech’ (Speech Synthesis) technology is the ability of a computer to produce ‘spoken words. Computer speech can be produced either by “splicing” pre-recorded words together or, with much more difficulty, by having the computer produce the sounds that make up spoken words (Microsoft Encarta Encyclopaedia Deluxe (2004). This technology was first introduced as Texas Instruments Speak and Spell handheld electronic learning aid in 1978.1960Introduction of computers in state institutions and private sectors1960s and 1970s Wide-scale adoption of computers in state institutions and private sectors1984 Preliminary studies regarding the use of computers in education by Ministry of Education1985 Introduction of computers to secondary schools and establishment of computer laboratories1985-1990s Wide-scale adoption of computers in schools1998 departments of computer education and instructional technology1990s and 2000s Experiments in the integration of
computers into education Research in computer-assisted instruction. Text-to-speech technology Sobkowiak (2003) (natural speech input capacity) will be a common feature of any CALL application and human language technologies will improve the current software of foreign language teaching. Davies, (2003) stressed the importance of distance-learning CALT, a face-to-face communication which is enabled through synchronous and asynchronous oral communication. With the video-conferencing feature and the developments in web design and the applications in the hypertext system, learners are provided with the curriculum or the real class in their houses, or dormitories. In other words, teaching and learning will be without time barriers and as many distance learning projects are named, ‘any time and anywhere’ education will be put into effect.

2.9 The Use of CALT in EFL Classrooms

The role and importance of the use of computer technology in EFL classrooms for teaching, learning, practicing and testing purposes has always been widely contemplated subject among the ELT researchers and pedagogues. Alsied and Pathan (2013) though this use of computer technology into foreign language teaching, learning and assessment started during 1950s, it was not so widespread practice then. It did not form very important place in teaching and learning process of EFL due to the technology and infrastructure related issues. However, with the emergence of first generation of personal computers in the 1980s, the use of computer technology in education, in general, and in EFL classrooms in particular, was accelerated. As this use proved fruitful, producing positive results in teaching, learning and testing processes, it paved way to further research on possible exploitation of this technology for achieving maximum results.
This resulted in people from varied fields like, computer engineers and software designers, applied linguists, academicians, language.

Alsied and Pathan (2013:61) Issue

*The Use of Computer Technology in EFL Classroom teachers and assessment specialists to join the hands to use this technology for making teaching and learning of foreign language like English more innovative, dynamic, interactive, interesting, easy and learner-centered.*

Today, computer technology enjoys a noticeable presence in second and foreign language teaching and learning processes. This is because of infinite benefits this use has for teaching, learning and assessing second and foreign language like English. The use of computer, in EFL classroom, can offer the delivery of a wide variety of multimedia content, with pedantic and authentic language models, accessed with individual control. It also presents another source of target language knowledge and examples and relieves the EFL teacher as the sole font of target language knowledge in the classroom as summarized by Szendeffy (2008:4)

*The use of computer also offers other channels of communication between class members and distant learners as well as supplemental practice exercises and tutorial feedback.*

The use also shifts the learning environment from the traditional ‘teacher-centred’ towards the ‘learner-centred’ approach moving EFL learner as passive entity to a student who is active in the search for the fulfilment of his or her own learning needs and to use the language in an authentic situation Adams and Burns (1999). Benefits like these provide opportunities for a creative and dynamic EFL teacher to tap into these positive aspects to orchestrate challenging activities in the classroom that involve and empower students, stimulate thought and production, and create more instances of authentic interaction between learners using the target language.
2.9.1 The Use of CALT for Teaching and Learning English Language Skills

The use of computer technology in EFL classrooms has many advantages for developing the EFL learners’ language skills. It presents the EFL learners with entrance to various activities for developing their language skills.

2.9.1.1 CALT and Listening Skills

Listening comprehension in much the same way as it is possible to assess reading comprehension, e.g. with multiple-choice, drag-and-drop and fill-in-the-blank tests. If well designed, Krashen (1985) this form of assessment works effectively and instant feedback can be offered to the student, which has a beneficial effect on learning. The main ways of assessing listening skills can be summarised as follows:

i. Multiple-choice, drag-and-drop, and fill-in-the-blank tests with single-words or very short sentences, but these types of tests cannot easily assess more open-ended aspects such as the ability to infer; and in multiple-choices tests students can get the answers right by guesswork.

ii. Completely open-ended answers cannot be assessed. Single-word answers or answers consisting of very short sentences can be assessed to a limited extent.

Despite these limitations, assessment of listening comprehension by computer can be of great value to students, offering a form of comprehensible input. Moreover, computer-based listening comprehension can combine sound with text, still images, video, animation and on-screen interactivity which creates thereby a much richer
environment than is otherwise possible. A measure of student control to allow ease of navigation, options to retry or move to a different section, to attempt different tasks or roles which are vital to ensure active participation. Good equipment is also vital: headphones, fast network/Internet access and/or networked CD-ROMs. The use of computer as a listening tool is claimed to be one of the more important learning tools for enhancing EFL students’ listening skill. It allows students to learn independently and to receive immediate feedback upon the completion of tasks Hoven (1999). Teaching and learning of listening using various media embedded in computer can enrich the skill and help in producing better results. The use of computer also gives students the opportunity to enhance language learning by bringing in the real world.

The Use of Computer Technology in EFL Classroom and video, offered by the use of computer, can also be highly effective for developing this important language skill. Using computer, with internet, also has plenty of benefits for developing listening. Such use can provide so many authentic audio and video resources to listen and to develop the associated language skills. There are so many useful websites like: www.mylanguagelab.com, www.longmanenglishinteractive.com, which offers innumerable listening, exercises, for learning and testing listening skill for free.

Jones (2005) this kind of multimedia-based model of EFL instruction in listening comprehension skill has been advocated by many researchers. In addition to the widest variety and greatest quantity of content ever available for EFL learners, the use of computer along with internet, also provides an abundant variety of language–through context–learning opportunities and interactive activities, most in authentic on text.
2.9.1.2 CALT and Speaking Skills

The use of computer technology, with internet, can also be helpful for learning, improving, practicing and assessing speaking skill. EFL learners can use computer, tablets and smart phone, connecting with internet, to chat and talk with native speakers and practice and improve their language, in friendlier foreign language learning environment. Today many social networking sites like Skype, Nimbuzz, Yahoo and Face book allow this kind of audio as well video talk, in addition to IM (instant messaging) service. This kind of online talk, with native speakers of English, has been advocated, as very useful tool for improving speaking proficiency as well as pronunciation by the scholars Payne and Whitney (2002). Such use of computer technology also gets even the reluctant EFL learners to speak. Thus, the use of computer technology for developing speaking provides learning opportunities where there is less teacher fronting and are authentic and challenging situations for improving this important skill.

Limited assessment of speaking skills Krashen (1985) is possible. Self-assessment and peer assessment can be managed if facilities are available (microphone and headphones) to allow students to record themselves and listen to the playback. A number of multimedia CD-ROMs have this feature. The Encounters series of CD-ROMs, for example, allows students to take part in a role-play by recording their own voices - and re-recording them until they are satisfied with the results - and then saving the whole role-play on disc, with their own voices slotted into the appropriate positions in the role-play, for assessment by a teacher. To assess speaking skills solely by a computer, using Automatic Speech Recognition (ASR), is a very complex task and research in this area is developing rapidly. ASR
can be motivating for students working independently, but computers are still not completely reliable as assessors.

2.9.1.3 CALT and Reading Skills

The use of computer technology can contribute a lot in developing EFL learners’ reading comprehension skill Kasper (2000) and other sub-skills related to it as well. Using computers, with the use of internet provides a variety of current and authentic reading materials compared to potentially dated reading material sourced from textbooks. The verbal and visual systems in computer programs help students to better understand the text. Most of the CALL programs are filled with graphics and voices and when EFL learners visualize the situation, they can remember the subject better in the long term. Many studies have also reported that CALT programs for vocabulary development have positive results. Learning vocabulary, using computers, helps learners to learn vocabulary significantly faster than the traditional way of teaching vocabulary. The varieties of reading materials, available with the use of computer technology and internet can encourage EFL learners and open opportunities to read widely in foreign language like English. This can be highly effective for developing vocabulary through wide reading and in mastering important structures in the target language. That is why it is argued that computers can promote extensive reading; build reading fluency and rate; develop intrinsic motivation for reading; and contribute to a coherent curriculum for student learning.

Reading comprehension in much the same way as it is possible to assess listening comprehension, e.g. with multiple-choice, drag-and-drop and fill-in-the-blank tests. If well designed, this form Nielsen (1995) of assessment works effectively and instant feedback can be offered to the student, which has a beneficial effect on learning. The main ways of assessing reading skills can be summarised as follows:
i. Multiple-choice, drag-and-drop, and fill-in-the-blank tests with single-words or very short sentences, but these types of tests cannot easily assess more open-ended aspects such as the ability to infer; and in multiple-choices tests students can get the answers right by guesswork.

ii. Completely open-ended answers cannot be assessed. Single-word answers or answers consisting of very short sentences can be assessed to a limited extent.

More extended reading tasks are harder to set on computer. On-screen reading of longer texts is in any case inadvisable.

2.9.1.4 CALT and Writing Skills

Another pedagogical benefit of the use of computer technology is the argument that such use is one of the most effective tools to teach writing. The study by Cunningham (2000) concluded that students found that writing class was more productive than using word processing software with students. The survey took 37 EFL students in writing class to study the students’ attitudes towards using computers in their writing. 88% of students indicated that they had improved their writing skills whilst using word processing. These students indicated that using a word processor during the writing process helped them to concentrate on certain aspects of their writing, for example: grammar, vocabulary and the organization or structure of their text. Similar results were also reported by Kasper (ibid) which highlight the useful role of the use of computer technology in developing writing skill of EFL learners.

Limited assessment of writing skills is possible. It is fairly straightforward to program computers to assess the accuracy of single words and short sentences typed at the keyboard, and work on parsing
students' typed responses, diagnosing errors and providing appropriate feedback is in progress Heiftand Schulze (2003). There are also features in modern computer software that can be used within the assessment process, such as spellcheckers to enable self-assessment of spelling, and also grammar and style checkers, which - although still imperfect - do pick up many errors that students can use to self-correct, such as errors of gender or number.

2.9.1.5 CALT and EFL Assessment and Testing

The use of computer, with internet, is effective not only for teaching and learning foreign language like English but also for testing and assessment purpose. The use of computer, to assess and test EFL learners, ensures correct assessment of their language ability. This use supporter's computer Chapelle (2001) technology in the field of foreign language assessment and testing. There are many useful websites which provide language learners with many online tests. English as foreign language learners can visit them and assess (International Refereed and Indexed Journal of English Language and Translation Studies). Some of these websites include- www.dialang.org, www.market-leader.net, www.ecollege.com, www.myenglishlab.com. In addition, EFL teachers can prepare their own online tests, for their students, for the courses being taught by them by using authoring programs.

2.9.1.6 CALT and Learner Autonomy

The importance of learners deciding their own learning objectives, choosing ways of achieving the learning objectives and evaluating their own progress has long been acknowledged by language learning pedagogy. From a language learning perspective, computers are recognized as attractive learning tools that provide students with opportunities to become autonomous learners Hoven (ibid). If used
creatively and wisely with suitable activities, the use computer technology can help EFL learners in many ways and can be an effective tool to motivate EFL learners to seek and to fulfil their own learning needs by themselves.

2.9.1.7 CALT and Learner Motivation

Motivation is one of the key factors that influences the rate and success of foreign language learning. Motivation provides the primary impetus to initiate EFL learning and later remains the driving force that sustains this long and often tedious learning process Blake and Robert (2008). Many EFL luminaries and pedagogues agree that the use of computer technology in EFL instruction provides situations that motivate learners to learn. The use of computer technology, along with internet, helps in motivating EFL learners to learn through authentic, challenging tasks that are interdisciplinary in nature. Such use also encourages EFL learners’ active involvement with the target language and content in areal, authentic situation.

