Hebron University

Faculty of Graduate Studies

The Effect of CALL on The Palestinian Primary School Learners'

Achievement in Reading Comprehension

Master Thesis

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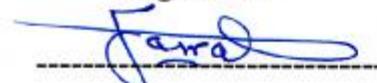
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DEDICATION

To my parents

To my brothers and sisters

To my wife, sons and daughters

To my supervisor,

Dr. Mohammed Abdel-Hakim Farrah

To my professors

To my friends, and teachers

To everyone who cares about me

I dedicate my work

2012

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First and foremost, I thank Allah.

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Last, but not least, my sincere gratitude goes to my parents whose prayers for me never stopped day and night, my wife, my sons, and my daughters for their patience, care and understanding, and all my friends and relatives for their encouragement and their endless love.

الملخص

هدفت هذه الدراسة إلى بحث تأثير تعليم اللغة بمساعدة الحاسوب والإنترنت على تحصيل طلاب المرحلة الأساسية في مهارة الفهم في القراءة. كما وهدفت أيضا إلى بحث تأثير تعليم اللغة بمساعدة الحاسوب والإنترنت على توجهات الطلاب في المجالات الأربعة، وهي: أهمية الحاسوب والإنترنت في التعليم، وتوجهاتهم نحو استخدام الحاسوب والإنترنت في التعليم، ودور الحاسوب والإنترنت في تحسين أداء المتعلمين في المهارات اللغوية، وقلق المتعلمين نحو الحاسوب والإنترنت. بحثت الدراسة أيضا فيما إذا كان هناك تأثير لتوفر الحاسوب، واشتراك الإنترنت، وعدد ساعات استخدام الحاسوب والإنترنت بهدف الدراسة على اتجاهات المتعلمين وتحصيلهم. إضافة إلى ذلك، هدفت الدراسة للبحث فيما إذا هناك تأثير لجنس المتعلم على التحصيل أو الاتجاهات نحو تعليم اللغة بمساعدة الحاسوب والإنترنت. تتكون عينة الدراسة من 265 طالب وطالبة من الصفين الثامن والعاشر؛ 127 طالبا و 138 طالبة، لغتهم الأم هي اللغة العربية. تم اختيار مدرستين من الأربع مدارس المشتركة في الدراسة حيث كونت العينة التجريبية؛ مدرسة للذكور والأخرى للإناث واللتان تشكلان 131 طالبا وطالبة. المدرستان الأخريان وهي واحدة للذكور والأخرى للإناث شكلتا العينة الضابطة والتي تشكل 134 طالبا وطالبة. تم جمع البيانات عن طريق استخدام استبانات وامتحانات قبلية وبعدية. أظهرت النتائج بأن تعليم اللغة بمساعدة الحاسوب والإنترنت يؤثر على تحصيل المتعلمين للغة الإنجليزية كلغة أجنبية بشكل إيجابي، إضافة إلى تأثيره على اتجاهات الطلاب نحو الحاسوب والإنترنت بشكل إيجابي أيضا في المجالات الأربعة. كما أظهرت النتائج بأن تحصيل الطلاب أو اتجاهاتهم لا تتأثر بسبب جنس المتعلم.

أيوب ديب أيوب مهلوس الأيوبي

ABSTRACT

This study aimed at investigating the effect of CALL on the primary school learners' achievement in reading comprehension. It also investigates the effect of CALL on the learners' attitude in four dimensions: computer and internet importance in learning, their attitudes toward using the computer and internet in learning, the role of computer and internet in improving the learners' language skills, and learners' anxiety towards using the computer and internet. It also examines whether the availability of the computer, the internet access, and the number of hours of using computer and internet affect learners' attitudes and achievement. Finally, it investigates whether gender has an effect on the achievement or attitude in using CALL. The participants of the study are 265 EFL students of the eighth and tenth grades in Hebron; 127 females and 138 males. Their native language is Arabic. Two schools from the four schools participating in the experiment were chosen: one for boys and the other is for girls to form the experimental groups of 131 participants. The other two boys' and girls' schools form the control group of 134 participants. Results of the study which were collected through pre and post questionnaires and pre and post tests show that CALL affects EFL learners' achievement and attitudes in the four dimensions positively. Besides, attitudes and achievement aren't affected by gender.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

No doubt that computers play a great role in the modern way of life; "They have changed the way people work, learn, communicate, and play. Thus, they are used by learners, teachers, and research scientists as a learning tool all over the world, as well as by individuals at home to study, work and entertain" (Gündüz, 2005, p.195). Therefore, the great relationship of computers with language learning is undeniable. The sensible integration of computers and language learning can produce rewarding results in language learning (Jayachandran, 2007) These results could be achieved by enabling learners to organize and process their knowledge at the touch of keyboard and mouse buttons.

Moreover, nowadays, using computers is accompanied by using the internet, which gives computers other dimensions, and has made computers as unsatisfactory devices without them. The internet enables the learners to deal with the intended material online. Thus, it has enhanced Computer Assisted Language Learning (CALL) programs to implement online language learning. Nowadays, the applications and material can be shared, delivered and developed more easily and quicker by using the internet.

Therefore, there is a need for investigating and studying this new approach of learning, especially its effectiveness in language learning.

1.1. What is CALL?

Computer Assisted Language Learning (CALL) is an educational field related to the role of technologies in language learning. There are various different terms related to this theme like Computer Assisted Instruction (CAI), and Computer Mediated Communication (CMC), with delicate differences among them (Farrah & Tushyeh, 2010).

Another important term concerning using the computer and internet in learning is e-learning. E-learning is defined as using the computer to support learning (Clark & Mayer, 2007). It has a number of features, like: it can be used by CD-ROM, internet or intranet, or external memory. Besides, it uses instructional methods like examples, training and feedback to improve learning. Finally, it can be used by the learner himself at his own pace, or with the help of the teacher for various skills and learning goals (Clark & Mayer, 2007).

CALL is considered as a language teaching approach. Computers, which form a basis for this approach, have been used for language teaching since the 1960's. This period -from the 1960's until now- is divided into three main stages according to the level of technology and pedagogical theories: behaviorist CALL, communicative CALL, and integrative CALL (Warschauer & Healey, 1998).

The 1960s and 1970s represent the first stage of CALL. It was based on the behaviorist learning method, and the computer was used as a tutor with repetitive language drills. PLATO (Programmed Logic for Automatic Teaching Operations) was the best-known system (Ahmad et al., 1985).

The second stage is represented by the Communicative CALL. It is a reaction to the behaviorist one in the 1970s and 1980s. This method emphasizes that CALL should focus more on using forms rather than on the forms themselves (Jones & Fortescue, 1987) cited in (Lee, 2000). The emphasis is on communication and tasks.

Integrative CALL is the last stage where teachers move to a socio-cognitive view that emphasizes the use of language in an authentic context. It integrates the four skills of language learning in technology more fully into language teaching (Warschauer & Healey, 1998).

1.2. CALL Methodology

CALL is basically based on multimedia software programs designed specifically for learning languages. Thus, multimedia computing and the internet provide an incredible source to CALL applications (Duber, 2000) as cited in (Gündüz, 2005).

On the other hand, the computer and the internet provide users with many various tasks, and their effectiveness in the language classroom depends on the way students and teachers use them. For example, they provide feedback automatically, and learners can edit texts by deleting, moving and inserting. An example of this as Hardisty and Windeatt (1989) cited in Gündüz (2005) are the word processor and simulation programs. In this aspect, Gündüz (2005) mentioned the main characteristics of the methodology for CALL:

1- *"The use of a variety of interaction patterns in class: Students can work individually, in pairs, and groups, or as a whole class in CALL laboratories.*

2- *Information-transfer and information-and opinion-gap tasks.*

3- *Fluency and accuracy practice.*

4- *Computer-work, pre-computer work and post-computer work."* (pp. 199-201)

1.3 CALL Programs

CALL is an approach which is based on computer programs or software. According to Warschauer and Healey (1998), there are some characteristics which are needed for the software or program to be useful and to be integrated teaching process. First of all, it should be available without additional expense for the learner. Then, it should provide the learner with the needed realistic native models of language in various types of media. After that, it should provide a complete curriculum for the learner. Moreover, it should do the automatic feedback and assessment, and provide the learner with the appropriate next step with enough practice. Finally, it should have the record of the student's scores with his evaluation.

1.4 Why Reading

The importance of reading is difficult to be expressed, but it can be experienced by people. Reading is an important skill in language. Lacking the ability to read causes retention and poor self esteem for the learner than any other cause (Casey, 2001). Learning to read is one of the most important goals of the learning process. A learner who can read well is more likely to do well in school and his exams than others.

"For both children and adults, the ability to read opens up new worlds and opportunities. It enables us to gain new knowledge, enjoy literature, and do everyday things that are part and parcel of modern life, such as, reading the newspapers, job listings, instruction manuals, maps and so on" (Muaka et al. 2003) p.6.

1.5 Hypertext and Printed Text

The text which appears on the computer screen is called hypertext (Deemer. 1994). Reading on the computer screen is different from reading the printed text on paper. Many researchers have explored these differences. Purves (1998) as cited in Tseng (2008) says that: the printed text is read in two dimensional spaces. In this way readers read the text in a linear way which limits the conceptual space. It means that they start reading hierarchically from the top of the page. But in reading the hypertext, readers can open different documents and can move between these documents and spaces available on the screen by clicking the mouse. They can also drag, save, or link them with other spaces (Purves, 1998).

Intrator (2000) as cited in Tseng (2008) states that a hypertext is a kind of informational environment where ideas are connected together in various ways. Barnes (1994) says that a hypertext is unique, "learning text navigational skills transforms readers into active information explorers" (p. 26). It enables readers to read in a nonlinear way, they can browse through documents, books, encyclopedias, and electronic texts stored in the computer and networks. On the other hand, the internet has changed reading habits. Reading

is no longer a linear process, when readers start reading at the top left corner and finish at the bottom right corner (Ojala, 2000). However, in the hypertext reading, the eyes of readers move in a circular motion more than in a straight line. In this nonlinear reading skill readers are encouraged to distinguish between cause and effect, true from the false, and to apply critical thinking skills (Ojala, 2000).

1.6 The Study

1.6.1 Background of the Study

No doubt the use of the computer as a technological medium has positive effects on learners. It forms an aid to motivate learners to improve their performance and achievement in their education. Besides, with the use of CALL programs, the computer gives great effects on learning language skills. Thus, this study can be considered as a part of this recent trend of integrating computers in language learning.

1.6.2 Statement of the Problem

We live in the age of technology where the computer lies in its core, not only in our daily life but also in our way of teaching. Besides, there is increasingly more emphasis on integrating various technologies into various ways of teaching. Consequently, the computer is becoming more and more an essential tool of in-class learning instrumentation with a great significance for what it offers in language learning. Despite CALL effectiveness and spread, it is not widely used in the Palestinian schools. Of course there are a lot of challenges for learners and teachers that hinder using computers, but there should be more effort towards integrating such technologies in our new way of teaching. Therefore, the effectiveness of integrating CALL programs in our way of learning has to be ensured beforehand to remove the controversy which swirls around the serious integration of computers, compared to the

traditional methods and techniques of language learning. In the middle of inquiries are questions about the effectiveness. Can schools improve their teaching effectiveness by implementing CALL? Shall our Ministry of Education invest more heavily in technology for our schools? How can schools use computers beneficially? Questions go around on all sides.

1.6.3 Purposes of the Study

It is necessary to conduct a research which can determine whether CALL is more effective than traditional learning in reading comprehension for English as Foreign Language (EFL) learners. Moreover, we can ascertain the percentage of applicability of CALL programs in our situation in Palestine. Besides, it gives us the privilege to support, modify, or change integrating CALL in our schools. Accordingly, this study attempts to serve a number of purposes. They are as follows:

1. To investigate whether there is a significant difference in the attitudes between the experimental and control group in the four dimensions (CALL importance, attitudes towards CALL, language skills, and anxiety towards CALL).

2. To investigate whether there is a significant difference for the group's attitudes due to the using of the computer at home, having internet access, and the number of hours used for academic purposes.

3. To investigate whether there is a significant difference for the group's attitudes due to gender.

4. To examine the effects of using CALL on the achievement of the EFL students in reading comprehension.

5. To investigate whether there is a significant difference for the group's achievement in the post test due to the using of the computer at home, having internet access, and the number of hours used for academic purposes.

6. To investigate whether there is a significant difference for the group's achievement in the post test due to gender.

7. To investigate whether there is a correlation between learners' attitudes towards CALL and their level of achievement in reading comprehension.

8. To find out the general attitudes of primary school EFL students towards CALL in reading skill?

1.6.4 Research Questions

Thus, the present study investigates the following research questions:

1. Is there a significant difference in the attitudes between the experimental and control groups in the four dimensions (CALL importance, attitudes towards CALL, language skills, and anxiety towards CALL)?

2. Is there is a significant difference in the group's attitudes due to the using of the computer at home, having internet access, and the number of hours used for academic purposes?

3. Is there is a significant difference in the group's attitudes due to gender?

4. What are the effects of using CALL on the achievement of the EFL students in reading comprehension?

5. Is there is a significant difference for the group's achievement in the post test due to the using of the computer at home, having internet access, and the number of hours used for academic purposes?

6. Is there is a significant difference for the group's achievement in the post test due to gender?

7. Is there a correlation between learners' attitudes towards CALL and their level of achievement in reading comprehension?

8. What is the general attitude of primary school EFL students towards CALL in reading skill?

1.6.5 Hypotheses of the Study

1. EFL learners have positive attitudes towards using CALL in the reading skill in the four dimensions (CALL importance, attitudes towards the computer, language skills they develop, and anxiety towards CALL).

2. Using the computer at home, having internet access, and the number of hours of using the computer for academic purposes have a positive effect on the attitudes of EFL learners in reading comprehension.

3. There is no significant difference in the attitudes of EFL learners related to gender in reading comprehension.

4. Using CALL has a positive effect on the achievement of the EFL learners in reading comprehension.

5. Using the computer at home, having internet access, and the number of hours of using computer for academic purposes have a positive effect on the achievement of the EFL learners in reading comprehension.

6. There is no significant difference in the achievement of EFL learners related to gender in reading comprehension.

7. There is a correlation between learners' attitudes towards CALL and their level of achievement in reading comprehension?

8. Primary school EFL students will have positive attitudes towards CALL in reading comprehension.

1.6.6 Significance of the Study

To the best of the researcher's knowledge, this study is among the first to be conducted in the Palestinian schools. The researcher is looking forward to coming up with conclusions that help the teachers in the field, the Directorate of Education, and The Ministry of Education in Palestine. It hoped to provide them with some of the needed information about the effectiveness, problems, and challenges in using CALL as a new way of learning in our schools, especially in this technological era where computers have become widespread not only in our schools, but also in most of our houses. Besides, their uses have expanded noticeably and teachers can't abandon them in many of their applications related to their job.

What gives this study additional importance is the Model School Network Program which is implemented by the AMIDEAST in Palestine. One of this program's goals is to develop an expandable network that embraces a new approach to learning especially by using computers. Therefore, according to this program many training courses and workshops are given to seven schools' teachers in various specializations encouraging them to use computers in their teaching.

1.6.7 Limitations of the Study

This study has the following primary limitations:

1. This study is confined to the eighth and tenth grade students in the second semester of the academic year 2010\2011 Rushdiyyah Muhtaseb Basic School for Girls, and the Al-Shariyyah Secondary School for Boys in Hebron. So the generalization of the results is limited to this population and to the instruments used in this study.

2. The study is restricted to one of the four skills of language learning which is reading comprehension.

1.7 Definition of Key Words

- **Computer Assisted Language Learning** (CALL): is a developed educational field that deals with the role of information and communication technology in language learning and teaching (Dhaif, 1999).

- **Learning:** is as a social and inter-mental activity, occurring in the Zone of Proximal Development, which is followed by individual development (viewed as the internalization or appropriation of socially constructed knowledge) (p. 214) Ohta, A. S. (2000) .

- **Reading comprehension on the internet**: "is a problem-based inquiry process involving four functions including locating information, evaluating information, synthesizing information and communicating information" (Coiro, 2007. p.5).

- **Computer anxiety**: is defined as the fear of using or possibility of using computers (Chua et al, 1999).

- **Attitude**: is a mental or neural condition of readiness, organized through experience, exerting a directive or dynamic influence on the individual's response to all objects and situations to which it is related (Allport, 1935).

1.8 Organization of the Chapters

The thesis is organized into five chapters. These chapters are briefly described below. In Chapter One the researcher gives a brief introduction about CALL, methodology, programs, importance of reading, the differences between reading a hypertext and printed texts. Then the researcher introduces the background of the study and the statement of the problem. After that come the purposes of the study, the research questions and its hypotheses. Finally, the researcher outlines the significance of the study, its limitations, and the definition of some key words. Chapter Two is devoted to the literature review of researches related to

the effect of CALL on the learners' attitudes and achievement in reading comprehension. Chapter Three describes the research design and the methodologies employed for carrying out the study. It provides detailed information about the participants, the instruments used for collecting the data, and finally data analysis techniques. Chapter Four presents the findings and the analysis of the data collected through the questionnaire, and the tests. Chapter Five presents the conclusions, recommendations of the study and suggestions for further research.

1.9 Summary

This chapter introduced the problem of the study. The problem is based on the fact that computers are widely spread, and they are considered as an important and effective tool of learning, but they are not considered so in our schools. So, to meet the needs of our technological era there is a need to integrate CALL programs in our schools. But, this integration has to be investigated for its effectiveness beforehand compared to the traditional way of teaching in our Palestinian context. Chapter One introduced CALL methodology, programs, importance of reading, and the differences between reading a hypertext and printed texts. Then the researcher introduced the background of the study and the statement of the problem. After that came the purposes of the study, the research questions and its hypotheses. Finally, the researcher outlined the significant of the study, its limitations, and the definition of some of the key words.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides a brief historical background about CALL, definition of what is meant by CALL, theoretical framework of CALL, its advantages, limitations and a literature review of some of the empirical studies that used it.

Nowadays computers and the internet are widespread almost everywhere, in homes, offices, markets, schools and universities, and their usefulness is nonnegotiable. Everyone uses them to help him to facilitate his job in his own field. For language teachers, computers and the internet form an important innovation in language teaching and learning, and play a great and crucial role for both educators and learners.

2.1 History of CALL

The use of computers started from 1930s; large computers were used during World War II to guide missiles and for cryptography (Last, 1992). In 1940s they were used for machine translation. Because of the development of computers and programming in 1950s and 1960s, linguists used computers for text analysis (Last, 1992). The Brown electronic corpus of Standard American English which consisted of about one million words was accomplished during this time (Fotos & Browne, 2004).

During 1950s, computers were first used in learning in the USA. They had limited use in language learning, and language learners had to work non-interactively with computers by using cards and with simple applications for drills and testing. That continued with some improvement of applications by 1960s (Fotos & Browne, 2004; Chapelle, 2001).

The use of the term Computer Assisted Language Learning (CALL) was coined around 1981 (Davies, 2003). However, it was agreed to use this term during the Teachers of English to Speakers of Other Languages (TESOL) conference in 1983, where it was decided to use CALL in the field of using technology in language teaching and learning (Chapelle, 2001). With the new applications of computers, especially in multimedia, the term CALL replaced Computer-Assisted Language Instruction (CALI) which is related to the behaviorist theory of language learning, whereas CALL focuses on the learner-centered approach that improves interaction and communication (Vivas & Valle, 2008).

CALL as an acronym was first used in 1982 in the UK in the newsletter CALLBOARD. In USA, the acronym CALI was used, appearing in the name of CALICO, but it referred more frequently to CALL than CALI. TESOL preferred using CALL, establishing its CALL Interest Section (CALL-IS) in 1983. The term CALI was ignored and CALL became the dominant term (ICT4LT Module 1.4).

2.2 What is CALL?

There are a lot of scholars who defined CALL; all of the definitions are related to the computer and its role in language learning process. Farrah and Tushyeh (2010) defined Computer Assisted Language Learning (CALL) as an educational field related to the role of technologies in language learning. Jones and Fortescue (1987) defined it as a means of using the computer to present, reinforce and test a particular language. Levy (1997) defined CALL as "using computers to support language teaching and learning in some way" (p. 3) cited in (Egbert, 2005). Specifically he defined it as "software tools designed to promote language learning." In a broader way, while talking about the technology changes and the CALL

applications, Levy (1997) described CALL as "a field that covers the search for and study of applications of the computer in language teaching and learning" (p. 1).

Educators introduce various terms in clarifying CALL components and terms. They include "*Computer-Enhanced Language Learning* (CELL), more general *Technology-Enhanced Language Learning* (TELL), specific applications such as *Computer-Based Language Testing* (CBLT), and *Computer-Supported Reading Instruction* (CRI)" (Egbert, 2005, p. 3).

2.3 Theoretical Framework of CALL

CALL is an approach to language instruction; it uses the computer to help in the presenting, reinforcing and assessing of language material interactively (Bordeianu, 2010). Over 30 years after the 1960s, and side by side with the development of computers, CALL has developed gradually. This development can be categorized into three phases: behavioristic CALL, communicative CALL, and integrative CALL (Farrah & Tushyeh, 2010; Gündüz, 2005; Fotos & Browne, 2004; Barson & Debski, 1996; Warschauer, 1996).

2.3.1 Behavioristic CALL

The first generation of CALL programs was linear with limited applications according to the development of computers (Ahmad et al, 1985). It was formed in the1960s and the 1970s, and was based on the behavioristic learning method, where the computer was used as a tutor with repetitive language drills (Ahmad et al, 1985). PLATO (Programmed Logic for Automated Teaching Operations) was the first project of this phase (Warschauer & Healey, 1998). It consisted of repetitive drills and practices for grammar, translations, and language use (Warschauer & Healy, 1998). The learner had to choose one of two given answers, and these programs processed data, and then presented the score (Levy, 1997; Taylor, 1980). The

computer of this phase was named the "*computer as a tutor*" (Levy; Taylor); it acts as a teacher who evaluates and gives activities.

CALL of this phase is termed as behavioristic CALL. It is based on habit formation which is based on the structural linguistics and the audio-lingual method, and its programs were considered as a supplement to the learning process not as a replacement (Richards & Rodgers, 2001).

CALL programs of the first phase are still used these days for vocabulary and grammar materials (Chapelle, 2001; Fotos, 2001). The exposure to language material repeatedly helps the learner in promoting language acquisition. In addition, the learner gets the needed feedback immediately and goes on to the next stage according to his own pace, and furthermore this encourages his autonomy (Chapelle; Fotos).

2.3.2 Communicative CALL

The second phase of CALL, communicative CALL, started in the late 1970s. It focused on meaning rather than formal instruction (Richards & Rodgers, 2001). The development of computers gave a wider range of possibilities and applications than was offered before. The behavioristic approach was challenged and even rejected at the theoretical and pedagogical basis (Richards & Rodgers). Supporters of the communicative approach emphasize that activities based on computers have to concentrate on the function of the form more than the form itself (Jones & Fortescue, 1987). Besides, they have to teach grammar implicitly not explicitly, make students produce their own sentences rather than imitating prefabricated ones, and finally they have to use only the target language (Jones & Fortescue). Communicative CALL is consistent with the cognitive theories which concentrate on learning as a process of "discovery, expression, and development" (Warschauer & Healey, 1998, p. 2.)

Cognitive theories concentrated on understanding the way knowledge is ordered and accessed in the mind. CALL specialists made language activities to encourage learners to use their own knowledge, and to reinforce this knowledge with the accessed information. After that, they transformed this information into a new learning experience that can be used originally in real life by social interaction, where colleagues and teachers have an active role (Vivas & Valle, 2008).

CALL software which was developed in this phase concentrated on skill practice (Healey & Johnson, 1995) cited in Warschauer (1996). For example, some programs aimed at paced reading, others targeted text reconstruction or language games (Healey & Johnson). These kinds of programs made learners work not only on their own, but also with others in pairs or groups to reconstruct language or discover language patterns and meaning. Here the concentration is on what learners do with each other while using the computer, not only with the machine they use (Warschauer & Healey, 1998).

The role of the computer in using these programs remains the "*knower of the right answer*" (Taylor & Perez, 1989 p.3) cited in (Warschauer, 1996), or "*teacher in the machine*" (Levy, 1997). These terms still represent an extension of the role of the "*computer as a tutor*", but with a slight difference because these programs gave the learner an amount of choice and interaction with others rather than the use of separated forms, so they were categorized as communicative CALL (Warschauer). The distinction between behavioristic CALL and communicative CALL relates to two main elements; the program used, and how the program is used by the language teachers and their students (Higgins, 1988).

During the1980s, a number of professional organizations of CALL were established like CALICO and their journals, and EuroCALL and their journal ReCALL (Richards & Rodgets, 2001). Besides, language teachers started to make language-learning programs

based on an interactively nonlinear basis, which was followed by the improvement of the Internet (Levy, 1997).

Educators were seeking to improve and develop CALL programs which help learners to integrate the various aspects of language in the learning process. This was accompanied by the advances and developments of computer technology which provided various advanced applications (Warschauer, 1996). This development of computers and CALL programs, in addition to the criticism of using computers in particular in the communicative CALL contributed in the marginal not in the basic elements of the learning process (Kenning & Kenning, 1990) cited in Warschauer & Healey (1998). It is related to a vast reassessment of communicative CALL theory and practice in the sense of using language in an authentic social context (Warschauer, 1996; Warschauer & Healey, 1998). Language teachers were shifting from the cognitive view of language learning, towards a more social view of language use in authentic social context (Warschauer). The approaches of task-based, project-based, and content-based approaches aimed at integrating language skills and use and contributed in moving towards a new view of the computer and language learning which was called integrative CALL (Warschauer, 1996; Warschauer & Healey, 1998).

2.3.3 Integrative CALL

CALL applications were limited to mechanistic drills which were deficient in providing the learners with the needed feedback to improve their proficiency (Kern & Warschauer, 2000). The criticism towards communicative CALL, in addition to CALL programs improvement and computers development, contributed in transmitting CALL to the third phase, i.e. the integrative CALL in the early 1990s. This phase witnessed different models of CALL programs, which were based on a cognitive model of language learning leading to stimulating learners' "motivation, critical thinking, creativity, and analytical skills

rather than the achievement of a correct answer or the passive comprehension of meaning" (Richards & Rodgers, 2001. p. 6); (Healey & Johnson, 1995). Taylor and Perez (1989) described the role of the computer in this phase of CALL as "*Computer as stimulus*" and "*computer as workhorse*" p. 3.

Integrative CALL is the last stage where the learning process moved to a sociocognitive view that emphasizes the use of language in an authentic context by integrating the four skills of language learning in technology more fully into the language learning process, in an authentic environment (Warschauer & Healey, 1998), "like task-based, project-based and content-based approaches" (Warschauer, 1996. p.2). Here computers are tools which provide the learners with means that enable them to be active learners (Levy, 1997). CALL programs of this type like word processors, spelling and grammar checkers, and concordance did not provide the learners with language drills or activities but they facilitated the students' understanding and using of the target language (Warschauer, 1996).

The theory of integrative CALL is taken from the sociocultural model of language learning of Vygotsky (Wertsch, 1985) cited in (Fotos & Browne, 2004), in which he assesses that interaction is essential for the creation of meaning. Interaction means person-to-person interaction which can be practiced in various activities of CALL programs, and recent computer applications like LANs and Internet (Fotos & Browne, 2004). The development of powerful computers made the integrative CALL possible (Richards & Rodgers, 2001). They supported the Internet in a high speed, Local Area Networks (LANs), multimedia, and linked resources which are known as hypermedia and hypertexts (Warschauer, 1996). Here learners can write interactively by exchanging e-mails and files, within one class, and among classes. MOOs (Multiple use-domain Object Oriented) are examples of multiplayer role-playing

games and real-time interactive learning situation simulate applications and activities by different users (Fotos & Browne, 2004).

Current multimedia language programs have highly interactive and individualized applications; they enable learners to read their assignments, use a dictionary when needed, study grammar and pronunciation in their own language, watch a movie related to the subject, take a comprehension test, and receive the feedback immediately; all can be done by one program (Kern & Warschauer, 2000).

2.4 Internet Importance

No doubt that the computer is a powerful machine; it provides the user with various kinds of programs and applications. But nowadays all of that is not enough. There are new media which provide more; it is the internet.