2.10 CALT Technology in Language Instruction

Improvement in computer technology has enabled teachers to have access to educational and instructional technology resources available through advances in computer assisted instruction (CAI) and computer assisted language Teaching (CALT). The history of CAI and CALL dates back to early 1960s. But the major breakthrough in CALT occurred after the 1990s with the evolution and fast development of the World Wide Web (WWW), which allowed access to the huge Internet resources to handle more text, audio and video material Boswood (1997) and Levy (1997).
Although technical advances continue to emerge with computer technology and resources, with CALL the focus is more on pedagogy, rather than technology Boswood (1997). The emphasis is on ways of exploiting resources rather than keeping up with and investing in the latest technology resources. CALL promotes a better and more varied learning and teaching process. Computer assisted or mediated teaching and learning, according to Pennington (1996) can increase the variety and diversity of learning opportunities. The amount and variety of types of language input accessible via the computer encourage learners to experiment more with language, take risks and explore language and learning. Different computer technology applications require different roles and skills both for teachers and learners. Similarly, computer tools and resources can be used in many different ways to support teaching and learning, such as using the features of word-processing programs to help students develop their skills in drafting and editing written work; using e-mail to engage students in collaborative learning activities with their friends and teachers within and outside their institutions; working with the Internet in searching, gathering and organizing information; language practice (e.g. grammar and vocabulary practice exercises, pronunciation work, games) with multimedia CDROMs; and using concordance programs to analyse authentic texts to discover and practice rules and patterns of language.

Computer technology resources and the computer knowledge teachers are required to apply in using them vary, but even with simple tools and limited knowledge computers can still be integrated into language classrooms. One example is the use of word-processing programs. Teachers can use such programs for different activities, such as using the ‘thesaurus’ tool of the program for vocabulary build-up activities Gardner (1997) and Huntley (1997) or having pairs of students revise and edit
each others’ written work on computers in the lab Flowerdew and Lam (1997). Using e-mail for language practice purposes is another possibility. For example, either adapting a traditional information-gap activity for e-mail, in which students exchange information via e-mail Thornton (1997) or assigning partner classes or key pals with overseas schools in which students learn to write for communicative purposes Wong (1997). Use of the Internet has become popular in recent years as the World Wide Web brings many useful resources and tools such as audio, video, text, and images that can be used for language teaching and learning purposes in many ways. Some examples are using online newspapers and magazines to enhance reading skills Schcolnik and Heymans (1997) and assigning students Internet search projects in which they collect, synthesize and present information Opp-Beckman (1997).

Another commonly used resource is the CDROM. These are software packages either specifically designed or programmed for language teachers and learners, or which are developed for educational and entertainment purposes for native speakers of English. CDROM based encyclopaedias are one example Chen (1997) in which learners are assigned a research task to complete using the CDROM. Depending on the computer tools and resources used to support teaching and learning, the teacher role varies from minimal, if the CALL materials are in the form of a tutorial-package in which the software acts as the language teaching source and controls instruction (e.g. some CDROM tutorial packages) to extensive in terms of using the computer as a tool Levy (1997).

A good example is the use of concordance software and techniques in language instruction and learning, in which tasks and supporting concordance output need to be carefully structured by the teacher Tribble and Jones (1990); Johns (1994). The computer software is used as a tool
to process language data, and the content giving data is the database of texts.

2.11 The Basis for Instructional Technology: Behaviourism

Instructional technology has had a long partnership with Behaviourism, which stressed that the only possible way to learn is by repetition and habit formation. Although technology Skinner (1954) has allowed for a more sophisticated presentation, the basis of the instruction is primarily behaviourist in nature and based on Skinner’s programmed instruction, which became popular in the 1960s. Programmed instruction was based on behaviourist theories of learning which aimed to shape behaviour by stimulus-response bonds. Skinner developed his machines primarily to test and develop his conditioning principles. However, he was also one of the first to apply his theories of behaviourism to instruction with the teaching machine and created programmed instruction, which is still a part of many of today’s computer assisted learning, particularly in the field of language learning. The main characteristics of the programmed instruction were logical presentation of content, requirement of obvious responses, and presentation of immediate knowledge of correctness. Program instruction is believed to improve classroom learning; present difficult subjects in gradual and small steps for students to succeed at their own pace Atkinson and Wilson (1969). There are two types of programmed instruction: linear and branching programmed instruction.

2.11.1 Linear Programmed Instruction

Linear programmed instruction reinforces learner responses that are correct. All learners work through the same sequence and repetition is important.
Figure 1 shows the basic characteristics of linear programmed instruction Alessi and Trollip (1985:120)

2.11.2 Branching Programmed Instruction

Branching programmed instruction was developed to overcome the monotony and repetition of the linear programmed instruction. In branching programmed instruction, learner responses determine the route followed. The learner who responds incorrectly is either returned to the original frame, or routed to remedy the deficiency. This process is repeated at each step, thereby exposing the learner to different amounts of material depending on the errors made.

Figure 2 shows the basic characteristics of branching programmed instruction Alessi and Trollip,(ibid)
2.12 The Roles of Computers in Education

Computers are widely used in industry, military missions and in education and have different roles in different areas. In education, three roles have been attributed to computers: computer as learner (tutee), computer as tool, and computer as tutor.

2.12.1 Computer as Learner (tutee)
In this role, computers are Lockard and Abrams (1994) learners themselves. Computers are taught to perform their tasks that the user wants. Computers understand special languages which are called machine language such as (Pascal, C and Delphi) and programmers write special codes for the computers to understand. These codes are turned into programs which we use today (such as Microsoft Word and PowerPoint). With these codes, computers can understand when, what and how to do the thing instructed.

2.12.2 Computer as Tool

As the title indicates, computers have Bullough and Beatty (1991) another role as tool in education. The main use of computers in education as tool is the word-processing and desktop publishing. Writing a term paper or a thesis requires a word-processing program and a computer and worrying about the typing mistakes is a history now. Many language teachers and students make use of computers as tool while writing their papers or worksheet for their classes.

The meaning of the function of computers as tools given Means (1994) is the generalises of computer to accomplish task such as computers for the purpose of writing, data storage and data analysis. During the observations, we noted that computers were mostly used as tools to accomplish the writing activities, such as using word processing and PowerPoint presentation. Most of the writing activities were done as group work in class. Since computers in the classroom were very limited students had to share using the computers when doing computer-based activities. We found that students did not use the computer for the purpose of data storage and data analysis. Most of the time, students used computers for typing the end product of the tasks and PowerPoint to present the result of their group discussion.
2.12.3 CALT as Investigative Device

Means (1994) classified the use of computers in the following category as to encourage active students to explore and discover their learning. When looking at this category, we found there were not many computer-based activities done to explore the Internet, except for searching information for the purpose of collecting new information to complete tasks. The exploration of information on the Internet was done during group work. Students searched reading materials from the Internet for the purpose of discovering new information or knowledge related to their learning purposes. Information gathered from the Internet was used to prepare them for their group work presentation, such as using the information for guideline of their project work.

Figure 3:
Shows a framework for investigating computers in language teaching and learning.

Boyatzis (1998:5) stated that
Thematic analysis enables scholars, observers, or practitioner to use a wide variety of types of information in a systematic manner that increases their accuracy or sensitivity in understanding and interpreting observations about people, events, situations, and organizations.

2.12.4 CALT as Means of Communication

The function of computers as means of communication Means (1994) includes e-mail, computer conferences, (computer-collaborative learning system) CCLS system, and the Internet. In the observations done, computers were not used as means of communication. We have the opinion that the lack use of computers in doing such activities was not because of insufficient facilities, but because of factors that were related to time. One of the factors is the syllabus. Teachers are to follow the syllabus closely, which they needed to complete within a certain period of time. The teachers indicate several times in the interviews the importance of following the syllabus closely and finishing up the syllabus within a certain period of time. This commitment may hinder them to incorporate extra computer-based activities in the lessons. The importance of examinations was another factor that inhibited them to have extra English language computer-based activities. They followed the syllabus and the learning outcome planned for every week very closely.

2.12.5 Computers as Tutor

Computers may have a similar role Mandell (et al, 1991) as tutor comparing to a teacher has. In this role, computers present lectures, give feedback and remedial explanation to the learners as they go through the programs offered. Computers as tutor provide the learners with different activities which are appropriate to the subject aimed by the learners: drill and practice, tutorials, simulations, and games.
2.12.5.1 Drill and Practice Activities

Drill and practice activities aim to provide the learners with practice and also revision for the items newly learned. In a typical drill and practice activity, the learner is led through a series of practice exercises to teach the learner by repetition and examples. It aims to provide a way to practise a skill that has already been learned.

Figure 4 shows the basic characteristics of a drill and practice activity Mandell and Mandell (1989:47).

![Diagram of Drill and Practice Activity](image)

2.12.5.2 Tutorials

Tutorials are designed to teach Many (et al, 1994) the learners a subject matter and often consist of several screens of textual material followed by exercises and questions. A typical tutorial presents the material (a new concept, task or an idea), tests the understanding of the learner, provide feedback on the responses given by the learner, and finally lead the learner to a different step based on his/her performance.

Figure 5 shows the general structure and flow of a typical tutorial Alessi and Trollip (1985: 66)
2.12.5.3. Simulations

Simulations attempt to simulate a scaled-down version of a real-life life and provide the learners with opportunities to learn specific skills or improve decision-making processes. The computer acts as the controller, schedules the events, and provides the outcomes based on the options or events that the learner chooses. These activities are mostly used in laboratory experiments in physical sciences Alessi (ibid, 1985).

Figure 6: shows the basic characteristics of a simulation.

2.12.5.4 Games

Games which can be integrated in many instructional activities provide an entertaining environment for Many (1994) the learners. It is a highly motivating tool for teenagers and adults as well as the young learners. Many types of interesting games are available on the market.
2.12.5.5 Multimedia

Language teachings have been avid used of technology for a very long time. Gramophone records were among Davies (2011) the first technological aids to be used by language teachers in order to present students with recordings of native speakers’ voices, and broadcasts from foreign radio stations were used to make recordings on reel-to-reel tape recorders. Other examples of technological aids that have been used in the foreign language classroom include slide projectors, film-strip projectors, film projectors, videocassette recorders and DVD players. In the early 1960s, integrated courses (which were often described as multimedia courses) began to appear. During the 1970s and 1980s standard microcomputers were incapable of producing sound and they had poor graphics capability. This represented a step backwards for language teachers, who by this time had become accustomed to using a range of different media in the foreign language classroom. The arrival of the multimedia computer in the early 1990s was therefore a major breakthrough as it enabled text, images, sound and video to be combined in one device and the integration of the four basic skills of listening, speaking, reading and writing. Examples of CALL programs for multimedia computers that were published on CD-ROM and DVD from the mid-1990s. CALL programs are still being published on CD-ROM and DVD, but Web-based multimedia CALL has now virtually supplanted these media.

Managing a multimedia language centre requires not Davies (et al, 2011) only staff who have knowledge of foreign languages and language teaching methodology but also staff with technical know-how and budget management ability, as well as the ability to combine all these into creative ways of taking advantage of what the technology can offer. A
centre manager usually needs assistants for technical support, for managing resources and even the tutoring of students. Multimedia centres lend themselves to self-study and potentially self-directed learning, but this is often misunderstood. The simple existence of a multimedia centre does not automatically lead to students learning independently. Significant investment of time is essential for materials development and creating an atmosphere conducive to self-study. Unfortunately, administrators often have the mistaken belief that buying hardware by itself will meet the needs of the centre, allocating 90% of its budget to hardware and virtually ignoring software and staff training needs. Self or independent learning centres have emerged partially independently and partially in response to these issues. In self-access learning, the focus is on developing learner autonomy through varying degrees of self-directed learning, as opposed to (or as a complement to) classroom learning. In many centres learners access materials and manage their learning independently, but they also have access to staff for help. Many self-access centres are heavy users of technology and an increasing number of them are now offering online self-access learning opportunities. Some centres have developed novel ways of supporting language learning outside the context of the language classroom (also called 'language support') by developing software to monitor students' self-directed learning and by offering online support from teachers. Centre managers and support staff may need to have new roles defined for them to support students’ efforts at self-directed learning. Mozzon-McPherson and Vismans (2001) refer to a new job description namely that of the "language adviser".

2.12.5.6 Internet

The emergence of the World Wide Web now known simply as "the Web" in the early 1990s marked a significant change in the use of
communications technology for all computer users. Email and other forms of electronic communication had been in existence for many years, but the launch of Mosaic, Leloup and Ponterio (2003) the first graphical Web browser, in 1993 brought about a radical change in the ways in which we communicate electronically. The launch of the Web in the public arena immediately began to attract the attention of language teachers. Many language teachers were already familiar with the concept of hypertext on stand-alone computers, which made it possible to set up non-sequential structured reading activities for language learners in which they could point to items of text or images on a page displayed on the computer screen and branch to any other pages, e.g. in a so-called "stack" as implemented in the HyperCard program on Apple Mac computers. The Web took this one stage further by creating a world-wide hypertext system that enabled the user to branch to different pages on computers anywhere in the world simply by pointing and clicking at a piece of text or an image. This opened up access to thousands of authentic foreign-language websites to teachers and students that could be used in a variety of ways. A problem that arose, however, was that this could lead to a good deal of time-wasting if Web browsing was used in an unstructured way and language teachers responded by developing more structured activities and online exercises.