"On the Internet, there are databases that contain information on every branch of human knowledge and enterprise- from the most serious scientific topics to catalogues of jokes. Due to advances in the worldwide telecommunication systems, the Internet has become a global network, and universities, businesses, and individual users in virtually every nation are on the Net." (Gündüz, 2005. p. 209)

The rise of the high speed internet gave other dimensions for the role of the computer in the learning process. It made the tasks and activities more efficient and effective (Porter, 2001). Some of the scholars termed CALL as Network-Based Language Learning (NBLL) (Kern & Warschauer, 2000), showing the importance of the internet. Nowadays, the internet forms an essential tool for education. LeCoup & Ponterio, (2003) assess that it is now considered as a "useful instructional tool" (p1) for foreign language educators because of the great number of applications and communication technologies it offers.

The internet gave two important features supporting the integrative CALL. First of all, it promotes learner autonomy, related to the term *"computer literacy"*, where the learner develops his skills of data retrieval, interprets them critically, and then he shares these data with other online groups (Warschauer, 1999). Learner autonomy is based on the concept that a learner learns better when he discovers things by using his own efforts, more than he does when he gets information from others. That is considered as an important aim of integrative CALL (Healy, 1999) cited in (Fotos & Browne, 2004).

The second feature of the internet is the transformation from language learning programs and CD-ROMs to online activities, which gives the learner the needed flexibility and individualized pace (Warschauer, 1999). The internet programs provide the learners with meaningful communication for purpose, not only a tool for learning (Fotos & Browne, 2004).

Vi (2005) points out a number of advantages of the internet that back up the EFL learning process. Various new applications have been used like "multimedia, e-mail, electronic journals, databases, World Wide Web, chat, audio and video conferencing etc" p. (61). Internet applications provided both teachers and learners with authentic material, and communication applications and activities to improve language skills like electronic dictionaries and translation softwares to enable the learner to understand a text in an easier way. Besides, learners can get authentic language journals, electronic newspapers, lecture notes, and review the lessons beforehand at any time. Moreover, the internet offers communication applications that create a distinguished way of connecting language learners themselves, and learners with their teachers. Computer Mediated Communication (CMC) enables learners to interact with others inexpensively without any limitations of time or social anxiety, in addition to opening the doors of the class to the world, which encourage them to be more active learners. By enabling learners to interact with others, especially of the target language ones, learning the language in a cultural context is encouraged.

2.5 Advantages of CALL

In this age of computer, most of the educational activities are based on computers. CALL programs are effective means in teaching English as a foreign language. Not only do they bring about changes in teaching methodology, but they also have much to offer in the language learning process. Therefore, there are a lot of advantages; some of these advantages are mentioned in the following points.

First of all, certain designs of CALL programs make studying interesting which motivates learners for better learning and stress free environments (Stepp, 2002; Jayachandran, 2007). They have various animate objects, provided by activities which create challenge and curiosity, and make learners like spending more time on activities which form an important factor for better achievement (Stepp, 2002). Furthermore, CALL programs enable learners to communicate authentically with others, and get them feel empowered and fearless of contacting others (Ehsani & Knodt, 1998). Moreover, it improves mastery of basic skills, more learner-centered process, and contributes to the learning process. These elements contribute to critical thinking skills and better recall (Stepp, 2002).

Steinberg (1990), Yaakub (1998) mention more advantages of CALL; first of all, by using CALL programs, computers play a great role in integrating them in the language learning process. The teacher can provide backup and support to the learners while they monitor their linguistic performance and progress without interference in the learning process. Besides, CALL improves the motivation level of learners and increases their level of proficiency. In addition, computers support both group activities and individual learning with no limitations to class or time. It encourages learner autonomy by giving each learner equal chance to respond to the given questions or activities at the same time. Consequently, computers form an efficient learner-centered device with a great self-access resource. They

can repeat the activity as they need and select the material according to their individual needs (Jayachandran, 2007; Steinberg, 1990; Yaakub, 1998).

Moreover, computers help the learners find and check their answers and learn from their mistakes. The immediate feedback given by CALL programs helps them to analyze patterns in the language and increases their motivation in learning. Thus, by CALL method learners learn more words with their usage at their own pace and time using their own learning strategies. Finally, by using CALL programs on computers, learners not only learn patterns, use and practice of a foreign language, but also they have computer literacy which helps them in the future career which is considered as a vital requirement in this technological era (Jayachandran, 2007; Steinberg, 1990; Yaakub, 1998).

On the other hand, there are advantages in the way of reading texts on the screen of the computer which is called hypertext. Hypertext is a kind of informational environment where ideas are connected together in various ways (Intrator, 2000) cited in (Tseng, 2008). Hypertext enables readers to read in a nonlinear way. They can browse through documents, books, encyclopedias, and electronic texts stored in the computer and networks (Barnes, 1994; McHoul & Roe, 1996; Purves, 1998). Learners also can move between these documents, drag, save, or link them with other spaces (Tseng, 2008). Moreover, it encourages in distinguishing between cause and effect, true from the false, and to apply critical thinking skills (Ojala, 2000).

2.6 Limitations of CALL

Although there are many advantages of CALL, we cannot ignore its limitations and disadvantages in various ways. First of all, there is the financial barrier; setting up computers and its requirements and facilities is expensive, which forms an obstacle for its benefits, not only for the institutions but also for the learners themselves (Gips et al 2004; Vi, 2005; Lai &

Kritsonis, 2006). Besides, when establishing a computer laboratory, it would be impossible for it to be renewed for many years (Gündüz, 2005).

Moreover, the financial barrier includes the cost of the training courses needed for the teachers. Utilization of the computer and CALL programs needs training for both teachers and learners (Vi, 2005; Lai & Kritsonis, 2006). Most of the teachers these days lack the needed training to assist their learners in CALL programs. So, the benefits and aims of CALL cannot be fulfilled without familiarity with computer programs and applications by the students and their teachers (Roblyer, 2003) cited in (Lai & Kritsonis, 2006). Moreover, CALL programs cannot deal with learners' response in the speaking skill like dealing with the other skills, so the learner's speaking skill cannot be evaluated or corrected (Warschauer, 1996).

On the other hand some of the limitations are related to the methodology of using CALL in the classroom. In order to learn effectively in CALL class, learners should discuss the activities and drills with their teacher as discussed in non-CALL sessions (Gündüz, 2005); they cannot be left to study alone.

Steinberg (1990) cited in Yaakub (1998) mentions other limitations related to CALL methodology. First of all, the communication mode of CALL is visual. There is no use for physical modes, like using body language or gestures to encourage learners to respond or to give approval or disapproval. CALL learners communicate by using the keyboard or a mouse, or other multimedia accessories. Besides, they rarely communicate with their colleagues. They interact with computers programs. Furthermore, CALL programs lack flexibility in judging the learners' answers; they cannot differentiate between similar meanings of responses (Steinberg, 1990).

Moreover, most of CALL programs are locked. They cannot be modified or improved by the teacher (Jayachandran, 2007), which lessens the flexibility needed for the teachers to

deal with various learning situations in the classroom. In addition to that, there are problems related to the computer itself, like technical problems related to the computer's hardware and software which cause malfunctions, in addition to the network access and speed (Vi, 2005).

Finally, despite the fact that there are many disadvantages, problems, and limitations in utilizing computer and CALL programs, what is offered by computer and internet is promising, and its benefits are too obvious to be ignored (Vi, 2005).

2.7 Empirical Studies

Various research studies have investigated the effect of CALL on EFL learners' attitudes and reading comprehension. They can be classified into three categories according to the place: Palestinian, regional, and international studies.

2.7.1 Palestinian Studies

Little research has been done on the effect of CALL on EFL school learners' attitudes and achievement in reading comprehension in Palestine. One of these studies was conducted at the university level by Farrah and Tushyeh (2010), which investigated the differences in the attitudes of the English majors towards computer anxiety, importance, use, and productivity. Besides, it investigated the effect of using CALL on improving the reading skill. The results of the study revealed that the participants showed improvement in their attitudes, productivity, computer importance, reading skills and proficiency. In addition to that, the results showed that using CALL increased the participants' improvement in reading motivation, self-confidence, and decreased their feeling of anxiety.

Similar results were shown in Faqha (2002) who investigated the effects of using CD-ROM based software on the development of English language skills for the third graders. Results showed that using CD-ROM based software had a significant positive effect on the students' achievement. Besides, there was no difference related to gender.

Abbas (2008) examined the importance of utilizing modern technology in enhancing learning in general, and English language teaching in particular. She described two experiments in the field; co-project which was running a training course in English language teaching through videoconferencing, and "Remedial English" course. Results show that using technology in teaching is a favorable thing. Besides, implementation of such projects is encouraging for the teachers to increase their knowledge in online learning.

2.7.2 Regional Studies

Many regional studies have been conducted in the Arab countries related to CALL and its effects on the attitudes and achievement in reading comprehension with different results. Bulut and AbuSeileek (2009) investigated the first year students' attitudes in the English department at King Saud University towards CALL, and its relationship with achievement in the basic language skills. Results showed that there are positive attitudes towards CALL and usefulness of its activities. However, the results showed that there is no relationship between the participants' attitudes and their achievement.

In another study, Al-Jarf (2007) investigated the effects of using web-based course on the reading skills combined with traditional in-class reading instruction in King Saud University. Results showed that this combination improved reading achievement. Besides, participants reported that online reading is useful and fun; it improved their reading ability in English, and helped them in doing their homework. Besides, it motivated them to study, and raised their self-esteem. Furthermore, it created a warm-climate between the students themselves, and with the instructor. Finally, results showed that there was a correlation between the frequency of using online and their achievement. This is in line with Marzban (2008) who investigated the impact of using CALL on the female intermediate students' comprehension. Results showed that using CALL can improve the students' quality of reading comprehension.

Similarly, Ali (2004) investigated the effectiveness of using CALL to improve undergraduate Arab learners' reading skill in English. Besides, he investigated the effect of the students' attitudes towards CALL on their achievement in reading. Results showed that CALL had a positive effect on reading. Besides, participants who used CALL in reading had a positive impact on their achievement regardless of their initial attitudes.

2.7.3 International Studies

A lot of international studies have been conducted investigating CALL and its effects on the attitudes and achievement in reading comprehension with various results. First of all, Coiro (2008) investigated the relationship between adolescents' attitudes towards reading on the internet, the frequency of using internet, and online comprehension achievement. Besides, she investigated possible gender differences among participants. Results showed that there was a correlation between online reading attitudes and online reading comprehension ability. In addition to that, there was a correlation between frequency of using the internet and online reading comprehension ability. Besides, she found that there were no differences related to gender in online reading ability or internet use.

Lim (2004) investigated the effect of CALL on EFL college learners' reading according to tutor, classroom difficulty and interest, and their realization of learning effectiveness. Results showed that participants had positive attitudes towards CALL. They understood their learning atmosphere, which offered collaboration and mutual support and interaction with interesting and useful materials and tasks.

In another study, Arroyo (1992) examined the effectiveness of intensive use of computers on reading achievement of elementary school learners. Results showed a statistically significant improvement in reading achievement for the experimental group. Shaver and Wise (1990) used a meta-analysis procedure to summarize data from research views related to the impact of using computers on reading in an early age –kindergarten and

first grade. Results showed that computers had an impact on early reading, and students were ready for formal reading instruction by computers. Moreover, students showed increased motivation and self confidence.

In a meta analytic study related to the field, Taylor (2006) showed that there was a significant difference between studies on traditional paper-based glosses and CALL glosses. Results showed that participants using L1 CALL glosses comprehended significantly more text than participants using the traditional way of learning. Caldrone et al (1995) described and evaluated the project used to improve the reading skills of the kindergarten, second and fifth graders. The project was based on the use of hypermedia technology in those classes. Results indicated that there was an increase in the students' comprehension, study skills, and vocabulary.

On the other hand, Son (2003) investigated the use of the three text formats: paper-based, computer-based non-hypertext format, and computer-based hypertext by EFL learners. He focused on the learners' reaction to the usefulness of hyperlinks to assist them during independent reading. Results showed that learners considered hyperlink texts as useful and helpful in their learning. In another study, Kramarski and Feldman (2000) examined the effects of the internet on reading comprehension in addition to motivation and metacognitive awareness in the classroom. Although the results of the study showed that the internet environment improved motivation towards learning English as a foreign language, results showed that there was no significant difference between the groups in reading comprehension. This finding is in contrast with Porter (2001), who found that the internet makes tasks and activities more efficient and effective. Besides it is in contrast with Boser et al (1998) who confirm that learners who have a positive experience in educational computer programs will develop positive attitudes towards the computer and will therefore be more interested to study about technology.

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Hamilton (1995) investigated the effect of using CAI (Computer Assisted Instruction) on the reading achievement of the Afro-American sixth grade students. The researcher concentrated in his study on the gender differences in addition to the usefulness of computers in the reading skill. The results of study showed that reading comprehension was not affected by computer assisted instruction. Besides, results showed that there were no significant differences between boys and girls in reading comprehension achievement based on the method of instruction.

In an MA thesis, Humble (2000) examined the impact of CAI on reading fluency by using Talking Book software as a teaching aid for 2nd grade learners. Results showed that CAI learners' scores were almost the same as scores of the reading aloud to the adults. That means that computers can be used to help in reading practice in the class, especially when the teacher does not have an aide from a parent volunteer.

However, there are studies that are in contrast with the previous studies. They did not find significant importance for CALL according to various reasons. First of all, Tseng (2010) investigated the difficulties that EFL Freshmen English course learners face in reading comprehension classes using online hypertexts. Results showed that participants did not like reading from computer screens. They faced some difficulties in reading like: eyestrain, skipping lines while reading, and having no chance of underlining text or taking notes. In addition to that there are other factors like the background color of the web pages and the font size. Similarly, Tseng (2008) compared learners' reading comprehension between using printed text and reading hypertext through computer screens. Results showed that the experimental group had lower scores in reading comprehension especially in the skimming and scanning skills, while they received higher scores in vocabulary knowledge. The experimental group justified low scores by saying that their eyes got tired while reading and

answering the test, and they had headache. Besides, they skipped lines and even got lost because the words were "hidden" inside the screen.

Moreover, Tseng (2007) investigated the way EFL learners read on the internet in addition to comparing the effectiveness of reading between paper-based text and hypertext through computer screens. Results showed that the control group's results were better than the experimental group's in reading comprehension questions in the four reading skills: prediction, skimming, scanning, and vocabulary. The size of the font and the background color were the factors that affected the experimental group. Finally, Kwary (2006) compared between CALL and the traditional way of teaching according to their effectiveness. Besides, he investigated the feasibility of applying CALL to improve learning. Results showed that the traditional way of teaching was more effective in increasing the students' abilities in comprehending reading texts, than using CALL.

2.8 Summary

This chapter gave an overview of the various studies which investigated the effects of CALL on the learners' attitudes and achievement in reading comprehension. It started by giving a brief history about CALL and the definition of CALL. Then, it discussed the theoretical framework of CALL in which its development could be categorized into three phases and approaches: behavioristic CALL, communicative CALL, and integrative CALL. After that, this chapter discussed briefly the internet and its relations with CALL, which gave CALL other features and dimensions. Furthermore, it discussed the advantages and limitations of CALL. Finally, it discussed the related studies which were classified as Palestinian, regional, and international studies. The following chapter describes the methodology followed in this research.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the methodology of this research. The first section describes the participants. The second section describes the instruments used in carrying out the study and data collection. The second section also describes the validity and reliability of the instruments, in addition to describing the material used in conducting the study. Finally, the third part describes how the data are analyzed.

3.1 Participants

The participants of the study are 265 EFL students of the eighth and tenth grade; 127 females and 138 males. Their native language is Arabic. They are from four schools in Hebron, two for boys, and two for girls. One boys' school and one girls' school were chosen to form the experimental group, while the other boys' and girls' schools form the control group. The experimental group was chosen upon the availability of the facilities to conduct the study. Table 3.1 shows the distribution of the participants according to the group, school, gender, and grade.

Table 3.1 Distribution of participants

Group	School	Gender	Grade	Number	Total
Experimental group	Rushdiyyah	Female	8	55	131
	Shariyyah	Male	10	76	
Control group	Zainab	Female	8	72	134
	Taffouh	Male	10	62	
Total					**265**

3.1.1 Experimental Group

The study was conducted at two experimental schools in Hebron after having the needed permission to conduct the study. The first one is Rushdiyyah Muhtaseb School for Girls. The second school is Al-Shariyyah School for Boys. The final number of the participants of the two schools is 131.

3.1.1.1 Rushdiyyah Muhtaseb School for Girls

The first school was a governmental one named Rushdiyyah Muhtaseb School for Girls. The participants of the study were two sections (a, b) of the eighth grade of 55 students. They started studying English from the first grade. The school was chosen upon the AMIDEAST advice because they were organizing a program called Model Schools Network (MSN)[1] program for improving schools in Palestine, and the school was one of them. So, this school had the needed facilities for the research to be conducted in; it had a computer lab with fifteen up-to-date computers with LCD screens all connected to the internet, in addition to an LCD projector with a white screen connected to the main lab computer.

The researcher approached the principal of the school and the English teacher in order to facilitate conducting the research in the school. The researcher explained some details about the research and its requirements, the setting of CALL class, and the needed efforts for implementing the experiment as an additional tool for teaching. Besides, the CALL for the reading program -Rocket Reader-[2] was installed onto the teacher's laptop, in addition to some discussions about it which were held with the teacher. As an additional aid, the researcher

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[1] This program was funded by the USAID and implemented in partnership with the Palestinian Ministry of Education and Higher Education. The MSN program focused on developing a school improvement network to serve as a model for the basic education in grades 1-9 in Palestine, as its brochure said. The AMIDEAST held some training courses in the school for seven selected schools' teachers participating in this program in using computers in teaching for various specializations, for various subjects.

[2] Rocket Reader is a computer programs deals with reading and writing skills from the low to a high critical thinking level. It follows the level of challenge according to the learner's progress, guiding him to the following level. Moreover, it works online and offline providing the learner with a network class environment. It also provides the learner with a valuable feedback on his progress saved under his login name, and his individual report. For more information check (www.rocketreader.com).

provided her with some video materials about CALL classes, and PowerPoint slides to guide her in implementing the experiment.

3.1.1.2 Al-Shariyyah School for Boys

The second school is a private one called Al-Shariyyah School for Boys. The participants were two sections of the tenth grade of 76 students. They started studying English from their first grade. The researcher chose this school because it contained the basic infrastructure needed for running such a study. This school was provided with up-to-date computer lab of twenty computers all connected to one LAN, and to the Internet. In addition, the computer lab had an LCD projector with a white screen connected to the main computer.

The researcher talked to the principal of the school, and to the English language teacher, and asked for having the needed permission for implementing the study in the school. Some details about the thesis and its basic requirements were explained to the teacher, concentrating on his role which was to integrate the computer in reading classes. As an additional aid, the researcher provided him with some video materials and PowerPoint slides about CALL classes to guide him in applying CALL. Besides, some discussions about one of the CALL programs for reading –Rocket Reader- were held with the teacher, and it was installed onto one of the computers. Finally, each participant of the two experimental schools was provided with a CD containing the program and the same material which the teachers were given.

3.1.2 Control Group

The control group schools were chosen randomly of the same gender and level of the experimental schools. The researcher chose two schools in his research for the control group in order to make a balance between the number of males and females. The first one is Zainab School for Girls, and the second one is Taffouh School for Boys, forming 134 male and

female participants. After having the needed permission from The Directorate of Education in Hebron, the researcher approached the principals and the two English language teachers in the two schools, and illustrated why and how those schools were chosen, and what was their role in the experiment. The teachers of the two schools used the traditional way of teaching without any changes, and without using computers.

3.1.2.1 Zainab Basic School for Girls

The first control school was Zainab School for Girls. Two classes from the eighth grade consisting of 72 participants were randomly selected to form the control group. They studied English from their first grade.

3.1.2.2 Taffouh School for Boys

The second control group consisted of 62 tenth grade male students at Taffouh School for Boys. They studied in two classes, and they were selected randomly. They studied English from their first grade.

3.1.3 Participants Equivalency

In order to make sure that the control and experimental groups are equivalent concerning using computer and internet in learning, a t-test was carried out for the two groups to examine their attitudes using the pre-questionnaire as seen in Table 3.2.

Table 3.2: t-test for pre-general attitudes due to group

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Group	Control	134	3.50	0.41	262	0.30	0.76
	Experimental	130	3.50	0.50			

As Table 3.2 shows, there is no significant difference at ($\alpha \leq 0.05$) on pre-general attitudes questionnaire due to the group, which means that the two groups are equivalent concerning their attitudes towards using the computer and the internet in learning.

Then, to investigate the equivalency of the two groups' attitudes in the four dimensions, the researcher conducted a t-test for Equality of Means for pre-attitudes in the four dimensions. Table 3.3 shows the results.

Table 3.3: t-test for pre-general attitudes in the four dimensions

Group Statistics					Independent Test		Samples
Dimension	Group	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Pre Importance	Control	134	3.78	0.57	262	-1.74	0.08
	Experimental	130	3.91	0.60			
Pre Attitudes	Control	134	3.47	0.60	262	0.16	0.88
	Experimental	130	3.46	0.60			
Pre Language Skills	Control	134	3.71	0.57	262	-0.26	0.80
	Experimental	130	3.74	0.77			
Pre Anxiety	Control	134	3.53	0.88	262	-1.25	0.21
	Experimental	130	3.66	0.87			

As shown in Table 3.3, results show that there are no significant differences at ($\alpha \leq$ 0.05) between the control and experimental groups in the four dimensions. This shows that the two groups are equivalent in their general attitudes in the four dimensions concerning using the computer and the internet in learning EFL.

Likewise, in order to make sure that the control and the experimental groups are equivalent in their language competence, a t-test was carried out for the achievement in their pre-test results. Table 3.4 shows the results.

Table 3.4: t-test for the pre-test due to group

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Group	Control	134	4.45	1.75	263	-0.80	0.43
	Experimental	131	4.66	2.46			

As can be seen in Table 3.4, there is no significant difference at ($\alpha \leq 0.05$) on pre-test results due to the group, which means that the two groups are equivalent. So, considering the pre-attitudes results and the pre-test results for the two groups which show no significant

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differences, we can consider that the results of the treatment which targets the experimental group show exactly the difference that happens and can be compared to the control group.

3.2 Instrumentation: Procedure and Data Collection

Data for this study were collected by quantitative and qualitative methods. The researcher uses a multi-fold methodology. First of all, it is an empirical study which depends on collecting information through two main instruments: a questionnaire, and a test. Second, it investigates the differences between learners' attitudes towards using CALL and their achievement before and after implementing the experiment for the experimental and control groups. Not only does this study investigate the differences between the control and experimental groups before and after conducting the study in their attitudes and achievement, but it also investigates whether other variables affect their attitudes and achievement, such as gender, internet access and other variables. Finally, it is a descriptive and analytic research for the results obtained. Therefore, in order to assess the achievement and attitudes of the EFL learners towards integrating CALL programs in their study, the data obtained through the previous by mentioned means in the second semester of the academic year 2010\2011 were triangulated in the discussion to get the conclusion concerning using CALL for EFL learners. The triangulation between the qualitative and quantitative data will further validate any findings, and the results are discussed and illustrated in light of the studies reviewed in the second chapter of this study.

The participants –control and experimental groups- were asked to take a pre and post paper-based reading comprehension tests. In addition, they filled out the pre and post-questionnaire related to their general attitudes towards using CALL. Relevant data extracted were stored, tabulated, and analyzed by using *SPSS* (Statistical Package for the Social Sciences) *V.15.0 Program*.

3.2.1 Attitudes Questionnaire Development and Content Validation

The questionnaire was prepared to get the quantitative data for the study. It checked the students' attitudes towards CALL, and obtained the needed demographic data about the participants. It was administered to the participants in the experimental and control groups before and after conducting the study.

By reviewing and researching different resources dealing with CALL, and based on the literature review of other studies, the researcher concluded that the questionnaire items which investigate the participants' general attitudes towards using computer in learning could be categorized into four dimensions: computer and internet importance, attitudes towards using computer and internet, the role of the computer and the internet in improving language skills, and the participants' anxiety towards using computers and internet.

The draft of the questionnaire was adopted and adapted from various resources: (Awad 2010; Farrah & Tushyeh, 2010; Chudasama, et al., 2009; Osodo et al., 2010; Despotakis et al., 2007; Bryant & Shonkwiler, 2004; Son, 1998; Howard et al., 1986; Loyd & Gressard, 1984). All of the items were close ended questions 'tick-box'. It consisted of 10 demographic data, and 24 items, and it was given to two referees of the English Department at Hebron University and one from the Faculty of Education at Hebron University, too. They were requested to evaluate the suitability, clarity, and sufficiency of the items. After reviewing them, they gave the researcher their first remarks, and their comments and suggestions were taken into consideration.

The second draft of the questionnaire was prepared in light of the comments and suggestions. It consisted of two; 12 demographic items and 42 items in four categories. For the sake of validating the questionnaire, and after consulting the supervisor, it was given for two times to four experts in the English Department at Hebron University. They reviewed the questionnaire, and each of them sat individually in a discussion session with the researcher,

then each of them gave his own written comments. The researcher took their comments into consideration and modified the questionnaire more than one time by adding, modifying and combining some items, until it was approved by them. (See Appendix no. 1. p. 77)

The final copy of the questionnaire consisted of two parts:

Part 1: It contained demographic data with 7 items. The factors of gender, computer use, net access and hours spent in using computer and internet in learning were selected to be analyzed as additional variables based on the literature review. The demographic survey used questions from the previous mentioned resources. Table 3.5 shows the items related to the demographic data.

Table 3.5: The Demographic Data items part of the questionnaire

A. School:
B. Gender   1. ☐   male   2. ☐   female
C. Grade   8. ☐   10. ☐
D. Last year's final grade in the English language: 1. ☐ 90 and above   2. ☐ 80-89   3. ☐ 70-79   4. ☐ 60-69   5. ☐ below 60
E. Do you use a computer at home?   1. ☐ Yes   2. ☐ No.
F. Do you have access to the Internet at home?   1. ☐ Yes   2. ☐ No.
G. How many hours per week do you use the computer and navigate the Internet for academic purposes?   1. ☐ 0   **2.** ☐ 1-4   3. ☐ 5-10   4. ☐ more than 10

Part 2: This part consisted of 35 items. A five-point Likert scale was utilized for rating the respondents from 1= strongly disagree to 5= strongly agree (5= strongly agree, 4=agree, 3=uncertain, 2=disagree, and 1= strongly disagree). These items dealt with the participants' general attitudes towards using computer and internet in learning. These items were divided into four dimensions:

1. Computer and internet importance: it consisted of 8 items (1-8). They examined the extent of the participants' attitudes towards the computer and internet importance in learning. Table 3.6 shows the related items.

Table 3.6: Computer and Internet Importance Items of the Questionnaire

	Computer and Internet Importance	1	2	3	4	5
1	Using the computer and internet in learning helps me to know more about using computer.					
2	Reading through the computer and internet helps me with my English.					
3	Doing activities through the computer is a valuable aid to my learning.					
4	I use a computer to look for information on the internet.					
5	Using the computer and internet while doing activities saves time.					
6	Using online dictionaries is important for understanding the meaning of new words, part of speech, and etymology of words.					
7	I can read resources on the computer and internet that are not available elsewhere.					
8	Using the computer and internet in reading helps me in other fields.					

2. Attitudes: it consisted of 8 items, too (9-16). They examined the participants' specific attitudes towards using computer and internet in learning, the extent of enjoyment, preference, and motivation. Table 3.7 shows the items related to the participants' attitudes.

Table 3.7: Attitudes Items of the Questionnaire

	Attitudes	1	2	3	4	5
9	Using the computer and Internet in learning is interesting and enjoyable.					
10	The computer and internet enhance my independence.					
11	I get more individual attention from my teacher during CALL class.					
12	I prefer reading texts by the computer and internet than reading printed text.					
13	The computer and Internet motivate me to study harder.					
14	I prefer the feedback given by the computer to feedback given by teachers.					
15	I prefer the computerized task formats to the paper-based formats.					
16	I feel that the computer and internet are necessary tools in education.					

3. Language skills: it consisted of 14 items (17-30). These items examined the participants' specific attitudes towards the role of computer and internet in improving their language skills. Table 3.8 shows the items related to the importance of the language skills.

Table 3.8: Language Skills items of the questionnaire

	Language Skills	1	2	3	4	5
17	Using the computer and internet increases my understanding of the reading texts.					
18	Using the computer and internet motivates me to read more texts.					
19	Using the computer and internet motivates me to spend more time in reading					
20	Using the computer and internet helps me to develop my vocabulary.					
21	Using the computer and internet increases my comprehension of idiomatic expressions.					
22	Using the computer and internet increases my challenge in solving problems.					
23	Using the computer and internet enables me to look at chunks larger than single words.					
24	Using the computer and internet increases my ability of guessing the meaning of the new vocabulary from the context.					
25	Using the computer and internet in learning increases my creativity.					
26	I get more feedback by using the computer in learning English.					
27	I can access extra information more easily by using the computer and internet in learning English.					
28	Computer programs improve my reading speed.					
29	Computer programs improve my reading comprehension.					
30	The computer and internet help me to develop my critical thinking skills.					