Davies (2010) lists over 500 websites, where links to online exercises can be found, along with links to online dictionaries and encyclopaedias, concordances, translation aids and other miscellaneous resources of interest to the language teacher and learner. The launch of the free (Hot Potatoes) which enables the speedy creation of Web-based exercises for language learners, including multiple choice, gap-filling, matching, jumbled sentences, crosswords and short text entry. This authoring tool has proved extremely popular with language teachers and it continues to
be used extensively for the creation of interactive exercises and tests on the Web Holmes and Arneil (1998) authoring tool, which was first demonstrated publicly at the EUROCALL conference, made it possible for language teachers to create their own online interactive exercises. Other useful tools are produced by the same authors. In its early days the Web could not compete seriously with multimedia CALL on CD-ROM and DVD. Sound and video quality was often poor, and interaction was slow. But now the Web has caught up. Sound and video are of high quality and interaction has improved tremendously, although this does depend on sufficient bandwidth being available, which is not always the case, especially in remote rural areas and developing countries. One area in which CD-ROMs and DVDs are still superior is in the presentation of listen/respond/playback activities, although such activities on the Web are continually improving.

2.12.5.7 CALT: Computer Assisted Language Testing

Computer-assisted language testing (CALT) is generally defined as Noijons (1994:38) “An integrated procedure in which language performance is elicited and assessed”.

Computer assisted language testing (CALT) is also referred to as computer based testing (CBT). The abbreviation (CALT) in the literature indicates computerized adaptive Dunkel (1991) language testing in some cases and computer-assisted language testing in other cases. The general benefits and drawbacks of transferring a test from the traditional paper and pencil environment to that of a computer based one.

Major benefits of using computer testing cited in the literature included the possibility of immediate feedback, individualized testing, and
randomization via test banks to increase testing security Alderson (2000); Brown (1997); Dunkel (1999). The main criticisms were:

(1) Productive language abilities (i.e. speaking and writing) could not be assessed by current software with an acceptable level of accuracy.
(2) Lack of computer literacy may disadvantage novice computer users.
(3) Limitation in testing formats could lead to decontextualized forms of assessment. Alderson (et al, ibid).

CALL literature had largely ignored Noijons (ibid) computer assisted language testing.
Dunkel (ibid: 78) asserted

Today, the question no longer seems to be, 'Should we use or create a CBT [computer based testing] or a [computer adaptive test]?' but rather, 'What do we need to know about computer-based or computer-adaptive testing to design or use such tests.

Alderson (ibid: 593) supported this assertion by adding that “The long-prophesied use of IT for language testing is finally coming about.”

Citing such as examples as the Educational Testing Services’ computer based TOEFL.
Dunkel (ibid) discussed at length issues surrounding the development of computer adaptive language tests, which can be generalized to all computerized tests. Questions such as, "Is CALT appropriate, valid, and reliable?", "Is the equipment needed for the CALT adequate?", and "Is the integrity of scores secure?" were important considerations. The literature indicates that future CALT research will continue to explore the possibilities of computerized adaptive testing Brown (1997); Dunkel (1999); Meunier (1994); Noijons (1994) focusing on the following:
1. Innovations provided by Internet based tests.
2. The assessment of productive skills—writing and speaking, further information on the development of oral testing software.
3. The employment of self-assessment items on low stakes diagnostic tests.
4. The use of live action simulations.

2.13 Language Learning and CALT

Every type of language teaching uses its own techniques to help learners. Warschauer and Meskill (2000) with the introduction of Grammar-translation method; the blackboard came into use in language classrooms. Later, it was replaced by overhead projector. Following them, computer software was used to provide learners with drill-and-practice exercises. In 1970s and 80s, university language classes used the audio-lingual method with audio cassettes that would make learners perform the repetitious drills Bax (2003). Throughout the 1970s and much of the 1980s, the most prominent form of CALL was drill-and-practice programs. Jonassen (1996).

In 1980s and 1990s, a new type of language teaching method emphasizing communicative Warschauer (ibid, 2000) language teaching came into use. In this method, interaction and meaningful activities were the key aims for learners to gain and to provide learners with meaningful communication activities with might be used outside the classroom. Later, how technology should be integrated into curriculum became the concern for the researchers paying attention to advantages and disadvantages of this new system.

In the 2000s computer software, the Internet and multimedia applications appropriate to a language lesson were integrated, thereby
exposing the students to “a common lab experience”. Stroud (1998) The development of computer assisted language learning into three distinct phases as Behaviouristic CALL, Communicative CALL and Integrative CALL. In Behaviouristic CALL, learners are exposed to the same material and computers were found to be ideal for performing repeated drills, which allows students to study at their own page. Communicative CALL focuses more on using forms and teaching grammar implicitly, thereby allowing students to generate original utterances. In Integrative CALL computers and the Internet are integrated to expose learners to language use in authentic environments.

Table 2 outlines the development of CALL as regards the three phases suggested by Warschauer (1996); Kern and Warschauer (2000) and Warschauer (2000).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Mainframe</td>
<td>PCs</td>
<td>Multimedia and internet</td>
</tr>
<tr>
<td>English teaching paradigm</td>
<td>Grammar translation and Audio-lingual</td>
<td>communicate language teaching</td>
<td>Content –Based ESP-EAP</td>
</tr>
<tr>
<td>View of language</td>
<td>Structure(formal structure system)</td>
<td>Cognitive (mentally constructed system)</td>
<td>Socio-cognitive(developed in social interaction)</td>
</tr>
<tr>
<td>Principal use of computer</td>
<td>Drill and practice</td>
<td>Communicative exercises</td>
<td>Authentic discourse</td>
</tr>
<tr>
<td>Principal</td>
<td>Accuracy</td>
<td>Fluency</td>
<td>Agency</td>
</tr>
</tbody>
</table>

-52-
Bax, (2003: 21) In the following table outlined three phases of CALL development which are very similar to Warschauer’s (1996) three phases. Bax categorized CALL into Restricted, Open and Integrated CALL.

Table 3:
Restricted, open and integrated CALL:

<table>
<thead>
<tr>
<th>Content</th>
<th>Type of task</th>
<th>Type of student activity</th>
<th>Type of feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>language system restricted CALL</td>
<td>Closed drills quizzes</td>
<td>Text reconstruction answering closed question, minimal interaction with other learners</td>
<td>Correct/incorrect</td>
</tr>
<tr>
<td>Open CALL system and skills</td>
<td>Simulation games CMC</td>
<td>interaction with the computer occasional interaction with other learners</td>
<td>Focus of linguistic skills open, flexible</td>
</tr>
<tr>
<td>Interacted CALL</td>
<td>CMC-WP e-mail</td>
<td>Frequent interaction with other learners some interaction with the computer through the lesson</td>
<td>Interpreting, evaluating commenting stimulating thought</td>
</tr>
</tbody>
</table>

Kern and Warschauer (2000) in the following tables summarized the respective instructional foci commonly associated with structural,
cognitive, and socio cognitive approaches to language teaching together with the principle roles of computers in each of the views.

Table 4:
Pedagogical foci in structural, cognitive, and socio cognitive frameworks

<table>
<thead>
<tr>
<th></th>
<th>Structural</th>
<th>Cognitive</th>
<th>Socio cognitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>How is language viewed?</td>
<td>As autonomous structural system.</td>
<td>As a mentally constructed system.</td>
<td>As a social and cognitive phenomenon.</td>
</tr>
<tr>
<td>How is language understood to develop?</td>
<td>Through transmission from competent users. Internalization of structures and habits through repetition and corrective feedback</td>
<td>Through the operation of innate cognitive heuristics on language input.</td>
<td>Through social interaction and assimilation of others’ speech.</td>
</tr>
<tr>
<td>What should be fostered in learners?</td>
<td>Mastery of a prescriptive norm, imitation of modelled discourse, with minimal errors.</td>
<td>On-going development of their inter language. Ability to realize their individual communicative purposes.</td>
<td>Attention to form (including genre, register, and style variation) in contexts of real language use</td>
</tr>
<tr>
<td>How is instruction oriented?</td>
<td>Toward well-formed language products (spoken or written). Focus on mastery of</td>
<td>Toward cognitive processes involved in the learning and use of language.</td>
<td>Toward negotiation of meaning through collaborative interaction with others. Creating</td>
</tr>
<tr>
<td>Where is meaning located?</td>
<td>discrete skills.</td>
<td>Focus on development of strategies for communication and learning.</td>
<td>a discourse community with authentic communicative tasks</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------</td>
<td>------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>In utterances and texts (to be extracted by listener or reader).</td>
<td>In the mind of the learner (through activation of existing knowledge).</td>
<td>In the interaction between interlocutors, writers and readers; constrained by interpretive rules of the relevant discourse community</td>
<td></td>
</tr>
</tbody>
</table>

Table 5:

The role of CALL in structural, cognitive, and socio cognitive frameworks

<table>
<thead>
<tr>
<th></th>
<th>Structural</th>
<th>Cognitive</th>
<th>Socio cognitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the principal role of computers</td>
<td>To provide unlimited drill, practice, tutorial explanation, and corrective feedback</td>
<td>To provide language input and analytical and inferential tasks</td>
<td>To provide alternative contexts for social interaction; to facilitate access to existing discourse communities and the creation of new ones.</td>
</tr>
</tbody>
</table>

2.14 Empirical and Qualitative Studies on CALT in the World

-55-
Research efforts which are relative to CALL have focused on five broad areas, including efficacy, students’ and teachers’ attitudes, computer familiarity, advantages and limitations of CALL in the classroom. In literature, there are quite a few studies regarding the use of CALL and its implications for the language researchers and teachers.

2.14.1 Studies on Efficiency of CALT

Most of the studies based their findings on case, qualitative and research-based studies while discussing the efficacy of CALT. One of the studies discussing the use of CALT is Pawling’s study, which was conducted in 1999. In her study, she aimed to evaluate the feasibility and effectiveness of CD-ROMs as a tool for research-based language learning and focused on two case studies. She carried out her study with eleven sixth grade children learning English vocabulary through an application called Directions2000 which can be described as a multimedia dictionary and found that learners assimilated vocabulary through playing the modal sentences as many times as required. According to Pawling, CD-ROM is potentially a liberating instrument for teachers and learners alike in that it has the special facility of incorporating practice in all four language skills mentioned above in a multimedia package using video, text, photograph and sound. There is much evidence; not least teachers’ own experience, to suggest that computer-based learning is very motivating for students.

In another study conducted by Gillespie and McKee (1999) learners from under graduate and graduate studies were exposed to their own CALL software. The findings of this study showed that CALL enhanced student performance and skills considerably in their studies with undergraduate and graduate learners.
Lambacher (1999) used a software designed for pronunciation training in teaching English to forty primary school Japanese learners, which resulted in the improved perception and production of English consonants as they reviewed as many times as they could and they got immediate feedback.

Kulik and Kulik (1991) surveyed more than 500 studies which compared learners who received computer-assisted instruction with the learners who received traditional instruction. They found that learners tend to learn more and in less time with computer-assisted learning.

Dunkel (1987:252) stated that

Many of the researches conducting literature reviews and meta-analyses in the 1960s and 70s were forced to conclude that there was no discernible cause-an-effect relationship between pupils learning.

The results were questionable in terms of the other fields such as social sciences since these studies were mostly related to mathematics. Nagata (1996) included participants from two first-semester Japanese classes at the University of San Francisco. Twenty-six students participated in the study. The results show that given the same grammar notes and exercises, on-going intelligent computer feedback is more effective than simple workbook answer sheets for developing learner’s grammatical skill in producing Japanese particles and sentences.

Nutta (1998) consisted of 53 students enrolled in an intensive academic ESL institute at a major university in Florida. It compared the method of grammar instruction, teacher-directed or computer-based. The results showed that computer-based students scored significantly higher on open-ended tests than the teacher-directed students. No significant differences
were found between the computer-based and teacher-directed students’ scores on multiple choice or fill-in-the-blank tests.

In the study of Hauck (et al, 1999) thirty-three French II students were the participants. Findings indicated that the students in the CALL group performed equally well as the control group in listening and speaking and better on reading and writing. Murray (1999) studied the effect of interactive video program. Participants (Twenty-three French second-language learners) were mostly students from the Faculty of Arts of a large Canadian university. The study benefited from personal language learning histories, journals, video observation, interviews, and pre/post language proficiency tests.