4. Anxiety: it consisted of 5 items (31-35). They examined the extent of the participants' anxiety towards using the computer and internet in learning language. Table 3.9 shows the items related to the anxiety of the participants towards using the computers.

Table 3.9: Computer Anxiety Items of the Questionnaire

	Computer Anxiety	1	2	3	4	5
31	I get nervous when I read by the computer and internet.					
32	Doing my work using the computer makes me nervous.					
33	I become annoyed when asked to do my assignments by the computer.					
34	I hesitate to use a computer for fear of making mistakes I cannot correct.					
35	I avoid using computer and internet because they are unfamiliar to me.					

To compare the results of the same student at the beginning and at the end of the study period if needed, the researcher put the number of the student at the top left corner of the questionnaire.

On the other hand, since the questionnaire had to be given to Arab EFL learners, and to make sure that they get the exact meaning of the items, and to answer the questions as they understand them, the questionnaire had to be translated. So, it was given to an expert in the English Department at Hebron University, who translated and approved it. Finally, according to the nature of the translated copy of the questionnaire, some final modifications were made after consulting the supervisor (See Appendix no. 2. p. 79).

In order to measure the internal consistency reliability of the questionnaire, Cronbach α (*alpha*) measurement is used. George and Mallery (2003) explain that the higher the value of α, the more reliable the questionnaire is, according to the internal consistency. The following scale for the value of α is provided by George & Mallery (2003): $\alpha > 0.9$ excellent, $\alpha > 0.8$ good, $\alpha > 0.7$ acceptable, $\alpha > 0.6$ questionable, $\alpha > 0.5$ poor, $\alpha < 0.5$ unacceptable.

Therefore, the researcher conducted the reliability statistics for the questionnaire using Cronbach Alppha Coefficient for the control and the experimental groups. The result is shown in Table 3.10.

Table 3.10: The Reliability Statistics for the Control and Experimental Groups before Conducting the Study.

Reliability Statistics	
Cronbach's Alpha	N of Items
0.88	35

As shown in Table 3.10, the result reveals that the Cronbach Alppha Coefficient of the questionnaire is (0.88), which indicates a high degree of internal consistency. Accordingly, the questionnaire is considered as a very reliable instrument.

3.2.2 Reading Texts Development and Validation

The reading texts intended to measure the students' English proficiency and achievement of English language. By reviewing and researching different resources, in addition to the consultation with the supervisor, the researcher concluded that two texts are needed. They had to be given to the control and experimental groups; one at the beginning, and the other at the end of the study. These texts had to have the same level of difficulty, and they had to meet the students' level: the eighth and tenth graders.

The first draft consisted of four texts, taken from "PETRA Nine" and "Rocket Reader" program. They had the following headlines: "Reading is fun", "The computer revolution", "The Olympic games", and "Tim Howard: American goalkeeper in England". Their questions were modified and expanded to ask about different kinds of information. Then the four texts were given to two experts from the English Department at Hebron University and two practitioners from the schools to get their feedback about them. They were requested to evaluate the test with regard to suitability and clarity of questions to the aims of the course, to the level of the students, and appropriateness of content. Their remarks, comments, and suggestions like adding inferential and open ended questions were taken into consideration.

Furthermore, the four texts were piloted by a field test. They were given to ten students, five from the tenth grade, and five from the eighth grade. By reviewing the experts' feedback and remarks, and the practitioners' views, side by side by studying the ten students' marks of the four text passages, two of the four passages were excluded and two were chosen. The excluded passages were "Tim Howard: American goalkeeper in England", and "The Olympic games". "Tim Howard" was considered as very difficult and doesn't fit the tenth and eighth grades. Besides it has the least marks of the pilot study, it had 67%. "The Olympic games" was graded as an easy text. In addition, it has the highest grade of the pilot students

78%. The other two texts "Reading is fun", and "The computer revolution" were chosen to be given to the students at the beginning and at the end of the study. Besides, these texts had nearly the same grades for the pilot students 72% and 73% respectively.

Based on the suggestions of practitioners and consultation of experts, some changes were carried out. First of all, the original sets of questions were changed. The researcher modified and reformed some questions to ask about information in different forms. Then the researcher added some inferential questions to distinguish between students' level of proficiency. Finally, the two texts were validated by the experts before the were implemented. The final form of the pre and post comprehension texts included 8 multiple choice questions, followed by 2 open ended ones, one point for each question. On the other hand, to compare the results of the same student in the beginning and the end of the study -if needed-, side by side with the questionnaire, the researcher clipped the reading text with the questionnaire to be given to the student together. After correcting the test papers, the results were stored, tabulated, and analyzed by using SPSS (Statistical Package for the Social Sciences) V.15.0 Program.

3.3 Data Analysis

Data were collected, analyzed, and reported. Interactions relating to CALL attitudes questionnaire, reading comprehension test scores, and demographic data were investigated. By using SPSS Program, a t-test was used to compare the questionnaire and comprehension test mean scores of the experimental and control groups statistically. Mean scores were used to report the results of Likert-type statements for the student questionnaire and test. Responses from the participants were described, interpreted, synthesized, and triangulated with the quantitative results. The findings were then reported.

3.4 Summary

To sum up, this chapter explained the methods followed in this study. It described in details the participants, data collection, and the instrumentation of carrying out the study. Besides, it presented the formation, validation, and the reliability of these used instruments. Finally, it presented the way the obtained data were analyzed. The following chapter describes the results and the discussions about them.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results of the study. The results of the questionnaire are discussed in light of the learners' perceptions before and after of implementing the study. The results of the comprehension texts are discussed according to the marks they got in the pre and post tests. The following sections present the findings and discussions related to the research questions of the study. The results of the questionnaire are presented first, and then they are followed by the results of the post test.

4.1 Results of the Post Questionnaire

4.1.1 Question One: Is there a significant difference in the attitudes between the experimental and control group in the four dimensions (CALL importance, attitudes towards CALL, language skills, and anxiety towards CALL)?

First of all, the researcher investigated the effects of CALL on the experimental group's general attitudes after treatment. To see whether there is a significant difference at ($\alpha \leq 0.05$) in the general attitudes between the control and experimental groups, a t-test was carried out to analyze the answers of the post-general attitudes. The results are shown in Table 4.1.

Table 4.1: t-test for the post-general attitudes in all of the

questionnaire items due to group

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Group	Control	130	3.55	0.54	256	-4.19	0.001
	Experimental	128	3.83	0.54			

The result of Table 4.1 shows that there is a significant difference between the two groups at (α = 0.001). Their means are (C[3]=3.55, E[4]=3.83), which indicate that using CALL affects the experimental group positively after the treatment.

Then, the researcher investigated the effects of using CALL on the experimental group's attitudes towards using CALL compared to the control group in the four dimensions. A t-test was used to see the dimensions that have significant difference at ($\alpha \leq 0.05$) between them. Table 4.2 shows the results.

Table 4.2: t-test for the post-attitudes in the four dimensions due to group

Group Statistics					Independent Samples Test		
Dimension	Group	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Post Importance	Control	130	3.53	0.72	256	-3.60	0.001
	Experimental	128	3.84	0.64			
Post Attitudes	Control	130	3.38	0.72	256	-2.50	0.013
	Experimental	128	3.59	0.62			
Post Language Skills	Control	130	3.68	0.66	256	-3.13	0.002
	Experimental	128	3.94	0.68			
Post Anxiety	Control	130	3.48	0.70	256	-4.17	0.001
	Experimental	128	3.89	0.88			

Table 4.2 shows that there are significant differences at ($\alpha \leq 0.05$) for all dimensions between the control and experimental groups in their attitudes towards using CALL after treatment.

According to the first dimension about the importance of CALL, figures show that there is a significant difference between the groups at (α = 0.001). Their means are (C=3.53, E=3.84), which means that the treatment affects the experimental group positively. Their attitudes towards CALL importance in learning became better.

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[3] C=Control group
[4] E=Experimental group

For the second dimension, about the groups' attitudes towards using CALL, results show that there is a significant difference between the groups at (α = 0.013). Their means are (C=3.38, E3.59), which indicate that the experiment affects the experimental group positively. Their attitudes towards using CALL in learning became better.

Concerning the third dimension about the groups' attitudes towards the benefits of CALL on their language skills, results show that there is a significant difference between them at (α = 0.002). Their means are (C=3.68, E=3.94), which means that the treatment affects the experimental group positively in this dimension. Their attitudes towards CALL benefits in their language skills became better.

Finally, concerning the fourth dimension about the effects of CALL on the groups' anxiety towards CALL, results show that there is a significant difference between them at (α = 0.001). The groups' means are (C=3.84, E=3.89), which means that CALL affects the experimental group positively. They have less anxiety towards CALL than they had before the treatment.

This is in line with the literature that shows that participants have positive attitudes towards CALL, as shown by (Farrah & Tushyeh, 2010; Bulut & AbuSeileek, 2009; Marzban, 2008; Al-Jarf, 2007; Taylor, 2006; Ali, 2004; Lim, 2004; Kramarski & Feldman, 2000; Son, 2003; Faqha, 2002; Porter, 2001; Caldrone et al, 1995; Arroyo, 1992; Shaver & Wise, 1990). These studies concluded that CALL is useful, fun, increases the learners' reading ability, supports comprehension, and raises their self-esteem.

The results are also in agreement with Farrah and Tushyeh (2010) who found that CALL increases motivation and confidence and decreases anxiety. Besides, it affects positively the learners' attitudes towards computer's importance by improving their productivity, reading skills and proficiency. Similarly, this is also in line with the findings of

Shaver and Wise (1990) who found that learners showed increased motivation to study and had self confidence.

However, it is in contrast with Tseng (2010) who found that participants have negative attitudes towards reading from computer screens because they found it uncomfortable and more difficult than reading texts printed on paper.

4.1.2 Question Two: Is there is a significant difference for the group's attitudes due to the using of computer at home, having internet access, and the number of hours used for academic purposes?

First of all, a t-test was carried out to see whether there is a significant difference for the group's attitudes due to using the computer at home. Table 4.3 shows the results.

Table 4.3: t-test for the post-general attitudes due to the using of computer at home

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Using computer at home	Yes	211	3.73	0.52	256	2.71	0.007
	No	47	3.49	0.68			

As can be seen clearly in Table 4.3, there is a significant difference at ($\alpha = 0.007$) for the post general attitudes towards CALL due to using the computer at home. The means are (Yes=3.73, No=3.49), which means that using the computer at home affects *Yes* group positively. Participants who use the computer at home have more positive attitudes towards CALL than the participants who don't use computers at home.

Moreover, to investigate whether there is a significant difference in the participants' general attitudes due to having internet access at home, a t-test was carried out and the results are shown in Table 4.4.

Table 4.4: t-test for the post-general attitudes due to the internet access at home

Group Statistics		N	Mean	Std. Deviation	Independent Samples Test		Sig. (2-tailed)
					df	t	
Internet access	Yes	130	3.80	0.55	256	3.01	0.003
	No	128	3.59	0.55			

As can be seen clearly in table 4.4, there is a significant difference at (α =0.003) in the participants' general attitudes towards having internet access at home. The means are (Yes=3.80, No=3.59), which means that having internet access at home affects participants positively. Participants who have internet access at home have more positive attitudes towards CALL than others.

Furthermore, in order to find whether the number of hours per week of using the computer and navigating the internet for academic purposes affect the participants' post-general attitudes, an ANOVA test was carried out. Table 4.5a and 4.5b show the results.

Table 4.5a: One-Way ANOVA analysis of the Means and Standard Deviation in the post general attitudes and the hours per week of using computer and navigating the internet for academic purposes

	Hours per week of using computer	N	Mean	Std. Deviation
Post General Attitudes	0 hours weekly	96	3.59	0.56
	1-4 hours weekly	130	3.71	0.49
	5-10 hours weekly	20	3.94	0.74
	more than 10	12	3.86	0.73
	Total	258	3.69	0.56

Table 4.5b: One-Way ANOVA analysis of the significant differences in the post general attitudes and the hours per week of using computer and navigating the internet for academic purposes

		Sum of Squares	df	Mean Square	F	Sig.
Post General Attitudes	Between Groups	2.62	3	0.88	2.87	0.037
	Within Groups	77.29	254	0.30		
	Total	79.92	257			

As can be seen in Table 4.5b, there is a significant difference at ($\alpha = 0.037$) for the post-general attitudes due to the number of hours per week of using computer and navigating the internet for academic purposes.

In order to find the number of hours that has the significant difference in the post general attitudes of the participants, there was a need to use a Post Hoc Test (LSD). Results are shown in Table 4.6.

Table 4.6: Post Hoc Tests, Multiple Comparisons, LSD

for the mean differences

Dependent Variable	(I) Hours per week of using computer	(J) Hours per week of using computer	Mean Difference (I-J)
Post General Attitudes	0 hours weekly	1-4 hours weekly 5-10 hours weekly more than 10	-0.12 -0.35(*) -0.28
	1-4 hours weekly	0 5-10 hours weekly more than 10	0.12 -0.23 -0.15
	5-10 hours weekly	0 1-4 hours weekly more than 10	0.35(*) 0.22 0.07
	More than 10	0 1-4 hours weekly 5-10 hours weekly	0.28 0.15 -0.07

* The mean difference is significant at the 0.05 level.

As can be seen in Table 4.6, there is a significant difference for the post-general attitudes at ($\alpha \leq 0.05$). It is for the students who use the computer and navigate the internet for academic purpose for 5-10 hours.

A focus group is formed to interpret this result. The justification of this finding is that: having no significant difference for the participants using the computer and navigating the internet for 0-4 hours per week indicates that they are not proficient enough in using computer and internet, and the time spent is not enough to make a difference in their general attitudes and to practice its benefits in learning.

According to the participants that use the computer and navigate the internet for more than 10 hours weekly, the focus group interprets this finding by: these participants use the computer not for academic purposes. This number of hours may be used mostly for fun: in chatting or playing games.

However, figures show that using the computer and navigating the internet for 5-10 hours is very beneficial. This time amount is enough to be fruitful for the students to use computers wisely and beneficially for academic purposes, and this consequently affects their general attitudes towards it.

The previous findings are in line with (Cairo, 2008; Al-Jarf, 2007; Porter, 2001) who showed that availability of the computer and internet access, and frequency of using the internet affect the learners' general attitudes towards CALL.

4.1.3 Question Three:

Is there is a significant difference for the group's attitudes due to gender?

In order to answer this question, a t-test was carried out to find out whether there is a significant difference for the post general attitudes due to gender. The results are shown in Table 4.7.

Table 4.7: t-test for the post-general attitudes due to gender

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Gender	Male	131	3.69	0.56	256	.03	0.97
	Female	127	3.69	0.55			

As can be seen in table 4.7, results show that there is no significant difference at ($\alpha \leq 0.05$) for the post general attitudes due to gender. This indicates that boys and girls have the same general attitudes towards CALL, with the mean of (m=3.69) for both genders.

The results are in line with other studies in the literature like (Coiro, 2008; Faqha, 2002; Jeong, 2001; Hamilton, 1995), which found that there are no differences related to

gender in the general attitudes towards CALL programs. However, this contrasts with (Durndell & Thompson, 1997) who found that females have more negative attitudes towards the computer and more computer anxiety than males.

4.2 Results of the Post Test

4.2.1 Question Four: What are the effects of using CALL on the achievement of the EFL students in reading comprehension?

In order to find the effects of using CALL on the achievement of the EFL students in reading comprehension, and to see whether there is a significant difference, a t-test was carried out to analyze the answers of the post-test, as shown in Table 4.8.

Table 4.8: t-test for the post-test due to group

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Group	Control	130	4.02	2.38	256	-8.19	0.001
	Experimental	128	6.39	2.26			

As can be seen in Table 4.8, there is a significant difference at (α = 0.001) due to group (experimental and control) in their achievement after conducting the study. Their means are (C=4.02, E=6.39) which means that the group under treatment achieved significantly higher than the control group. This indicates that using CALL for the experimental group improves their level of comprehension in reading more than using the traditional way of teaching without using the computer and internet.

These findings are in line with the literature studies like (Farrah & Tushyeh, 2010; Marzban, 2008; Coiro, 2008, Al-Jarf, 2007; Taylor, 2006; Ali, 2004; Lim, 2004; Son, 2003; Faqha, 2002; Porter, 2001; Caldrone et al, 1995; Arroyo, 1992; Shaver & Wise, 1990) that reveal the positive impact of CALL on learners' achievement. They found statistically significant differences between experimental and control groups.

However, it is in contrast with other studies like (Tseng, 2008; Tseng, 2007; Kwary, 2006; Humble, 2000; Kramarski & Feldman, 2000; AlKahtani, 1999; Hamilton, 1995) which found that reading comprehension is not affected by CALL. In these studies participants got the same scores by using CALL programs or the traditional way of learning. But these findings are considered beneficial because computers can be used to help in reading practice in the class when the teacher does not have an aide from a parent volunteer (Humble, 2000).

4.2.2 Question Five: Is there a significant difference for the group's achievement in the post test due to the using of computer at home, having internet access, and the number of hours used for academic purposes?

First of all, in order to find out whether there is a significant difference in the post-test results due to using the computer at home, a t-test was carried out, and the results are shown in Table 4.9.

Table 4.9: t-test for the post-test due to the using computer at home

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Computer at home	Yes	211	5.21	2.59	256	0.14	0.89
	No	47	5.15	2.67			

As can be noticed in Table 4.9, there is no significant difference at ($\alpha \leq 0.05$) in the post-test results due to the using of a computer at home. After making a focus group to interpret this result, the members of the focus group came with the following indication: the presence and the using of the computer at home do not mean that it is used in learning. Learners may use it for various goals, for fun, playing games, watching movies and other things. So, the post-test's results are not necessarily affected by it.

Moreover, to find out whether there is a significant difference in the post-test results due to the presence of internet access at home, a t-test was carried out, and the results are shown in Table 4.10.

Table 4.10: t-test for the post-test results due to the internet access at home

Group Statistics					Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Internet access	Yes	130	5.71	2.55	256	3.23	0.001
	No	128	4.68	2.57			

As can be seen clearly in Table 4.10, there is a significant difference at ($\alpha = 0.001$) for the post-test results due to the presence of internet access at home. The means are (Yes=5.71, No=4.68) which means that having internet access at home affects participants positively. Students who have internet access at home have better results in the post-test than the others.

These results are in line with the study of Porter (2001), which confirms that the internet made the tasks and activities of reading comprehension more efficient and effective.

In order to find whether the number of hours per week of using the computer and navigating the internet for academic purposes affect the participants' post-test results, an ANOVA test was carried out. Table 4.11a and 4.11b show the results.

Table 4.11a: One-Way ANOVA analysis of the Means and Standard Deviation in the post-test the hours per week of using the computer and navigating the internet for academic purposes

	Hours per week of using computer	N	Mean	Std. Deviation
Post –test	0	96	4.78	2.51
	1-4 hours weekly	130	5.35	2.64
	5-10 hours weekly	20	6.25	2.55
	more than 10	12	5.10	2.64
	Total	258	5.20	2.60

Table 4.11b: One-Way ANOVA analysis of the significant differences in the post-test the hours per week of using the computer and navigating the internet for academic purposes

		Sum of Squares	df	Mean Square	F	Sig.
Post -test	Between Groups	42.12	3	14.04	2.10	0.101
	Within Groups	1698.80	254	6.69		
	Total	1740.92	257			

As can be seen in Table 4.11b, there is no significant difference at (α ≤ 0.05) for the post-test due to the number of hours per week of using the computer and navigating the internet for academic purposes.

This finding is in contrast with (Al-Jarf, 2007; Coiro, 2008) who found that there is a correlation between the frequency of using the internet and achievement.

After making a focus group to interpret this result, the members of the focus group came with the following indication: learners spend long time navigating the internet. But they use it for fun or unfruitful navigation. So, that long time will not affect their achievement.

4.2.3 Question Six: Is there is a significant difference for the group's achievement in the post test due to gender?

In order to answer this question, a t-test was carried out to find out whether there is a significant difference in achievement due to gender. The results are shown in table 4.12.

Table 4.12: t-test for the post-test due to gender

Group Statistics				Independent Samples Test		
		N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Gender	Male	131	4.99	2.44	256	-1.29	0.20
	Female	127	5.41	2.76			

As noticed in Table 4.12, there is no significant difference at (α ≤ 0.05) in the achievement of the post-test of the participants due to gender. This means that both learners, males and females are affected by CALL and by the traditional way of teaching similarly.

The results are in agreement with (Coiro, 2008; Faqha, 2002; Hamilton, 1995) who found that there is no significant differences in reading comprehension achievement based on the method of instruction related to gender.

4.2.4 Question Seven: Is there a correlation between learners' attitudes towards CALL and their level of achievement in reading comprehension?

To investigate whether there was a correlation between the post-test and the post-general attitudes, a Bivariate Correlation Test was carried out according to Pearson Correlation for the Means and Standard Deviation. Table 4.13 shows the results.

Table 4.13: Bivariate Correlation Matrix Test between

the Post-Test and the Post-General Attitudes

	Mean	Std. Deviation		post test	Post General Attitudes
Post Test	5.20	2.60	Pearson Correlation Sig. (2-tailed) N	1 258	0.292(**) 0.001 258
Post General Attitudes	3.69	0.56	Pearson Correlation Sig. (2-tailed) N	0.292(**) 0.001 258	1 258

** Correlation is significant at the 0.01 level (2-tailed).

As seen, Table 4.13 shows that there is a correlation ($\alpha = 0.001$) between the post-test and the post-general attitudes. This means that there is a direct relationship between the post-test and the post-general attitudes. Learners who had positive attitudes towards CALL, their level of education became better, and vice versa.

The results are in agreement with Boser et al (1998) who confirmed that learners who have a positive experience in the computer will have positive attitudes towards the computer and would be more interested to study about technology. However, the result is contrast with Bulut & AbuSeileek (2009) who found that there is no significant relationship between participants' attitudes and their achievement.

4.2.5 Question Eight: What is the general attitude of primary school EFL students towards CALL in reading skill?

To answer this question, a descriptive statistics of the post questionnaire were carried out. By investigating the means of the items for the post questionnaire, the researcher noticed that there are four items that have higher means than others, and three lower means than others (See Appendix 3 p. 81). Table 4.14 shows the four highest means of the questionnaire items.

Table 4.14: Descriptive Statistics of the post questionnaire

N	Items	N	Mini mum	Maxi mum	Mean	Std. Deviation
27	I can access extra information more easily by using the computer and internet in learning English.	258	1.00	5.00	4.18	1.01
25	Using the computer and internet in learning increases my creativity.	258	1.00	5.00	4.10	1.08
9	Using the computer and internet in learning is interesting and enjoyable.	258	1.00	5.00	4.09	1.01
21	Using the computer and internet increases my comprehension of idiomatic expressions.	258	1.00	5.00	4.00	1.03

Table 4.14 shows that the items which got the highest means are: item 27 (m^5=4.18), item 25 (m=4.10), item 9 (m=4.09), and item 21 (m=4.00) respectively. This indicates that the participants think that computers are not only *"interesting and enjoyable"* (item 9) but they are also beneficial in learning, noticing that (item 27) *"accessing extra information"* and (item 25) *"increases creativity"* got the highest means, and higher than (item 9) *"interesting and enjoyable*. Besides, the ninth item which asked about enjoyment is ranked the third of the highest means, meaning that CALL is enjoyable, and enjoyment is an important element of CALL, which provides the learner with the stress-free environment he needs.

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[5] m = Mean

These results are in line with other studies like (Al-Jarf, 2007; Lim, 2004; Kramarski & Feldman 2000) which found that learners see that online reading is useful and fun. Besides they see that CALL helps them in doing their homework, motivates them to study and increases their vocabulary

Moreover, the researcher noticed that there are three items for the post questionnaire which got lesser means than the others (see Appendix 3. p. 81). Table 4.15 shows the three least means of the questionnaire items.

Table 4.15: Descriptive Statistics of the Post Questionnaire

N	Items	N	Minimum	Maximum	Mean	Std. Deviation
14	I prefer the feedback given by the computer to feedback given by teachers.	258	1.00	5.00	2.90	1.30
12	I prefer reading texts by the computer and internet to reading printed text.	258	1.00	5.00	3.24	1.21
5	Using the computer and internet while doing activities saves time.	258	1.00	5.00	3.30	1.34

Table 4.15 shows that the items which got the lowest means are: item 14 (m=2.90), item 12 (m=3.24), and item 5 (m=3.30) respectively. This means that the participants think that feedback given by the teacher is very important. The teacher not only gives feedback by judging the learners' answers whether they are right or wrong, but also he encourages, gives hints and gestures, and many other human actions and moves which are important for the learner, and mean a lot for him.

Besides, the means of the twelfth item reveal that reading through computer screens is not a comfortable task. This finding is in accordance with (Tseng, 2010; Tseng, 2008; Tseng, 2007) who showed that learners find many difficulties in reading a text on the computer screens. There are many reasons for that, participants' eyes get tired while reading, they get headache, and they skip lines and get lost while reading because the words and lines are

hidden inside the computer screen. Moreover, there are other problems like the font size, background color of the web pages and learners cannot underline the text or take notes.

However, other studies contrast this result like Son (2003) study, where the participants see that the hyperlinks are useful and assist them during independent reading.

Moreover, the mean of the fifth item shows that doing activities by computer does not save time; they may take more time in searching writing and editing, which is not preferred by the learners.

4.3 Conclusion

This chapter presented the findings and the analysis of the data collected through the pre and post Questionnaire and the pre and post exams. The findings have been presented in terms of the answers to the questions of the study. The researcher used t-test to analyze the data collected by the questionnaire and the tests in light of many variables like gender, group, computer and internet access availability and use. Moreover, the researcher conducted One-Way ANOVA analysis of the Means and Standard Deviation in the post general attitudes and the post-test scores, and the hours per week of using the computer and navigating the internet for academic purposes. Besides, One-Way ANOVA analysis of the significant differences was used to get the significant points. In order to find the number of hours that has the significant difference in the post general attitudes of the participants, a Post Hoc Test Multiple Comparisons for the mean differences was used. Then the researcher used Bivariate Correlation Matrix Test between the Post-Test and the Post-General Attitudes. Finally, the researcher used the descriptive statistics of the post questionnaire.

The findings of the study revealed that participants have positive attitudes towards CALL, and these attitudes are affected positively after treatment. Besides, the study confirms that CALL has positive impact on learners' achievement. The following chapter discusses the conclusions, recommendations, future research.

CHAPTER FIVE

5.0 CONCLUSIONS, RECOMENDATIONS AND FUTURE RESEARCH

This chapter presents a summary of the research. It discusses in brief the research problem, questions, methodology, and the findings of the study. Conclusions, recommendations and future research are also presented.

5.1 Research Summary

This research provides an overview of the role of the computer and the internet in teaching English as a foreign language. It is divided into five chapters. The first chapter introduced the problem of the study. This problem is represented by the fact that computers are widely spread, and they are considered as a crucial and effective tool of learning, but they are not widely used in our schools as an assisting learning tool for learning. So, there is a need to integrate CALL programs in our schools. But, this integration has to be investigated for its effectiveness compared to the traditional way of teaching in our Palestinian context

The second chapter of this research presented the historical background about CALL briefly, clarified what is meant by CALL, theoretical framework of CALL, its advantages, limitations and reviewed some of the empirical studies that used it.

The third chapter described the methodology of the research. The first section described the participants. The second section talked about the instruments used in carrying out the study and data collection which is based on two main instruments: a questionnaire, and a test. Finally, this chapter described how the data collected were analyzed. These data included results relating to CALL attitudes questionnaire pre and post, reading comprehension test scores pre and post, and demographic data. They were analyzed by using SPSS Program, and discussed in light of the literature review.

The fourth chapter presented the results of the study. The analyzed results of the questionnaire were discussed in light of the learners' perceptions before and after the study.

The analyzed results of the comprehension texts were discussed according to the marks learners got in the pre and post tests.

5.2 Conclusion

For many years, teaching English in our schools has been characterized by the use of the traditional way of teaching with limited information resources (e.g. the teacher, the textbook and chalkboard). Recently, English language teachers have started supporting using the computer and the internet in teaching to improve their methods of teaching to be more effective. A lot of studies have been conducted and their findings have confirmed that using the computer and the internet have a positive effect on the learning process as it enriches the learning environment with authentic means of learning.