Murray (ibid: 192) stressed

*The importance of being a member of a community and engaging in activities by saying that we learn a language by becoming members of a community of practice. Being a member of a community means getting to know people, engaging in activities, and having a physical space as well as an identity within that community.*

Russel (1999) compared the paper and the computer versions of reading tests. He found out that paper versus computer administration did not significantly affect the test taker’s performance. Dewhurst (et al, 2000) compared the difference between the computer-assisted instruction and traditional instruction. The results revealed that Sixty-two students of undergraduate Physiotherapy studying on Human Physiology did equally well.

Similarly, Garcia and Arias (2000) compared the performance of sixty students of Land Surveying at the Extremadura University in Spain. They found out that students made use of the references provided by the
computer more extensively than they did of the printed references. Also, the results showed that students’ motivation to access computer-supported information was higher than accessing similar information in print-oriented references.

Yang (2001) in his study of fifty-five participants, second-year students in an applied linguistics program, discussed that students benefited from maximizing the language and learning link in computer-mediated environments, particularly web based instruction. Sawaki (2001) listed the studies carried out on computer-based and paper-based reading showed that students outperform in the paper-based version.

2.14.2 Students’ Attitudes towards CALT

Several studies have reported students’ attitudes towards CALT. These studies regarding the learners’ attitudes towards CALT lead to promising findings for the use of CALL in language classrooms Finkbeiner (et al, 2001) administered a questionnaire to 100 undergraduate EFL learners and collected data from 82 learners to learn about the learners’ attitude and interesting CALL and cooperative learning. He showed that ESL (English as a Second Language) undergraduate learners had positive attitudes towards CALL and suggested that a successful implementation of CALL required it to be put in to everyday study life.

In a similar study conducted by Ayres (2002) 157 non-native undergraduates from certificate and diploma courses at the school of English and Applied Linguistics were studied in a CALL environment to gather some empirical data to assess how much learners valued the use of CALL in their course. It was found that university learners appreciated and valued learning through CALL, which meant that CALL had high face validity with learners. Also in another study carried by Mitra (1997)
learners’ attitudes towards computers were discovered to be very important since it would affect the learners’ view of CALL.

Allum (2002) argued that students had positive feelings about CALL and suggested that CALL should be mixed with the regular classes, and similarly Dewhurst (et al, 2000) discussed that students became more positive after they had experienced using CALL. Ayres (ibid) had participants of 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 favoured classroom-based teaching over using a computer. They did not see it as a worthwhile replacement for classroom-based learning but, it had high face validity with learners.

Stricker and Rock (2004) studied the attitudes of the test takers who took the computer-based TOEFL in the spring and summer of 1999; a total of 689 test takers. Results revealed that positive attitudes towards computer-based testing but negative towards admission tests.

Shaw and Marlow (1999: 223) stated that

The participants of 99 sports science and nutrition undergraduates were uncomfortable with computers, were unhappy about the lack of personal contact and preferred to learn in a more traditional way.

Holmes (1998) studied the influence of CALL in 100 foreign students first-year students’ language classroom. Agreement as regards the benefits of CALL in language education was stated, but the students’ real reason was to communicate internationally.

Debski (2000) discussed project-oriented CALL innovation at the University of Melbourne, based on the principles of socio-collaborative
language learning with computers. Language teachers and students participated in his study. The results indicated that the participants appreciated learning situations which are not available in traditional classes.

2.14.3 Teachers and CALT

Most of the studies focusing on teachers and CAL discussed the training and the attitudes of teachers towards CALL. Egbert (et al, 2002) had participants of twenty English as a second language and foreign language teachers in their sample. They used surveys and follow-up interviews on technology use in class. They concluded that lack of time, support and resources prohibited the use of CAL by the teachers. Warschauer (2002: 453) discussed the training of instructors in Egypt about the use and applications of CALL. An interesting anecdote was given in his discussion of CALL. He said that an Egyptian university lecturer expressed his view as “We have the hardware, we have the software, but we lack the human ware”.

Ridgway and Passey (1991) stressed out the importance of training teachers and exploiting the use of computers more than as a word processor in the classroom. Similarly, Jones (2002) argued that teachers need to become informed users of technology and stressed the importance of technology training.

Although there are computer technology resources available in many schools and they are believed to improve the quality of teaching and learning, not all teachers are willing to adopt them as much as expected by researchers and school administrators Marcinkiewicz (1994); Dusick (1998) despite the rapid development in computer technology, teachers’ adoption and integration has been slow Swan and Mitrani (1993). The
underutilization of computers has discouraged researchers in the field and led them to question the true effectiveness of educational technology and to start investigating what motivates some teachers to use computers in their instruction and causes others to avoid them.

Teachers today recognize the importance of integrating technology into their instruction and course syllabi. Dupagne and Krendl (1992) successful implementation is often impeded by both external barriers (lack of access to computers and software, insufficient time to plan, and inadequate technical and administrative support and training), and internal barriers (teachers’ beliefs about teaching and computers, teachers’ established classroom practices and unwillingness to change, lack of relevance of computer technology resources in teaching, and lack of self-confidence) Ertmer (et al, 1999). In the literature, external barriers to computer technology integration are also referred to as environmental factors or first order barriers. Examples include no support from the administration, lack of resources, unavailability of supportive staff, and a lack of effective training. Internal barriers are also called social cognitive factors, or second order barriers. Examples include personal and behavioural factors of attitude and anxiety, self-efficacy, willingness to make a time commitment and take personal risk, computer competency and beliefs and knowledge about and perceived relevance of computers Dusick (1998).

2.14.3.1 External Barrier for Computer’s Technology

Prior to in-depth examination of teachers’ non-use of technology resources, some researchers believed Hoffman (1997) that providing more resources, and time and training would solve the problem and encourage teachers to integrate technology more. Hoffman (ibid) points out that teachers learn computer technology skills in numerous ways: self-study, workshops and conferences, in-service training courses, or coaching,
guidance and help from colleagues. However, teachers need to commit a certain amount of time to learn technology skills. Not all teachers can find time to spare, and much research has identified lack of time as one of the major factors preventing teachers using technology resources, especially for those teachers who are already overburdened with large classes, overloaded syllabi, and little assistance.

In their review of the literature on teachers’ attitudes toward computers, Dupagne (ibid) observed that the literature they reviewed generally demonstrates positive teacher attitudes toward computers. However, several studies reported that teachers share a number of concerns about integrating computers in their instruction: although teachers may believe in the instructional effectiveness of computers, they remain unable to make use of the technology because they have their own limitations, such as time or lack of knowledge. The primary recommendation emerging from review of the literature was teacher training, referring to the need for schools to invest time and resources in in-service and workshop training for teachers.

Similarly, in another study in North America, Indonesia, Chile, and Peru. Ely (1990) concluded that the barriers to teachers’ use of educational technology were lack of time and lack of teachers’ computer experience and skills. The conditions that must be met to overcome these barriers were additional time to practice with hands-on experience, in-service teacher training and curriculum integration. Ely argued that the people who would ultimately implement educational technology had to possess relevant knowledge and skills. Later research findings began to realize that removing external barriers and providing more resources may not guarantee teachers’ use of technology Marcinkiewicz (1994). There may be internal barriers causing teachers to avoid technology. In the following
section, research into internal factors affecting teachers’ attitudes towards and use of technology in the classroom will be presented.

2.14.3.2 Internal Barriers for Teachers’ Computer use of Technology

A necessary condition for teachers to use instructional technology (IT) is that they first must learn how to use it. Learning may be individual and independent or with the help of a trainer Dusick (1998). Some teachers are willing to attend training while others avoid it. Below, particular internal barriers preventing teachers’ use of technology will be presented. These barriers are self-efficacy and innovativeness, attitude and anxiety, and beliefs about the relevance of computers in improving instruction and learning.

2.14.4 Financial Barriers

Financial barriers are mentioned most frequently in the literature by language education practitioners. They include the cost of hardware, software, maintenance (particular of the most advanced equipment), and extend to some staff development.

Froke (1994:17) states "Concerning the money, the challenge was unique because of the nature of the technology".

Existing universities policies and procedures for budgeting and accounting were well advanced for classroom instruction. The costs of media were accounted for in the university as a part of the cost of instruction. Though the initial investment in hardware is high, inhibiting institutions’ introduction of advance technologies. Froke (ibid) recommends that the cost of computers will be so low that they will be available in most schools and homes in the future.
New technologies are add-on expenses and will not, Herschbach (1994) in many cases, lower the cost of providing educational services. New technologies probably will not replace the teachers, but will supplement their efforts, as has been the pattern with other technologies. The technologies will not decrease educational costs or increase teacher productivity as currently used. Low usage causes the cost barrier. Computers, interactive Kincaid (et al, 1994) instruction TV, and other devices are used very few hours of the day, week, or month. Either the number of learners or the amount of time learners apply the technology must be increased substantially to approach the concept of cost-effectiveness. There are other more quick and less expensive ways of reducing costs, no matter how inexpensive the technology being used.

2.14.5 Self-efficacy and Innovation

Accomplishments that contribute to personal efficacy and self-competence related to using computer technology are using computers successfully, observing others using computers successfully, and encouragement through mentoring and tutorials. As recommended by research in the field, teachers with anxiety and low self-efficacy must be provided with opportunities to develop and successfully use computer technology resources. Marcinkiewicz (1994) argues that teachers are not using computers as much as expected. Marcinkiewicz (ibid) refers to some researchers who argue that the way to encourage teachers to use more technology resources is to supply them with more technology. These researchers need to spend extra time and effort to learn ways of integrating technology into their instruction.

Marcinkiewicz (ibid: 26) cited that

*Teachers who did use computers spent extra time and effort to integrate them into their teaching. Nonetheless, simply having technology resources.*
Marcinkiewicz (ibid) argues, may not be enough to persuade teachers to use them. In a study with 170 elementary school teachers in the United States, the study found that a number of personal variables, self-competence (belief in ability to use a computer for teaching) and innovativeness (willingness to change) were most closely related to computer use among the teachers. The findings of his research showed that teachers were largely underutilizing computers despite availability of computers in their schools.

Baylor and Ritchie (2002) investigating teachers’ willingness to try new instructional innovations, teachers’ beliefs about the relevant importance of computer technology in terms of learners’ content acquisition, and the belief that risks can be taken in teaching using computer technology. The study found a strong positive relationship between teachers who had a higher degree of openness to change and the effect of computer technology on learners’ higher-order thinking skills and content acquisition. Baylor and Ritchie argue that this may be because innovative teachers are more able to apply new teaching strategies that foster these skills. Baylor and Ritchie emphasize the way teachers use technology in class is a critical measure of its success. The technology itself will not directly change teaching and learning, but the way it is incorporated into instruction will certainly be a critical element in its integration Office of Technology Assessment (OTA).

Baylor and Ritchie (ibid) successful technology integration depends on two variables: teacher openness to change and the extent to which teachers experience and practice using technology. Albion (1999) refers to other studies which indicate that innovativeness also contributes to teachers’ level of computer use because teachers will have to master a variety of
powerful tools and redesign their lesson plans around technology enhanced resources. For individuals who have a low sense of efficacy, innovativeness is not an option. Albion argues, on the other hand, that the research suggests that teachers’ beliefs about their self-efficacy in using technology for teaching are directly related to their actual experience and practice with technology.

2.14.6 Attitude and Anxiety

Attitudes toward computers influence teachers’ acceptance of the usefulness of technology, and also influence whether teachers approach these resources and integrate them into their classroom Clark (2000). The most common terms used to describe anxiety are computer anxiety and computer phobia Dusick (1998); Lam (2000). Computer anxiety may result from several factors such as low self-efficacy, low expectations of outcome, or lack of encouragement. Degrees of computer anxiety or phobia vary but the user is usually uncomfortable and anxious because of lack of knowledge and experience. Training and raising self-efficacy by providing opportunities to use computers were reported as effective treatment.

Herman (2002) A professional development program for secondary teachers at an American suburban school positively affected the teachers’ attitudes toward computers on a specific, as well as overall scale and teachers’ self-efficacy.

2.14.7 Relationship between Internal and External Barriers

Researchers have revealed that simply providing computer technology resources may not always guarantee teachers' use of them in their instruction. It seems that internal factors also contribute to the use of these resources. Ertmer (et al, 1999) the relationship between the external and
internal barriers to technology implementation by observing and interviewing several teachers within an elementary school who had achieved varying levels of integration. The study was designed to look at differences in teachers’ use of technology, their perceptions of the value or role of technology in the classroom, and their beliefs about what constitutes effective classroom practice. The results of the study suggest that teachers’ internal beliefs about technology interact with external barriers to facilitate limit teachers’ technology use.