When learners use the computer in learning, they deal with CALL programs. Most of the CALL programs take into consideration the language learning theories. From the 1960s until now computer assisted learning methods and programs have undergone three different phases of development: behaviorist, communicative and integrative; that is according to the availability of the level of technology. CALL can be in a CD-ROM format or internet form. Internet form includes a huge amount of data, multimedia, and interactive components. CALL programs are not designed to replace classroom instruction, but most of them are designed to be used with the help of the teacher as a supplementary tool. The teacher discusses with the learners what they have to do with an activity, and helps them to complete and go on with it. CALL programs provide the learner with various activities, practice and revision, but the responses are limited to a group of multiple choices; it lacks free and creative answers which are the basics of the classroom learning.

In order to achieve the goals of using computers in language learning, there are two crucial basics: cost and training. Most of teachers and learners, as well as schools can't afford to buy computers or re-equip them continually. So, the high price of CALL facilities is

disappointing. The second basic element of CALL is the training teachers need. Many training projects are held by the Ministry of Education in Palestine to enable the teachers to integrate the computers and the internet in the teaching process. But all of these efforts are below the level needed, and the teachers are not implementing even the minimum of what they have in these courses because of many barriers hindering them of going on. When the researcher decided to conduct this study, he hardly found schools with the needed facilities - including the teachers of course-, to implement the study. That proves the great barriers which exist. This needs huge efforts to be exerted in this field. This study can be considered as a part of the recent trend to integrate the computer and the internet in our schools learning instruction. It examined whether CALL can be effective in our context.

5.2.1 Research Questions Findings

The findings of the research are summarized in the following:

First of all, the first question which is considered as the main one in the study was about whether there is a significant difference in the participants' attitudes between the experimental and control groups. The data for answering the question were taken from the participants' perceptions of the questionnaire before and after conducting the study. The 35 items of the questionnaire concerning the participants' attitudes are divided into four dimensions: CALL importance, attitudes towards CALL, language skills, and anxiety towards CALL. Results showed that there is a significant difference between the two dependent groups at ($\alpha = 0.001$). This indicates that using CALL affects the experimental group positively after the treatment. The results are in line with most of the studies the researcher has reviewed (Farrah & Tushyeh, 2010; Bulut & AbuSeileek, 2009; Marzban, 2008; Al-Jarf, 2007; Taylor, 2006; Ali, 2004; Lim, 2004; Kramarski & Feldman, 2000; Son, 2003; Faqha, 2002; Porter, 2001; Caldrone et al, 1995; Arroyo, 1992; Shaver & Wise, 1990).

From the researcher's experience as a teacher and as a principal; he found that students get so excited when the teacher uses technological tools as LCD projector or the computer, or when they move from their classes to the computer laboratory. They practice things by themselves and feel as they are the masters of the learning process. Of course they need help and guidance by the teacher, but this experience is preferred by them. The participants' perceptions indicate that the computer and the internet make learning interesting and enjoyable; moreover they enhance their independence and motivate them to work harder. Furthermore, the computer and the internet increase the learners' comprehension of the texts, and develop their vocabulary, which increases their creativity, and motivates them to read more, and spend more time in reading. Results also showed a significant difference in the anxiety dimension after treatment. This proved that participants learn in a stress-free environment, which consequently leads to fruitful learning.

The second question was whether there is a significant difference in the group's attitudes due to the availability of the computer and the internet at home, in addition to the number of hours of used. From the questionnaire responses, it is obvious that these three elements affect the learners' attitudes positively. The findings are in line with (Coiro, 2008; Al-Jarf, 2007; Porter, 2001) who showed that the availability of the computer and internet access, and the frequency of using the internet affect the learners' general attitudes towards CALL.

Having a computer at home enables the learner to use it freely, with no limitation in time. So, when the learner has homework or an assignment he works freely, spends as much time as he needs. Besides, he can access the internet to help him or to expand his knowledge or to inquire about things. So, this creates more positive attitudes towards computer and internet access.

The third question inquired about the effect of the gender element on the attitudes of the participants. The results of the study indicate that there is no significant difference for the participants' attitudes due to gender. The results are in line with (Coiro, 2008; Faqha, 2002; Jeong, 2001; Hamilton, 1995), who found that there are no differences related to gender in the general attitudes towards CALL programs.

It is also in line with Jeong's (2001) study, who examined the relationship between gender and the computer attitudes of 248 male and female officials by using the Computer Attitudes Scale (Loyd & Loyd, 1985). Results showed that there were no gender differences in computer attitudes.

That confirms that boys and girls have the same chance of using the computer and the internet at school and at home. Besides, their responses towards CALL programs at this age are the same which may change later.

The fourth question is the other main question of the research; it examined the effects of using CALL on the achievement of the participants. The data for this question are taken from the scores of the test the participants had taken. The results confirm that there is a significant difference at ($\alpha = 0.001$) due to group in their achievement after conducting the study

This finding is in line with (Farrah & Tushyeh, 2010; Marzban, 2008; Coiro, 2008, Al-Jarf, 2007; Taylor, 2006; Ali, 2004; Lim, 2004; Son, 2003; Faqha, 2002; Porter, 2001; Caldrone et al, 1995; Arroyo, 1992; Shaver & Wise, 1990) who indicated the positive impact of CALL on learners' achievement. This indicates that using CALL for the experimental group improves their level of comprehension in reading more than using the traditional way of teaching without using the computer and the internet.

By using the computer and the internet, the learner is exposed to a rich environment which he can control by his own decision by pressing the keyboard buttons or clicking the

mouse buttons. Then he can dive into the sea of knowledge. When the learner has the opportunity of being aware of the knowledge needed, a vast area of achievement opens for him. This finding is connected with the first question, which indicated the positive attitudes towards CALL. So, when the learner has positive attitudes towards CALL, he will be motivated to do his best, which leads him for better achievement.

The fifth questions is related to the significant differences in the learners' achievement in the post test due to using the computer at home, having internet access, and the number of hours used for academic purposes. First of all, results showed that there is no significant difference in the post-test results due to the using of a computer at home. However, there is significant difference for the post-test results due to the presence of internet access at home.

These findings have critical and important indications; when the learner has a computer at home this does not mean that he uses it for learning. So, his results are not affected by that. However, having internet at home affects learners' achievement positively, because the question is limited to using the internet for academic purposes.

Moreover, the number of hours of using the computer and the internet does not affect achievement, because the length of time of using them does not mean that they are used the right way. But, their presence is an element of achievement.

The sixth question examined the effect of gender on the achievement of the participants. The results of the study indicate that there is no significant difference for the participants' achievement due to gender. The results are in line with (Coiro, 2008; Faqha, 2002; Hamilton, 1995), who found that there are no differences related to gender in the reading comprehension achievement in CALL programs.

When the females have the same opportunity of using the computer and internet, and have the same attitudes towards them, that consequently leads to the same progress and achievement in the reading comprehension.

The seventh question inquired about the correlation between learners' attitudes towards CALL and their level of achievement in reading comprehension. Results showed that there is a correlation between the post-test and the post-general attitudes, which means that there is a direct relationship between the learners' achievement and their attitudes towards CALL. This proves that having positive attitudes towards CALL creates motivation for the learner to do his best and to use his available means to improve his skills and to do better in his exams.

The final question discussed the items that got the highest and lowest means in the questionnaire. It was found that there are four highest means items related to the role of the computer and the internet in: accessing information easily, increasing creativity, enjoyment, and increasing comprehension. This result is in line with Abbas (2008) who found that using the computer is favorable. However, there are three items which got the least scores. They are related to the role of computer in: feedback, reading text on the computer screen, and saving time.

When comparing between the highest and the lowest mean scores, it was found that learners see the computer as a very beneficial and enjoyable tool. But learners prefer feedback given by the teacher more and they prefer reading texts printed on paper than reading from the computer screen. When the computer gives feedback, it tells only whether the answers are right or wrong without paying attention to the various intentions of the learner or how near he is to the right answer. In addition, reading a text on the computer screen is not an easy task; it is easy to lose words or skip lines or even get tired of reading because of the radiation or bright light of the screen.

5.3 Recommendations

The results of this study showed the effectiveness of using CALL's programs in language learning. Based on the findings of this study, the following recommendations are proposed:

1. The Ministry of Education and Higher Education should invest more in technology for our schools. The heaviest burden and the greatest role lie on it. Our curriculum should be developed to meet the needs of this technological era. Besides, it should equip our schools with a computer lab for each school. Moreover, there should be CALL programs that meet the curriculum needs.

2. The Directorate of Education should improve the teaching effectiveness by using CALL. There should be training courses and workshops for the teachers enabling them to integrate computers in their teaching process. Besides, there should be a follow up system to keep an eye on implementing these courses at schools.

3. The schools should use computers beneficially, and to use every technological means available in teaching. Moreover, they should fill the gap of insufficient technological facilities.

4. The teachers should improve their teaching proficiency, especially English language teachers. They should practice using computers and internet as a supplementary tool, and to be aware of the suitable approaches of using CALL programs.

5.4 Recommendations for Future Research

After conducting the study, the researcher recommends other topics in the area that should be investigated:

1. The research investigated the effect of CALL on the reading skill in the school level, there should be other studies investigating the effect of CALL on the other language skills i.e. writing, listening and speaking to get a full view about CALL's effect on language learning.

2. The research investigated the effect of CALL according the learners' perceptions; other researches should be carried out investigating the effect of CALL according to the teachers' perceptions.

3. Other investigations should be carried out to get the needed information about CALL cost per school and per student that are needed to increase achievement by a certain amount.

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Appendix 1

Pre and Post Attitude Questionnaire in English

بسم الله الرحمن الرحيم

Number

Questionnaire

Dear student;

This questionnaire will be used for an MA thesis at Hebron University. It aims to investigate EFL learners' attitudes towards Computer Assisted Language Learning (CALL). You do not need to write your name, and your answers will be used for research purposes only. Thus you are kindly requested to respond sincerely and thoughtfully.

Thank you in advance.

Part I

Please, put a tick in the appropriate box

B. School:
B. Gender   1. ☐ male   2. ☐ female
C. Grade   8. ☐   10. ☐
D. Last year's final grade in the English language: 1. ☐ 90 and above   2. ☐ 80-89   3. ☐ 70-79   4. ☐ 60-69   5. ☐ below 60
E. Do you use a computer at home?   1. ☐ Yes   2. ☐ No.
F. Do you have access to the Internet at home?   1. ☐ Yes   2. ☐ No.
G. How many hours per week do you use the computer and navigate the Internet for academic purposes?   1. ☐ 0   2. ☐ 1-4   3. ☐ 5-10   4. ☐ more than 10

Part Two

Please indicate the extent to which you agree or disagree with the following statements by putting a tick in the appropriate box using the scale given below:

1: **Strongly Disagree**   2: **Disagree**   3: **Uncertain**   4: **Agree**   5: **Strongly Agree**

	Computer Importance	1	2	3	4	5
1	Using the computer and internet in learning helps me to know more about using computer.					
2	Reading through the computer and internet helps me with my English.					
3	Doing activities through the computer is a valuable aid to my learning.					
4	I use a computer to look for information on the internet.					
5	Using the computer and internet while doing activities saves time.					
6	Using online dictionaries is important for understanding the meaning of new words, part of speech, and etymology of words.					
7	I can read resources on the computer and internet that are not available elsewhere.					
8	Using the computer and internet in reading helps me in other fields.					

	Attitudes	1	2	3	4	5
9	Using the computer and Internet in learning is interesting and enjoyable.					
10	The computer and internet enhances my independence.					
11	I get more individual attention from my teacher during CALL class.					
12	I prefer reading texts by the computer and internet to reading a printed text.					
13	The computer and Internet motivate me to study harder.					
14	I prefer the feedback given by the computer to feedback given by teachers.					
15	I prefer the computerized task formats to the paper-based formats.					
16	I feel that the computer and internet are necessary tools in education.					
	Language Skills	**1**	**2**	**3**	**4**	**5**
17	Using the computer and internet increases my understanding of the reading texts.					
18	Using the computer and internet motivates me to read more texts.					
19	Using the computer and internet motivates me to spend more time in reading					
20	Using the computer and internet helps me to develop my vocabulary.					
21	Using the computer and internet increases my comprehension of idiomatic expressions.					
22	Using the computer and internet increases my challenge in solving problems.					
23	Using the computer and internet enables me to look at chunks larger than single words.					
24	Using the computer and internet increases my ability of guessing the meaning of the new vocabulary from the context.					
25	Using the computer and internet in learning increases my creativity.					
26	I get more feedback by using the computer in learning English.					
27	I can access extra information more easily by using the computer and internet in learning English.					
28	Computer programs improve my reading speed.					
29	Computer programs improve my reading comprehension.					
30	The computer and internet help me to develop my critical thinking skills.					
	Computer Anxiety	**1**	**2**	**3**	**4**	**5**
31	I get nervous when I read by the computer and internet.					
32	Doing my work using the computer makes me nervous.					
33	I become annoyed when asked to do my assignments by the computer.					
34	I hesitate to use a computer for fear of making mistakes I cannot correct.					
35	I avoid using the computer and internet because they are unfamiliar to me.					

Thank you for your time.

Appendix 2

Pre and Post Attitude Questionnaire in Arabic

<div dir="rtl">

بسم الله الرحمن الرحيم

الرقم

استبانة

عزيزي الطالب ...

تم إعداد هذه الاستبانة لرسالة الماجستير في جامعة الخليل، وتهدف إلى معرفة اتجاهات الطلاب في تعلم اللغة الإنجليزية بواسطة الكمبيوتر. ليس هناك داع لكتابة اسمك، وسوف تستخدم إجابتك لأغراض البحث العلمي فقط. لذلك أرجو منك أن تجيب عليها بصدق وتمعن.

مع الشكر مقدما

القسم الأول:

ضع إشارة √ في المربع حسب الاختيار المناسب.