Ertmer (ibid) argue that although it is important to know that teachers need more equipment or more time to plan for technology use, it may not always be enough. It may also be important to understand teachers’ reasons for technology use or non-use and their beliefs about the usefulness of technology in teaching and learning practices. Internal barriers may persist even when external barriers are removed, while addressing barriers at each level of technology integration.

Ertmer (ibid: 12) the following strategies should be taken into account

1. focus on pedagogical issues, as well as technological issues during training.
2. provide a broader vision of technology integration by explaining the basis and rationale and grounding for better teaching and learning.
3. provide help and guidance by models, mentors, and assistance from other colleagues in the implementation process.
4. provide opportunities for teachers to reflect, collaborate, and discuss the integration with colleagues.

General attitudes toward computers are a key predictor of adoption. The study investigated Gruich (2002) community college faculty attitudes in 15 public community and junior colleges selected in southern US toward utilization of technology, the flexibility of technology, and technology efficacy among faculty in community colleges. The study
found that there was a relationship between attitudes toward teaching with technology and certain variables. These variables were teachers’ beliefs about the usefulness of technology resources and their perception of flexibility and integration of technology in instruction.

Ely (1990) warns that teachers should change their beliefs about how technology is used in improving learning and teaching. Teachers should not expect technology to do all the work and answer all the questions. Teachers should learn to see technology resources as tools that they can manipulate to create opportunities for a better learning and teaching environment.

Kemp (2002) argues that the studies and theories previously cited have demonstrated the relevance of a range of variables such as, teachers’ attitudes towards computers, teachers’ self-efficacy, teachers’ innovativeness and teachers ‘past experiences of educational technology in the classroom. However, according to Kemp, many studies do not fail to identify the extent to which these variables influence teachers’ attitudes, self-efficacy beliefs and practices in relation to technology; nor do they look for a relationship between the variables and teachers’ willingness to adopt technology into their classrooms. Kemp’s study examined the influence these variables have on teachers’ implementation and use of technology in their classrooms. She found that teachers who spent more time in professional development were found to have more positive attitudes toward technologies, (higher scores on self-efficacy practices, and higher innovativeness scores) than their colleagues who spent less time in such activities. The common emerging issue from most of the studies reviewed is the provision of training. Most research agrees on the impact of training in overcoming both external and internal barriers to the integration of computer technology resources in instruction. The following
section will go into more detail on the impact of training on developing positive attitudes towards computers, as well as computer technology adoption and integration.

2.14.8 The Impact of Training on the Use of CALT Technology

Research has shown that teachers who have more experience with computer technology are more comfortable using and have positive attitudes towards computer technology resources, while those with computer anxiety tend to avoid using them Akbaba and Kurubacak (1998). The expansion and success of instructional technology, then, depend greatly on teachers’ attitudes towards and ability to use them in their instruction Clark (2000).

Some researchers found that provision of opportunities and training to enable teachers to experience computer technology resources and learn how to use them in instruction is crucial for teachers' acceptance and use of them Clark (ibid). Tuzcuoglu (2000) investigated teachers' attitudes towards CALL in the Foreign Languages Department (FLD) at a university in Turkey.

Despite the availability of a computer lab, and a request from the administration that teachers use the lab for teaching, most teachers did not make use of computers for teaching purposes. The research results revealed that teachers had positive attitudes towards using CALL in language instruction and were willing to teach with computers. The teachers agreed that using CALL would increase students' interest and language learning abilities. However, almost none of the teachers had experience with using CALL and thus needed to learn to use computers for teaching. Tuzcoglu (ibid) highlighted the need for training teachers and
revision of the curriculum to better integrate CALL resources of using computer in teaching English.

2.14.9 Training Contents

In-service training programs in most schools are usually in the form of brief workshops that make no provision for follow-up assistance or opportunity for evaluation and feedback. Consequently, teachers don't apply in their classrooms what training programs offer. Kassen and Higgins (1997) highlight that in addition to the need for teachers to have more access to computer technology education; there is also a need to improve the design of training opportunities.

Based on the report of the United States Department of Education in 1995, Kassen and Higgins (ibid: 265) state that

1. technology training is most effective when it offers teachers plenty time to practice and experiment with technology and to share ideas.
2. provides sustained support rather than a one-shot training session.
3. receives institutional commitment, thus clearly demonstrating to teachers that technology is not just another bandwagon.

2.15 Computer Familiarity

The use of computers in education and testing also raised concerns about whether computer familiarity plays a role in teaching and testing. Several studies discussed the effect of computer familiarity on performance and the characterization of the learners in terms of computer familiarity Kirsch (et al, 1998) surveyed 90.000 TOEFL examinees in their first phase of their study in April and May of 1996 regarding their access to, attitude toward, and experience using computers and investigated the relationship among proficiency as measured by paper-and-pencil TOEFL test, background characteristics, and computer
familiarity. The study showed that there were differences in regard to computer familiarity defined by native language and region. It was also discussed that a small but significant relationship existed between computer familiarity and TOEFL test scores on the paper-and-pencil test. As regards the results, it was suggested that computer familiarization was necessary for the individuals who would take the computer-based TOEFL and writing classes could include word-processing.

Taylor, and Eignor (1998) in their second phase of their study investigated the relationship between the level of computer familiarity and performance on the computer-based items adjusting for language ability. The results suggested that there was no difference on the computer based TOEFL performance due to lack of prior computer experience. However, it was mentioned that a practically significant interaction was found between computer familiarity and reason for taking the test on the computerized reading items.

2.16 Educational Technology

Technology education is a study of technology, which provides an opportunity for students to learn about the processes and knowledge related to technology. As a study, it covers the human ability to shape and change the physical world to meet needs, by manipulating materials and tools with techniques. As education, the goal is to teach the knowledge and techniques to develop, which is accomplished by bringing laboratory activities to students. Technology education is an innovative approach to technology education in Australia, which differs in that it is accomplished by situating students in the context of the need. The term "technology education" is frequently shortened to "tech ed". Witfelt (2000).
2.17 Educational Technology and Problems Solutions

Fundamentally computers need to be used to address problems which occur in the regular curriculum (not 'fitted into the curriculum'). If the computer is a problem-solving machine then it must be applied to typical school problems such as those concerning student learning, teacher instruction, school administration, and so on. Educational Technology should be selected on the basis that it has the best characteristics for the implementation of the curriculum.

Berge (1995). An educational technology should be used effectively or not at all. This requires:

1. Problems in the implementation of the curriculum.
2. Teachers who know how make use of the technology effectively.
3. Teachers and students who know how to operate the technology.

The initial questions that should be asked are: "Where are the problems to be solved and tasks to be completed?" and "Is a computer solution the most effective approach?". Potential sources of computer solvable problems in schools include,

1. The computer can be used to support learning activities which are difficult to perform in other ways.
2. The computer may serve a role to address the needs of special groups of students, e.g. the handicapped, low ability and those requiring extension activities.
3. The computer is able to support problem solving activities in many forms. It is well suited for use as a means of enhancing higher order thinking skills.
4. The computer should form an integral part of student activities as a productivity tool.
5. The computer can be used in many ways as stimulation and motivation for a range of other learning activities and situations. Wiesenberg and Hutton (1996).

2.18 Computers and Problems' Solutions

Technology is developed to solve problems associated with human need in more productive ways. If there is no problem to solve, the technology is not developed and/or not adopted. Applying this principle to educational technology would mean that educators should create and adopt technologies that address educational problems, of which there are many Lankshear and Snyder (2000).

Further, a technology will not be adopted by educators where there is no perceived need or productivity gain. This is what Lankshear and Snyder (2000) refer to as the ‘workability’ principle. Therefore, when discussing applications of computer technology to education the question must always be asked, “What educational problem(s) needs to be addressed?” This question needs to be asked at all levels of decision-making, from the teacher planning a program, to a school administrator purchasing hardware and software, to an educational system officer developing policy and strategic plans. At the teacher level the question becomes: am I satisfied with the educational opportunities I am able to offer children in school classrooms? While teachers should never be completely satisfied, and they will always strive to do better, the question really is whether what they provide adequately develops the potential of the students and adequately prepares them for a productive life in society. Many educators (e.g. National Centre for Vocational Education Research (2002) and educational commentators.

Schank and Cleary (1995: 85) put this succinctly when they state
Today's schools are organized around yesterday's ideas, yesterday's needs, and yesterday's resources (and they weren't even doing very well yesterday).

Schank and Cleary (ibid) argue that we know enough about learning to support it with computer systems, using software that allows children to experience activities, at school, that have been impossible or difficult, and thus avoided in the past.

2.19 Acceptance of Technologies

People live in a time change Gelatt (199: 10) stated that

*Change itself has changed. Change has become so rapid, so turbulent, and so unpredictable that is now called "white water" change.*

The current of change move so quickly that they destroy what was considered Murphy and Terry (1998) the norm in the past, and by doing so, create new opportunities. But, there is a natural tendency for organizations to resist change. Wrong conceptions about the use of technology limit innovation and threaten teachers' job and security.

Instructors Herschbach (1994) are tend not to use technologies that require substantially more preparation time, and it is tough to provide instructors and learners access to technologies that are easy to use.

2.20 Advantages and Disadvantages CALT

Lai (2006) nowadays computers are becoming one of the many media that is utilized to support human life. Utilization of computers penetrated almost all aspects of human life including education.

Hartoyo (2008) stated that the utilization of computers in education is known as Computer Assisted Instruction (CAI), Computer Based
Instruction (CBI), or Computer Assisted Learning (CAL). Moreover, computer is also used to improve the effectiveness of language learning. In particular the use of computer in language learning becomes a method known as Computer Assisted Language Learning (CALL). It is unknown exactly when the utilization of computers as a medium of language learning begin; however, reveals that the educational technology and communication technology are like two sides of one coin which run concurrently.

CALL as a language learning method considered effective in improving the quality of language learning. For instance, research proving that the use of CALL have a significant influence in enhancing students’ understanding of English grammar. Also, states that CALL can be used to increase students of L2 students to learn the language. However, as a method, CALL certainly has its advantages and disadvantages. This article is aimed to review the advantages and disadvantages of the use of CALL as a method.

2.20.1 Advantages of CALT

Educators Jonassen (1996); Salaberry (1999); Rost (2002) indicate that the Computer and its attached language learning programs could provide second language learners more Jonassen (1996) independence from classrooms and allowing learners the option to work on their learning material at any time of the day. Once implemented, it can be expected that the cost for computer technology is considerably lower than for face-to-face classroom teaching, and when used in conjunction with traditional second language classroom study, students can study more independently, leaving the teacher more time to concentrate effort 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.

Lee (2000) Applying computer technology in second language instruction, include computer and its attached language learning programs can:

(a) prove practices for students through the experiential learning.
(b) offer students more the learning motivation.
(c) enhance student achievement.
(d) increase authentic materials for study.
(e) encourage greater interaction between teachers and students and students and peers.
(f) emphasize the individual needs.
(g) regard independence from a single source of information.
(h) enlarge global understanding.

Taylor (1980) also expressed that computer assisted language learning programs can be wonderful stimuli for second language learning. Currently, computer technology can provide a lot of fun games and communicative activities, reduce the learning stresses and anxieties, 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.

According to Robertson (et al, 1987) observation of the participants who joined computer-assisted language learning programs also had significantly higher self-esteem ratings than regular students. Today, with the high development of computer technology, computers can capture,
analyze, and present data on second language students’ performances during the learning process. As we know, observing and checking students’ learning progress are very important activities to help students achieve their second language acquisition. When teachers attempt to assess students’ learning progress, they can get the essential information from a well-designed computer language learning programs and then offer feedback tailored to students’ learning needs Taylor and Gitsaki (2003).

In addition, students can get various authentic reading materials either at school or from home by connecting to the Internet. And, those materials can be accessed 24 hours a day. In a word, computer technology also provides the interdisciplinary and multicultural learning opportunities for students to carry out their independent studies. For learning interaction, Warchauer (2004) indicated that the random access to Web pages would break the linear flow of instruction. By sending E-mail 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 be greatly benefited through the individualized technology-learning environment, and studious learners can also proceed at their own pace to achieve higher levels. In particular, many concepts and cognitions are abstract and difficult to express through language the language teaching area. It seems that computers can make up for this shortage by using the image showing on the screen.

Nunan (1999: 26) reported that

Interactive visual media which computers provided seem to have a unique instructional capability for topics that involve social situations or problem solving, such as interpersonal solving, foreign language or second language learning.

Both cognitive theorists and humanists all pointed out that practice experience is a very important factor for people’s learning. Experiential
theory educators believe that learning is about making sense of information, extracting meaning and relating information to everyday life and that learning is about understanding the world through reinterpreting knowledge Ormrod (1999). When computer technology combines with 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 view, thought, and experience, but also can learning to live in the real world. They become the creators not just the receivers of knowledge. And, “as the way information is presented is not linear, second language learners can still develop thinking skills and choose what to explore” Lee (2000).

2.20.2 Disadvantages of CALT

Even though there are many advantages of computer, the application of current computer technology still has its limitations and disadvantages. Computer and its attached language learning programs will increase educational costs and harm the equity Gips (et al, 2004) of education. When computers become a basic requirement for student to purchase, low budget schools and low-income students usually cannot afford a computer. It will cause unfair educational conditions for those poor schools and students. On the other hand, expensive hardware and software also becomes the big obligations for schools and parents. It is necessary that both teachers and learners should have basic technology knowledge before Roblyer (2003) they apply computer technology to assist second language teaching and learning. No student can utilize computer if he or she lacks training in the uses of computer technology. Unfortunately, most teachers today do not have sufficient technological training to guide their students exploring computer and its assisted language learning programs.
Therefore, the benefits of computer technology for those students who are not familiar with computer are inexistent.

The software of computer assisted language learning programs is still imperfect. Current computer technology mainly deals with reading, listening, and writing skills. Even though some speaking programs have been developed recently, their functions are still limited. Warschauer (2004) pointed out that a program should ideally be able to understand a user’s “spoken” input and evaluate it not just for correctness but also or “appropriateness”. It should be able to diagnose a student’s problems with pronunciation, syntax, or usage and then intelligently decide among a range of options.

Computers cannot handle unexpected situations. Second language learners’ learning situations are Dent (2001) various and ever changing. Due to the limitations of computer’s artificial intelligence, computer technology is unable to deal with learners’ unexpected learning problems and response to learners’ question immediately as teachers do. The reasons for the computer’ inability to interact effectively can be traced back to a fundamental difference in the way humans and computers utilize information. Blin (1999: 133) expressed that “Computer technology with that degree of intelligence do not exist, and are not expected to exist for quite a long time”.

In a word, today’s computer technology and its attached language learning programs are not yet intelligent enough to be truly interactive. People still need to put effort in developing and improving computer technology in order to assist second language learners.
2.21 Previous Studies


This study examined how teachers perceive the incorporation and use of computer technology resources in language teaching through investigation of teachers’ attitudes and approaches to using an online supplementary resource in vocabulary instruction in an EFL context. The program offers such tools as vocabulary level tests, a vocabulary frequency profiler, word and text concordance and cloze text and hypertext builder. The aim of the study was to explore the factors that affect teachers’ use or non-use of the online program for teaching purposes. The study finally examined whether and to what extent opportunities, facilities, and training provided to teachers contribute to their acceptance and use of these resources. The data was collected through questionnaires distributed to 97 teachers in an English-medium university. Based on the results of the questionnaires, a stratified sample of 12 teachers was selected for follow-up interviews. The questionnaire results revealed statistically significant differences between teachers who have undergone computer technology training and those who have not in terms of their attitudes toward computers and the use of computer technology resources in language teaching. Follow-up interviews were used to determine whether positive attitudes or interests led people to undergo training or the reverse. The responses supported both cases for different individuals. The results also showed that simply introducing computer technology resources does not guarantee teachers’ use of these
in practice. The provision of training is seen as a key factor in both changing attitudes and encouraging teachers in incorporating technology into their instruction.

AbdalMoniem Hassan Babiker (2005). PhD thesis, the impact of the educational media, in the promotion of scientific thinking skills, in physics with reference to the student of secondary stage in Omdurman Province, (published), faculty of Education, University of Khartoum.

The objectives of the study were represented in Knowing of the conception of scientific thinking and its skills. Experiencing investigations on the effectiveness of educational media, in promoting those skills with reference to, secondary stage in Sudan compared with the usage of the traditional method currently followed. The most important results of the thesis were Using educational media in teaching the scientific subjects has proven its effectiveness in promotion of scientific thought skills, for the students of secondary stage in Sudan, compared with the use of the traditional method in the teaching. Adopting no programmers’ based on using the contemporary educational media, in training the teachers of scientific subjects in the Sudanese secondary schools, were found to be of the most important reasons, which led to deterioration educational results.


This study aimed to explore the effect of computer-assisted language learning (CALL) on the sophomore undergraduate students’ success on the TOEFL exam. The study was designed as quasi-experimental research and two variables were focused on: Computer-assisted language learning
and traditional instruction. Participants were 34 sophomore students in EFL department in Middle East Technical University. The participants were randomly assigned to the experimental and control groups using a table of random numbers. Experimental (three males and fourteen females) and control groups (two males and fifteen females) consisted of 17 participants each since the language laboratory for experimental group could accommodate that number. Experimental group was taught using computer-assisted instruction in a language laboratory while the control group was taught using a traditional method of instruction in a traditional classroom setting. The sample consisted of 17 participants in each group. The training lasted for 8 weeks and the same instructor met the groups three hours each week. During the first week a pre-test was given to both groups and a post-test was given at the end of the study. The experimental group participants were also interviewed with regard to CALL. Pre and post-test gain scores were statistically analysed and the interviews were subjected to content analysis. The results showed that there was no statistically significant difference between the control and experimental groups in overall scores and on the structure section. However, statistically significant differences were found in the scores on the reading and listening sections. The interviews showed that the participants in the experimental group valued computer-assisted language learning. However, it was suggested by the participants that computer-assisted language learning should be incorporated into the regular classes, where especially listening skill is focused on.

This research investigated how the characteristics of two Computer Assisted Language Learning (CALL) programs assisted Taiwanese students learning English pronunciation, how the different types of feedback in the program helped them to learn English pronunciation effectively, and how teachers may effectively integrate such computer software into their teaching. The purpose of the study was to define directions for pedagogy and research in CALL in Taiwan, drawing on the perceptions of Taiwanese college students and their teacher, in regard to the effectiveness of the selected programs and their feedback functions. This research sought to explore ways to develop and improve English pronunciation learning in Taiwan by using another tool in addition to teacher-directed learning. It is anticipated that the research will provide Taiwanese language teachers with information about how to supplement their teacher-directed language teaching, and about what learning tools are effective for this. In all, one teacher/researcher and 153 college students across four classes took part in this research project, and the setting was in an Institute of Technology in Taiwan. The students all used the two computer software programs separately in a computer laboratory for several weeks, and their perspectives about the effectiveness of the programs and the feedback they gave were gathered. The research methodology was action research, and it used an open-ended questionnaire and participant observation for collecting data, as well as content analysis for the interpretation of the data. In addition, the students wrote learning sheets which aimed to focus their learning. The results showed that the students preferred the program with explicit correction feedback, and with repetition and other specific functions, as well as the facility for self-paced and self-directed learning. The key finding of the study was that in Taiwan, when used alongside the traditional classroom teaching, CALL is a tool which has the potential to address some of the issues English
pronunciation teachers face, such as low student motivation and low English pronunciation proficiency. A number of recommendations are made for the effective use of CALL. Students gave several detailed suggestions in regard to the computer software functions which could help them to learn more effectively, and the teacher also addressed some issues which need to be considered when using CALL computer software to assist students’ learning.


The purpose of the study was to examine the effects of gender differences on the application of CALL programs for second language acquisition. Gender difference is an important theme in linguistic education because it influences the design of curriculum, teaching method, instructional strategy, and students’ learning processes. This study applied a mixed-methods design, using both quantitative and qualitative methods, both descriptive and comparative in design. The participants were 200 students (male=34, Female=166) taking EFL courses and CALL programs in Wenzao Ursuline College of Languages in Taiwan. Findings from the study indicated that although 94% students (N=188) acknowledge that learning English with CALL programs can increase the efficacy of English learning, more 57.2% female students (N=95) than 11.7% male students (N=4) felt that learning English with computer is difficult because it requires the basic computer knowledge.

Deidre Forbes (2012). MA Thesis on Addressing the Digital Divide Using CALL material to teach grammar to learners of English First
Additional Language in classrooms with limited computer and multimedia resources. Faculty of Arts and Social Sciences at Stellenbosch University, Stellenbosch, South Africa.

Because English is the most widely-spoken second language in South Africa, it is becoming increasingly important for learners to be able to master the English language including English grammatical structures; not only to do well at their internal and external school examinations, but also to communicate effectively in a progressively anglicised educational, occupational and commercial society. Educators of English First Additional Language FAL often have to augment existing textbook material, especially in the field of grammar teaching and learning, as many of the more recent textbook publications do not make sufficient provision for the communicative teaching and learning of grammatical structures. One way in which textbook material could be augmented would be to develop interactive multimedia learning material for the teaching of grammar. However, many South African English FAL classrooms are under resourced in terms of computers and other technological tools needed to use such interactive computer assisted language learning CALL material. The learners being taught in these technologically barren classrooms may fall far behind their peers in terms of exposure to interactive educational technology, i.e. they may become victims of the digital divide. The objective of this study was to investigate whether the digital divide could be addressed with the development and use of computer assisted language learning material that makes provision for learner interactivity and could be used in classrooms with minimal access to technological tools. To determine the attitudes of educators with regard to grammar instruction in general, as well as the use of technology in the teaching and learning of grammar and the general accessibility of technology in English FAL classrooms, educators of English FAL at nine...
rural, Afrikaans-medium schools situated in low-income communities in the Western and Northern Cape were asked to complete a questionnaire. The results of this survey were used to ascertain what kind of multimedia learning material would be suitable for use in technologically challenged English FAL classrooms. As part of this study, exemplar material has been developed to make a recommendation regarding the type of multimedia material that could be used in technologically under-resourced classrooms.


This study aims to highlight the role of using modern technology in teaching English as a second language. It discusses different approaches and techniques which can assist English language students to improve their learning skills by using technology. Among these techniques are online English language learning web sites, computer assisted language learning programs, presentation software, electronic dictionaries, chatting and email messaging programs, listening CD-players, and learning video-clips. A case study has been done to appreciate the response of typical English language classroom students for using technology in the learning process. Upon this practical study, the paper diagnoses the drawbacks and limitations of the current conventional English language learning tools, and concludes with certain suggestions and recommendations.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the methods used in conducting the study. It illustrates the study population, the sample, the validity and reliability tools of data collection and the statistical procedures implemented.

3.2 Population of the Study

The population of this study consisted of 20 different teachers from different ages (30-50), experiences (5-20) years. Also 100 university students at the Academic of Electronic Studies and Aviation Science, City and Guilds institute and the British Council institute - Greater Wad Medani Locality, Gezira State, Sudan.

3.3 The Sample of the Study

The sample which consists of 20 teachers and 100 students from the Academic of Electronic Studies and Aviation Science in Medani, City and Guilds institute and the British Council institute were selected for the study. All of them responded to find the attitudes towards CALT.

3.4 The Instrument of Data Collection

For the purpose of this study, the researcher designed a questionnaire, an interview and an observation check list that measure the Effect of CALT on EFL University Students' Performance: Teachers' and Students' Perspectives – Medani locality.
The level of responses for each item in the questionnaire was designed in accordance with (Likert scale): (1) Agree (2) to some extend (3) Disagree. (See appendix 1).

The level of responses for each item in the interview was designed in accordance with teachers’ comments: (See appendix 2).

The level of responses for each item in the observation check list was designed in accordance with(1) Yes (2) No. (See appendix 3).

Teachers with different qualifications, gender and experience filled out the questionnaires. Hundred copies of the questionnaire were distributed to the targeted sample in Medani locality and the return rate was 100% and the data was tabulated and analyzed by using the Statistical Package for Social Sciences (SPSS).

3.5 Procedures of the Data Collection

The questionnaire, interview and the observation check list were sent with the proposal of the study and discussed with some of the university staff (University of Gezira, and Jazan University) in the Kingdom of Saudi Arabia and his colleagues who were specialized in English asking them to make their comments on the suitability of the questionnaire for the purpose of the study. They all made comments and suggestions.

Those notes and recommendations were studied in the final version of the data collection. The final version of the questionnaire, interview and the observation check list contained 20 questionnaire items,10 interview items and 10 observation check list items seeking information about the effect of applying CALL techniques on EFL university level students.
The questionnaire and the interview were piloted on a group of students and teachers who fairly represented the sample of the study. That step was done to test the clarity of the questionnaire and interview items and instructions. The pilot group was requested to inform the investigator about any difficulties they faced in understanding the items and instructions. Their responses were considered and minor amendments were made to the final version of the questionnaire and the interview. The researcher made use of these responses of the students and explained most of the items and instructions of his questionnaire in Arabic to secure high level of students understanding of the questionnaire items and instructions when conducting it.

The questionnaire has been distributed during the final semester of the academic year 2016 and some institute students. The copies of the interview were distributed to the university lectures while others were sent by email to faculty members in Saudi Arabia universities. The researcher filled up the questionnaire, interview based on the answers of the participants.

### 3.6 Reliability of the Questionnaire

Reliability coefficient for all domains was calculated by using Pearson formula; it was (0.94). This was considered to be high reliability and sufficient for the purpose of the study.

The researcher used Pearson's correlation and the results obtained as follows:

\[
r_{xy} = \frac{N(\Sigma XY) - (\Sigma X\Sigma Y)}{\sqrt{[N(\Sigma X^2) - (\Sigma X)^2][N(\Sigma Y^2) - (\Sigma Y)^2]}}
\]

Where

\[r = \text{correlation}\]
R: Reliability of the questionnaire.

N: number of all items in the questionnaire.

X: odd scores.

Y: even scores.

Σ: Sum.

\[ R = \frac{2 \times r}{1 + r} \]

Validity = \( \sqrt{\text{reliability}} \)

\[ R = \frac{2 \times r}{1 + r} = \frac{2 \times 0.94}{1 + 0.94} = \frac{1.88}{1.94} = 0.96 \]

Correlation = 0.88

Reliability = 0.93

Val = \( \sqrt{0.93} \)

Validity = 0.96

3.7 Validity of the Questionnaire

Validity is the ability of an instrument to measure what it is intended to measure, what it is supposed to measure. Validity of the research instrument usually evaluated for face content and constructs validity. The content validity of the questionnaire, the interview and the observation check list used in the study by judgments promoters who were consulted by the researcher to guarantee the correction of the content and its relevance. Therefore the researcher consulted a number of experts for coping the questionnaire before piloting. The questionnaire judgment committee recommended changes and amendments about the items.

To ensure the validity of the questionnaire, the interview and the observation check list were judged by some university lecturers specialized in evaluation and in English language methodology.
1. Nadir Fared, PhD holder, University of Gazira, Faculty of Education – Hantoub.
2. Jamal Mohamed Suliman, MA holder, University of Jazan, Faculty of Education.
3. Khalid H Albadawi, assistant professor, Taif University Faculty of Education.

Some minor changes in the wording of the items were made based on their suggestions and comments. However; all agreed that the questionnaire, the interview and the observation check list were valid for measuring what they were designed for.

3.8 Statistical Procedures

The Statistical Package for Social Science (SPSS) programme was used in processing the data of this study means, percentages, standard deviations, were used to answer the questions of the study.
CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter presents the data analysis and discussion of the questionnaire, check list and the interview. As mentioned before the questionnaire consists of (20) items, the check list (10) items and the interview (10) items distributed to English language teachers and students at university levels in addition to some English language Institutes in Medani. In the questionnaire and the check list each item was analysed and displayed by means of tabulation and a bar chart. The bar chart was chosen because a quick look at it gives the reader full information about the item analysed.

4.2 Analysis of the Questionnaire

The data collected was computed and analysed by SPSS program (Statistical Package for Social Sciences) and summarized in tabular form. The questionnaire consists of (20) items.
4.2.1 The use of CALT makes EFL learning easy and interesting.

<table>
<thead>
<tr>
<th>Statement1</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>90</td>
<td>90.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The statistical analysis of statement (1) in table and diagram (4.2.1) shows that (90%) of the respondents agree. (4%) of the sample choose the answer to neutral and (6%) disagree that, the use of CALL makes EFL learning easy and interesting. Thus the statement is accepted.

My point of view comparing teaching using CALL is beneficial to student and increases their skills and competence.
4.2.2 Using CALT offers many opportunities for language learners to learn the language on their own.

<table>
<thead>
<tr>
<th>Statement2</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>87</td>
<td>87.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>10</td>
<td>10.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table and diagram (4.2.2) show that, (87%) of the respondents agree, (3%) of the sample choose the answer neutral and (10%) of the sample disagree with the statement using CALT offers many opportunities for language learners to learn the language on their own. The statement is accepted.

In my opinion CALT offers students more chances to acquire knowledge.
4.2.3 Applying CALT provides language learners with many materials for practicing English language.

<table>
<thead>
<tr>
<th>Statement3</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>80</td>
<td>80.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>9</td>
<td>9.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>11</td>
<td>11.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table and diagram (4.2.3) show that, (80%) of the respondents agree, (9%) of the sample choose the answer neutral and (11%) of the sample disagree with the statement. The statement is accepted.

According to score using CALT provides language learners with many materials for practicing English language.
4.2.4 Exploiting CALT also helps the learners to assess and test themselves and get feedback.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>82</td>
<td>82.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>14</td>
<td>14.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

It is noticeable from the statement (4) above that (82%) responded agree while (14%) to some extend and (4%) to disagree. This means that most of the responders have an agree view about exploiting CALT helps the learners to assess and test themselves and get feedback.

My point is that CALT really assists learners to test and assess themselves.
4.2.5 The use of CALT offers students opportunities for self-directed learning.

<table>
<thead>
<tr>
<th>Statement5</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>89</td>
<td>89.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>9</td>
<td>9.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The statistical analysis of statement (5) in table and diagram (4.2.5) shows that (89 %) of the respondents agree. (9%) of the sample choose the answer to some extend and (2%) disagree that, the use of CALT offers students opportunities for self-directed learning.

My point of view using CALT is beneficial for students because it offers opportunities for self-directed learning.
4.2.6 CALT can prepare the students for better academicals learning process.

<table>
<thead>
<tr>
<th>Statement6</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>79</td>
<td>79.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>10</td>
<td>10.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>11</td>
<td>11.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

With reference to table and chart (4.2.6) above (79%) responded agree while (10%) to some extend and (11%) to disagree.

Clearly this means that most of the responders believed that CALT can prepare the students for better academicals learning process.
4.2.7 The use of CALT in EFL learning motivates students because the learning environment is more enjoyable.

Statement 7

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>88</td>
<td>88.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>8</td>
<td>8.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Obviously from table and chart (4.2.7), (88%) responded agree, (4%) to some extend while (8%) to disagree. This means that most of the sample has an agree about CALT in EFL learning motivates students because the learning environment is more enjoyable.

My point is that CALT really motivates students and makes them enjoying classes.
4.2.8 Employing CALT in EFL classrooms helps students understand the complex concepts and materials in learning more easily.

<table>
<thead>
<tr>
<th>Statement8</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>74</td>
<td>74.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>8</td>
<td>8.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>18</td>
<td>18.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The statistical analysis of statement (8) in table and diagram (4.2.8) shows that (74 %) of the respondents agree. (8%) of the sample choose the answer to some extend and (18%) disagree that, the use of CALT helps students understand the complex concepts.

My point of view using CALT is beneficial for students because it facilitates complexity.
4.2.9 CALT saves time effectively in accomplishing the lessons.

<table>
<thead>
<tr>
<th>Statement9</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>80.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>17</td>
<td>17.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
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</table>

Table and diagram (4.2.9) show that, (80%) of the respondents agree, (3%) of the sample choose the answer neutral and (17%) of the sample disagree with the statement. The statement is accepted.

In my opinion CALT save a lot of time in accomplishing the lessons.
4.2.10 CALT in EFL instruction provides multisensory learning environments.

<table>
<thead>
<tr>
<th>Statement10</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
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<td>86.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>8</td>
<td>8.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

With reference to table and chart (4.2.10) above (86%) responded agree while (6%) to some extend and (8%) to disagree.

Clearly this means that most of the responders believed that CALT in EFL instruction provides multisensory learning environments.
4.2.11 Exploiting CALT in EFL classroom is beneficial for improving and practicing the four skills.

<table>
<thead>
<tr>
<th>Statement11</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
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<tr>
<td>Agree</td>
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<td>83.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>5</td>
<td>5.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>12</td>
<td>12.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table and diagram (4.2.11) show that (83%) of the respondents agree, (5%) of the sample choose the answer neutral and (12%) of the sample disagree with the statement. The statement is accepted.

In my point of view CALT in EFL classroom is beneficial for improving and practicing the four skills.
4.2.12 The use of CALT increases students’ participation in various classroom activities.

<table>
<thead>
<tr>
<th>Statement12</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>76</td>
<td>76.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>14</td>
<td>14.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>10</td>
<td>10.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The statistical analysis of statement (12) in table and diagram (4.2.12) shows that (76 %) of the respondents agree. (14%) of the sample choose the answer to some extend and (10%) disagree that, the use of CALT increases students’ participation.

In my opinion using CALT is beneficial for learners because it increases students' participation in various classroom activities.
4.2.13 Applying CALT increases interaction in the classroom and provide more active role in learning.

<table>
<thead>
<tr>
<th>Statement13</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>71</td>
<td>71.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>15</td>
<td>15.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>14</td>
<td>14.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Obviously from table and chart (4.2.13), (71%) responded agree, (15%) to some extend while (14%) to disagree. This means that most of the sample has an agree about view about CALT increases interaction in the classroom and provide more active role in learning.

My point is that CALT provide more active role in English language learning.
4.2.14 The use of CALT provides much needed exposure of target language in various forms for EFL learners.

<table>
<thead>
<tr>
<th>Statement14</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>70</td>
<td>70.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>18</td>
<td>18.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>12</td>
<td>12.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

With reference to table and chart (4.2.14) above (70%) responded agree while (18%) to some extend and (12%) to disagree.

Clearly this means that most of the responders believed The use of CALT covers most of the target language in various forms for EFL learners.
4.2.15 Exploiting CALT helps EFL teachers to promote a positive class atmosphere.

<table>
<thead>
<tr>
<th>Statement15</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>73</td>
<td>73.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>15</td>
<td>15.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>12</td>
<td>12.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The statistical analysis of statement (15) in table and diagram (4.2.15) shows that (73 %) of the respondents agree. (15%) of the sample choose the answer to some extend and (12%) disagree.

In my opinion using CALT helps EFL teachers to promote a positive class atmosphere.
4.2.16 CALT motivates learners more than traditional teaching programs.

Table 4.2.16 shows that (68%) of the respondents agree, (9%) of the sample choose the answer neutral and (23%) of the sample disagree with the statement using CALT motivates learners more than traditional teaching programs. The statement is accepted.

In my opinion CALT motivates learners more than traditional teaching programs.
4.2.17 Teachers who know and use CALT programs have an advantage over teachers that do not.

<table>
<thead>
<tr>
<th>Statement17</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>79</td>
<td>79.0</td>
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<tr>
<td>To some extent</td>
<td>17</td>
<td>17.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
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</table>

Table and diagram (4.2.17) show that (79%) of the respondents agree, (17%) of the sample choose the answer neutral and (4%) of the sample disagree with the statement.

In my point of view teachers who use CALT programs have an advantage over teachers that do not.
4.2.18 Using CALT can enhance reasoning and decision-making abilities in students.

<table>
<thead>
<tr>
<th>Statement 18</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>85</td>
<td>85.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>11</td>
<td>11.0</td>
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<tr>
<td>Disagree</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Total</td>
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<td>100.0</td>
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</tbody>
</table>

The statistical analysis shows that (85%) of the respondents agree. (11%) of the sample choose the answer to some extent and (4%) disagree.

In my view using CALT can develop reasoning and decision-making abilities in students.
4.2.19 CALT offers a wide range of experiences that are otherwise not available to the learners and enables the student to understand concepts clearly with the use of stimulating techniques such as animation, blinking, graphical displays etc.

<table>
<thead>
<tr>
<th>Statement19</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>77</td>
<td>77.0</td>
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<tr>
<td>To some extent</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>17</td>
<td>17.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

With reference to table and chart (4.2.19) above (77%) responded agree while (6%) to some extend and (17%) to disagree.

Clearly this means that most of the responders believed that CALT offers a wide range of experiences that are otherwise not available to the learners.
4.2.20 CALT will replace teachers in the future.

The statistical analysis of statement (20) in table and diagram (4.2.20) shows that (78%) of the respondents agree. (9%) of the sample choose the answer to some extend and (13%) disagree.

In my view CALT will replace teachers in the future although it sounds strange.
4.3 Analysis of the Observation Check List

The data collected was computed and analysed by SPSS program (Statistical Package for Social Sciences) and summarized in tabular form. The check list consists of (10) items.

4.3.1 CALT helps saving time on teaching English language.

<table>
<thead>
<tr>
<th>Statement21</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
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<tr>
<td>Yes</td>
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<td>70.0</td>
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<td>No</td>
<td>3</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>100.0</td>
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</tbody>
</table>

The statistical analysis of statement (21) in table and diagram (4.3.1) shows that (70%) yes and (30%) no.

In my view CALT really helps save time on teaching English language.
4.3.2 Students are interested in learning English language using CALT.

<table>
<thead>
<tr>
<th>Statement22</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Total</td>
<td>10</td>
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</table>

With reference to table and chart (4.3.2) above shows (90%) yes and (10%) no.

Clearly this means that most of the students are interested in learning English language using CALT.
4.3.3 The learners exhibit better skills comparable to other students at the same level.

<table>
<thead>
<tr>
<th>Statement23</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
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<tr>
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<td>40.0</td>
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</table>

Table and diagram (4.3.3) show that, (60%) yes and (40%) no.

In my point of view CALT learners exhibit better skills comparable to the students at the same level.
4.3.4 The learners demonstrate computer skills and can move easily within the program without assistance.

<table>
<thead>
<tr>
<th>Statement24</th>
<th>Frequency</th>
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<td>80.0</td>
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<td>20.0</td>
</tr>
<tr>
<td>Total</td>
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</table>

The statistical analysis of statement (22) in table and diagram (4.3.4) shows that (80%) yes and (20%) no.

In my view the learners demonstrate computer skills and can move easily within the program without assistance.
4.3.5 CALT provides strong motivation for learners and makes it easy for better learning.

<table>
<thead>
<tr>
<th>Statement25</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
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<tr>
<td>Yes</td>
<td>9</td>
<td>90.0</td>
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<td>10.0</td>
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<td>Total</td>
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</table>

Table and diagram (4.3.5) show that, (90%) yes and (10%) no.

In my point of view CALT provides strong motivation for learners and makes it easy for better learning.
4.3.6 The learners have positive interactions with each other’s and teachers within the learning atmosphere.

<table>
<thead>
<tr>
<th>Statement26</th>
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<tr>
<td>Yes</td>
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<tr>
<td>No</td>
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<td>20.0</td>
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<td>Total</td>
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</table>

The statistical analysis of statement (26) in table and diagram (4.3.6) shows that (80%) yes and (20%) no.

Obviously the learners have positive interactions with each other’s and teachers within the learning atmosphere.
4.3.7 The learner appears self-confident in the learning environment.

<table>
<thead>
<tr>
<th>Statement27</th>
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</tr>
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<tr>
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<td>10.0</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

Table and diagram (4.3.7) show that, (90%) yes and (10%) no.
In my opinion learner appears self-confident in the learning environment.
4.3.8 CALT makes EFL learning easy and interesting.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
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<td>90.0</td>
</tr>
<tr>
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<td>1</td>
<td>10.0</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

The statistical analysis of statement (28) in table and diagram (4.3.8) shows that (90%) yes and (10%) no.

This means that CALT makes EFL learning easy and interesting for learners.
4.3.9 Traditional materials are used in learning through CALT.

With reference to table and chart (4.3.9) above shows (70%) yes and (30%) no.

Clearly this means that Traditional materials are used but in a few ways.
4.3.10 CALT increases students’ participation in classroom activities.

<table>
<thead>
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<th>Percent</th>
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<tr>
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<td>10.0</td>
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<tr>
<td>Total</td>
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</tbody>
</table>

The statistical analysis of statement (30) in table and diagram (4.3.10) shows that (90%) yes and (10%) no.

In my point of view CALT increases students’ participation in classroom activities.
4.4 The Discussion and Analysis of the Results of Teachers’ Interview

According to the answers of the interviewed teachers, here are some quotes from their answers to the questions that the researcher used to support the hypotheses.

1. Do you use CALT for English language teaching in classes?

   Most teachers agreed that they use CALT to some extent according to the course components.

2. Which teaching style do you prefer? Traditional teaching materials or teaching through CALT?

   Most teachers proved that CALT changes the way of teaching by using modern techniques that facilitates learning process.

3. Does your institute or university provide you with the necessary materials for CALT?

   Some teachers granted that CALT materials are costly and sometimes they do not get support from the administration.

4. In your opinion, what are the difficulties on using CALT?

   Most teachers suffer from lack of labs, repairing parts, electricity shortage, bad network and lack of experience.

5. Have you had any training in CALT (theory and practice)?

   Most teachers had theoretical and practical training.

6. Do you think teaching through CALT can inspire the students in learning?
Most teachers approved that students prefer learning through CALT because it is enjoyable.

7. Does CALT help you save time on teaching process?

Most teachers agreed that old method of teaching consumes time and effort when comparing to CALT.

8. Do you think that CALT approach offers opportunities for better Language practice and exposure?

Most teachers confirmed that CALT provides better opportunities to learners to practice English language skills effectively.

9. Do you use the internet to find authentic materials for your lesson?

Most teachers use the internet to find updated information related to the lesson.

10. Do you have any kind of suggestions that come from your teaching experience on CALT approach?

Most teachers confirmed that using CALT makes teaching and learning more interesting by using CALT techniques.
4.5 Testing the Hypotheses of the Study with Relation to the Questions of the Study

1. With reference to the hypothesis one (Knowing how to use CALT techniques in learning process is very important). It is clearly that using CALT facilitates teaching and learning process and makes it easy and enjoyable.

2. Having a look at hypothesis two (CALT prepares students academically in learning situations). With reference to the analysis of the students ‘questionnaire, CALT helps and support students a lot in learning and practicing English language skills.

3. Hypothesis three (CALT systems helps students improve their performance in English language skills especially speaking and writing skills through some selected activities). CALT improves learners speaking and writing skills because of the self-correction programs in the computers such as audios and videos.

4. With reference to the hypothesis four (Using CALT methods affect learning process appropriately). According to the analysis of the students ‘questionnaire, student have a wide opportunity to learn English language from different perspectives from materials.

5. Hypothesis five (CALT techniques motivate students’ learning process). CALT techniques motivate students by showing them new world of information and thus learners like new ideas and new techniques in learning English language.
CHAPTER FIVE

CONCLUSION, FINDINGS AND RECOMMENDATIONS

5.1 Introduction

This chapter starts with a very brief introduction to explore the components of the chapters, thus it is mainly concerned with the conclusion, finding, of the study and recommendations.

5.2 Conclusion

The use of computer technology for teaching, learning, practicing and assessing foreign language, like English, has many advantages, particularly in the unstable countries where EFL learners get very few opportunities for practicing and assessing their language skills. If EFL teachers and learners wisely capitalize upon these positive aspects of the use of computer technology in EFL instruction while teaching, learning and assessing a target language, the results would be highly encouraging, productive, profitable and can be achieved very easily.

5.3 Findings

1. CALT saves time effectively in accomplishing the lessons.

2. CALT in EFL instruction provides multisensory learning environments.

3. Exploiting CALT in EFL classroom is beneficial for improving and practicing the four skills.

4. The use of CALT increases students’ participation in various classroom activities.
5. Applying CALT increases interaction in the classroom and provide more active role in learning.

6. The use of CALT provides much needed exposure of target language in various forms for EFL learners.

7. Exploiting CALT helps EFL teachers to promote a positive class atmosphere

8. Applying CALT provides language learners with many materials for practicing English language.

9. The use of CALT makes EFL learning easy and interesting

10. Using CALT offers many opportunities for language learners to learn the language on their own.

5.4 Recommendations

The researcher recommends the following

1. Teachers of EFL should have a considerable knowledge in computer courses.

2. Students should be encouraged on the training of computers so as to know all skills which concern with computer.

3. The administrators should prepare well equipped labs for English language learners to use computers competently.

4. Teachers should be constantly trained on computers theoretically and practically.

5. Teachers should focus on teaching using CALT more than traditional teaching.

6. All classes should be computerized to facilitate teaching and learning proses.

7. CALT makes EFL learning easy and interesting.
References


Davies, G. (2003). Computer assisted language learning- where are we now and where are we going? TELL & CALT, 4, 10-12.


Herman, L. P. (2002). Case study of a professional development program.


Appendix 1
University of Gezira
Faculty of Education – Hassahiesa
Department of Foreign Languages
Questionnaire

Dear student,
The following questionnaire is designed to elicit information about using CALT (*Computer Assisted Language Learning*) in EFL classrooms. You are kindly requested to tick the box that best reflect your point of view.

May I thank you in advance for your collaboration

Name: --------------------------------- (optional)
Stage: --------------------------------- university / institute (underline)
Gender: ------------------------------- Male / Female (underline)

<table>
<thead>
<tr>
<th>No</th>
<th>STATEMENTS</th>
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<th>TO SOME EXTENT</th>
<th>DISAGREE</th>
</tr>
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<tr>
<td>1</td>
<td>The use of CALT makes EFL learning easy and interesting.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Using CALT offers many opportunities for language learners to learn the language on their own.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Applying CALT provides language learners with many materials for practicing English language.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Exploiting CALT also helps the learners to assess and test themselves and get feedback.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The use of CALT offers students opportunities for self-directed learning.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>CALT can prepare the students for better academicals learning process.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>The use of CALT in EFL learning motivates students because the learning environment is more enjoyable.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Employing CALT in EFL classrooms helps students understand the complex concepts and materials in learning more easily.</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>---</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>CALT save time effectively in accomplishing the lessons.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>CALT in EFL instruction provides multisensory learning environments.</td>
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<td>11</td>
<td>Exploiting CALT in EFL classroom is beneficial for improving and practicing the four skills.</td>
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<tr>
<td>12</td>
<td>The use of CALT increases students’ participation in various classroom activities.</td>
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<tr>
<td>13</td>
<td>Applying CALT increases interaction in the classroom and provide more active role in learning.</td>
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<tr>
<td>14</td>
<td>The use of CALT provides much needed exposure of target language in various forms for EFL learners.</td>
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<tr>
<td>15</td>
<td>Exploiting CALT helps EFL teachers to promote a positive class atmosphere.</td>
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<tr>
<td>16</td>
<td>CALT motivates learners more than traditional teaching programs.</td>
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<td>17</td>
<td>Teachers who know and use CALT programs have an advantage over teachers that do not.</td>
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<td>18</td>
<td>Using CALT can enhance reasoning and decision-making abilities in students.</td>
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<tr>
<td>19</td>
<td>CALT offers a wide range of experiences that are otherwise not available to the learners and enables the student to understand concepts clearly with the use of stimulating techniques such as animation, blinking, graphical displays etc.</td>
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<tr>
<td>20</td>
<td>CALT will replace teachers in the future.</td>
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</table>
Appendix 2

University of Gezira
Faculty of Education – Hassahiesa
Department of Foreign Languages

Interview

Dear teacher,

The following Interview is used to investigate how you teach English language through CALT (*Computer Assisted Language Learning*). The Interview usually takes 20~30 minutes to complete. There is no right or wrong answer. Please feel free to answer all the questions according to your teaching experience. Responses will only be used for the purpose of this study.

Thank you for your participation.

1. Do you use CALT for English language teaching in classes?

2. Which teaching style do you prefer? Traditional teaching materials or teaching through CALT?

3. Does your institute or university provide you with the necessary materials for CALT?

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4. In your opinion, what are the difficulties on using CALT?
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5. Have you had any training in CALT (theory and practice)?
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6. Do you think teaching through CALT can inspire the students in learning?
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7. Does CALT help you save time on teaching process?
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8. Do you think that CALT approach offers opportunities for better language practice and exposure?
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9. Do you use the internet to find authentic materials for your lesson?
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10. Do you have any kind of suggestions that come from your teaching experience or learning experience on CALT approach?
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Appendix 3
University of Gezira
Faculty of Education – Hassahiesa
Department of Foreign Languages

Observation Check List

The following observation check List is designed to collect information about using CALT (*Computer Assisted Language Learning*) in EFL classrooms with (√) or (×).

<table>
<thead>
<tr>
<th>No</th>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CALT helps saving time on teaching English language.</td>
<td></td>
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<tr>
<td>2</td>
<td>Student are interested in learning English language using CALT.</td>
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<tr>
<td>3</td>
<td>The learners exhibit better skills comparable to other students at the same level.</td>
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<td>4</td>
<td>The learners demonstrate computer skills and can move easily within the program without assistance.</td>
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<tr>
<td>5</td>
<td>CALT provides strong motivation for learners and makes it easy for better learning.</td>
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<td>6</td>
<td>The learners have positive interactions with each other’s and teachers within the learning atmosphere.</td>
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<td>7</td>
<td>The learner appears self-confident in the learning environment.</td>
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<tr>
<td>8</td>
<td>CALT makes EFL learning easy and interesting.</td>
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<tr>
<td>9</td>
<td>Traditional materials are used in learning through CALT.</td>
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</tr>
<tr>
<td>10</td>
<td>CALT increases students’ participation in classroom activities.</td>
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</tbody>
</table>