أ.	اسم المدرسة:
ب.	الجنس: 1. ☐ ذكر 2. ☐ أنثى
ت.	الصف: 8. ☐ 10. ☐
ث.	العلامة النهائية في اللغة الانجليزية في السنة الماضية: 1. ☐ 90 فأعلى 2. ☐ 89-80 3. ☐ 79-70 4. ☐ 69-60 5. ☐ أقل من 60
ج.	هل تستخدم الكمبيوتر في البيت؟ 1. ☐ نعم 2. ☐ لا
ح.	هل لديك اشتراك بالإنترنت في البيت؟ . ☐ نعم 2. ☐ لا
خ.	كم ساعة أسبوعيا تستخدم الكمبيوتر وتتصفح الإنترنت بهدف الدراسة؟ 1. ☐ 0 2. ☐ 1- 4 3. ☐ 5 - 10 4. ☐ أكثر من 10 ساعات

القسم الثاني:

بين مدى موافقتك أو عدم موافقتك على العبارات التالية بوضع إشارة √ في المربع المناسب حسب المقياس أدناه.
1. غير موافق بشدة   2. غير موافق   3. غير متأكد   4. موافق   5. موافق بشدة

الرقم	العبارة	1	2	3	4	5
1	يساعدني استعمال الكمبيوتر والإنترنت في أن أعرف أكثر عن استعمال الكمبيوتر					
2	تساعدني القراءة بواسطة الكمبيوتر في لغتي الإنجليزية.					
3	يعتبر عمل التمارين بواسطة الكمبيوتر والإنترنت أداة مساعدة وقيمة في تعلمي للغة الإنجليزية.					
4	استخدم الكمبيوتر للبحث عن معلومات على الإنترنت.					
5	استخدام الكمبيوتر والإنترنت في النشاطات والتمارين يوفر الوقت.					
6	استخدام القواميس الإلكترونية مهم في فهم معاني الكلمات الجديدة وأقسام الكلام وأصوله					
7	يمكنني الكمبيوتر والإنترنت من قراءة مصادر غير متوفرة لدي على الورق.					
8	تساعدني القراءة بواسطة الكمبيوتر والإنترنت في حقول ومجالات أخرى.					
9	استخدام الكمبيوتر والإنترنت في التعلم هو أمر مثير وممتع.					

</div>

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5	4	3	2	1	العبارة	الرقم
					يعزز استخدام الكمبيوتر والإنترنت من استقلاليتي. (في الدراسة)	10
					أحصل على اهتمام أكثر من معلمي أثناء حصة القراءة بواسطة الكمبيوتر والإنترنت.	11
					أفضل قراءة النصوص بواسطة الكمبيوتر والإنترنت على قراءة النصوص المطبوعة على الورق.	12
					يثير استخدام الكمبيوتر والإنترنت دافعيتي للدراسة بشكل أكبر.	13
					أفضل أن يقوم الكمبيوتر بتصحيح أعمالي على أن يقوم المعلم بذلك.	14
					أفضل التمارين من خلال الكمبيوتر والإنترنت على التمارين المطبوعة على الورق.	15
					أعتقد أن الكمبيوتر والإنترنت وسيلة مهمة في الدراسة.	16
					استخدام الكمبيوتر والإنترنت يزيد من فهمي لنصوص القراءة.	17
					يثير الكمبيوتر والإنترنت دافعيتي لقراءة نصوص أكثر.	18
					يشجعني الكمبيوتر والإنترنت على قضاء وقت أكثر في القراءة.	19
					يساعدني الكمبيوتر والإنترنت في إثراء مفردات اللغة الإنجليزية لدي.	20
					يزيد استخدام الكمبيوتر والإنترنت من فهمي للمصطلحات.	21
					يزيد استخدام الكمبيوتر والإنترنت من دافعيتي في حل التمارين والأنشطة. (حل المشاكل)	22
					يمكنني استخدام الكمبيوتر والإنترنت من القراءة لوحدات أو مجموعة كلمات أكبر من الكلمات المفردة.	23
					يزيد استخدام الكمبيوتر والإنترنت من قدرتي على تخمين معاني المفردات الجديدة من سياق النص.	24
					استخدام الكمبيوتر والإنترنت في التعلم يزيد من إبداعي.	25
					بواسطة الكمبيوتر يمكنني أن أحصل على المزيد من التغذية الراجعة وتصحيح الأعمال الكتابية.	26
					باستخدام الكمبيوتر والإنترنت للتعليم أستطيع الوصول إلى المعلومات بشكل أسهل.	27
					تعمل برامج الكمبيوتر على زيادة سرعتي في القراءة.	28
					تعمل برامج الكمبيوتر على زيادة فهمي لقراءة النصوص.	29
					يعمل الكمبيوتر والإنترنت على تطوير مهارات التفكير الناقد لدي.	30
					القراءة بواسطة الكمبيوتر والإنترنت تجعلني متوترا.	31
					حل الواجبات بواسطة الكمبيوتر يسبب لي توترا.	32
					عندما يطلب مني القيام بواجباتي المدرسية بواسطة الكمبيوتر والإنترنت أصاب بالانزعاج.	33
					أتردد في استعمال الكمبيوتر لخوفي من التسبب في أخطاء لا يمكنني إصلاحها.	34
					أتجنب استعمال الكمبيوتر والإنترنت لأنها غير مألوفة لدي.	35

مع الشكر والتقدير

Appendix 3
Pre Test: Reading Comprehension Text

The Computer Revolution

In the past twenty years or so there has been a revolution. Not a political revolution in a particular country, but a revolution that has affected all of us is our daily lives. This revolution has been brought about by computers and **it** is called the computer revolution. Computers have revolutionized the way we work. You can see signs of the computer revolution in shops, in banks, and in offices. But it has also revolutionized our **leisure activities**. Cameras, watches, cassette recorders, cars ... etc., have got tiny computers called microprocessors built into them to make them work more efficiently. More and more things have become computerized.

Computers aren't new. They have been around for about fifty years. The difference now is that computers calculate much more quickly than they used to and are much, much smaller than they used to be. The first computers were so big that they filled a whole room. Now a huge amount of information can be stored in a microprocessor which is smaller than a postage stamp.

Thousands of computer games have been produced and sold all over the world. These are fun, but many of them help us to learn. For example, a student can work on a computer program that teaches grammar. The computer displays a question on the screen. If the student gets the correct answer, the computer tells him and then asks him a different question. If the student gets the wrong answer, the computer asks him another question of the same type. Other programs also can be played on the net which forms new field of playing and learning.

1. We can see signs of the computer revolution in ...

a. shops   b. banks   c. offices   d. a,b,and c

2. The computer revolution has affected us in ...

a. working   b. learning   c. our daily lives   d. playing

3. The phrase **"leisure activities"** in the first paragraph means ...

a. learning activities   b. free activities   c. hard activities   d. easy activities

4. Cameras and cars have got ... built into them to make them work more efficiently.

a. keyboard   b. mouse   c. microprocessors   d. postage stamp

5. If the student gets the wrong answer for the computer's question, the computer ...

a. gives a zero   b. gives the correct   c. asks him another   d. stops working
                        answer   question

6. The computer ... a question on the screen.

a. writes   b. says   c. displays   d. plays

7. The pronoun **"it"** line 3 in the first paragraph refers to ...

a. computer   b. signs   c. computer revolution   d. revolution

8. The word from the text having the same meaning of **small** is ....

9. How are the computers of today different from the old ones?

....

....

10. How is the computer used as a teacher?

....

....

With my best wishes

Appendix 4

Post Test: Reading Comprehension Text

Reading is Fun

Do you think reading is fun? I didn't at first. I thought it was something I had to do. I could do it but I wasn't very interested in it. Then something happened.

My dad found a book about people who came to America from Poland. He gave it to me and said that it was about the types of things our family had to endure in order to live in a new country. He told me his grandparents were from Poland. That meant my great grandparents were from there. When they came to America in 1906, more than one hundred years ago, they left with nothing and arrived in their new country with nothing. They worked hard, had families, and tried to make a better life for their kids.

What they did was amazing because they took so many chances and struggled so much. I realized that **they**, and others like them, were some of the bravest people in the world. I can't imagine moving to the next town, forget about going across an ocean to a place where you don't know the language, don't have a job, and don't have a home.

I got very interested in history and in what things were like before video games, computers, and television. That book opened up a whole new world to me, made it come alive, and made me realize that regular people can do extraordinary things. Reading is so much fun! Tonight I'm going to visit China, it's something called the Ming Dynasty. I can't wait to find out what it's all about!

1. **The person who gave the speaker a book about coming to America was his ...**

   e. father   f. mother   g. brother   h. teacher

2. **In the book, people came from ...**

   e. England   f. Poland   g. Germany   h. the United States

3. The writer's father told him that the book is about ...

e. Poland   f. types of things they had   g. computers   h. extraordinary
                  to endure   things

4. The subject that interests the writer most is ...

   a. History   b. Geography   c. math   d. science

5. Tonight the writer is reading about ...

e. the United States   f. England   g. China   h. Poland

6. The underlined pronoun "they" in the fourth paragraph refers to ...

   e. people   i. computers   e. books   e. grandparents

7. The writer says "Tonight I'm going to visit China**" in the last paragraph, he means ...**

 e. go to   f. watch TV program   g. read about   h. computer game

8. Circle the correct sentence:

   a. The writer hates reading now.

   b. The writer thinks that reading is not interesting now.

   c. The writer is interested in reading now.

   d. The writer thinks that reading is not fun now.

9. The writer says "What they did was amazing" how?

....

....

10. How did the book influence the writer?

....

....

With best wishes

Appendix 5

Descriptive Statistics of the Post Questionnaire

N	Items	N	Minimum	Maximum	Mean	Std. Deviation
1	Using the computer and internet in learning helps me to know more about using computer.	258	1.00	5.00	3.93	1.10
2	Reading through the computer and internet helps me with my English.	258	1.00	5.00	3.66	1.14
3	Doing activities through the computer is a valuable aid to my learning.	258	1.00	5.00	3.33	1.20
4	I use a computer to look for information on the internet.	258	1.00	5.00	3.80	1.38
5	Using the computer and internet while doing activities saves time.	258	1.00	5.00	3.30	1.34
6	Using online dictionaries is important for understanding the meaning of new words, part of speech, and etymology of words.	258	1.00	5.00	3.90	1.06
7	I can read resources on the computer and internet that are not available elsewhere.	258	1.00	5.00	3.80	1.19
8	Using the computer and internet in reading helps me in other fields.	258	1.00	5.00	3.77	1.09
9	Using the computer and Internet in learning is interesting and enjoyable.	258	1.00	5.00	4.09	1.01
10	The computer and internet enhances my independency.	258	1.00	5.00	3.44	1.17
11	I get more individual attention from my teacher during CALL class.	258	1.00	5.00	3.36	1.26
12	I prefer reading texts by the computer and internet to reading printed text.	258	1.00	5.00	3.24	1.21
13	The computer and Internet motivate me to study harder.	258	1.00	5.00	3.67	1.23
14	I prefer the feedback given by the computer to feedback given by teachers.	258	1.00	5.00	2.89	1.29
15	I prefer the computerized task formats to the paper-based formats.	258	1.00	5.00	3.32	1.16
16	I feel that computer and internet are necessary tools in education.	258	1.00	5.00	3.88	1.08
17	Using the computer and internet increases my understanding of the reading texts.	258	1.00	5.00	3.91	1.07

18	Using the computer and internet motivates me to read more texts.	258	1.00	5.00	3.73	1.14
19	Using the computer and internet motivates me to spend more time in reading	258	1.00	5.00	3.54	1.23
20	Using the computer and internet helps me to develop my vocabulary.	258	1.00	5.00	3.80	1.16
21	Using the computer and internet increases my comprehension of idiomatic expressions.	258	1.00	5.00	4.00	1.03
22	Using the computer and internet increases my challenge in solving problems.	258	1.00	5.00	3.52	1.18
23	Using the computer and internet enables me to look at chunks larger than single words.	258	1.00	5.00	3.59	1.07
24	Using the computer and internet increases my ability of guessing the meaning of the new vocabulary from the context.	258	1.00	5.00	3.67	1.10
25	Using the computer and internet in learning increases my creativity.	258	1.00	5.00	4.11	1.08
26	I get more feedback by using the computer in learning English.	258	1.00	5.00	3.89	1.03
27	I can access extra information more easily by using the computer and internet in learning English.	258	1.00	5.00	4.18	1.01
28	Computer programs improve my reading speed.	258	1.00	5.00	3.83	1.16
29	Computer programs improve my reading comprehension.	258	1.00	5.00	3.85	1.04
30	The computer and internet help me to develop my critical thinking skills.	258	1.00	5.00	3.73	1.10
31	I get nervous when I read by the computer and internet.	258	1.00	5.00	3.68	1.19
32	Doing my work using the computer makes me nervous.	258	1.00	5.00	3.55	1.17
33	I become annoyed when asked to do my assignments by the computer.	258	1.00	5.00	3.74	1.26
34	I hesitate to use a computer for fear of making mistakes I cannot correct.	258	1.00	5.00	3.52	1.32
35	I avoid using computer and internet because they are unfamiliar to me.	258	1.00	5.00	3.94	1.28

Appendix 6

Bivariate Correlation Test

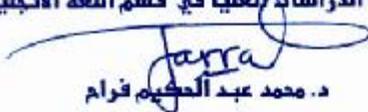## Between the Post-Test and the Four Dimensions of the Post-General Attitude

		Post Test	Post Attitudes	Post Importance	Post Language Skills	Post Anxiety
post test	Pearson Correlation	1	0.155(*)	0.302(**)	0.271(**)	0.140(*)
	Sig. (2-tailed)		0.013	0.001	0.001	0.024
	N	258	258	258	258	258
Post Attitudes	Pearson Correlation	0.155(*)	1	0.484(**)	0.534(**)	0.303(**)
	Sig. (2-tailed)	0.013		0.001	0.001	0.001
	N	258	258	258	258	258
Post Importance	Pearson Correlation	0.302(**)	0.484(**)	1	0.636(**)	0.374(**)
	Sig. (2-tailed)	0.001	0.001		0.001	0.001
	N	258	258	258	258	258
Post Language Skills	Pearson Correlation	0.271(**)	0.534(**)	0.636(**)	1	0.396(**)
	Sig. (2-tailed)	0.001	0.001	0.001		0.001
	N	258	258	258	258	258
Post Anxiety	Pearson Correlation	0.140(*)	0.303(**)	0.374(**)	0.396(**)	1
	Sig. (2-tailed)	0.024	0.001	0.001	0.001	
	N	258	258	258	258	258

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Appendix 7

Ref.

Date

الرقم :

التاريخ: ۸/۱۲/۲۰۱۰

حضرة السيدة نسرين عمرو المحترمة

مديرة التربية والتعليم/ الخليل

الموضوع: السماح لطالب الدراسات العليا أيوب الأيوبي باجراء دراسة في مدرسة رشدية المحتسب

تحية طيبة وبعد،،،،،،

يقوم طالب الدراسات العليا أيوب الأيوبي بكتابة رسالة الماجستير حول استخدام الحاسوب والانترنت في تدريس اللغة الانجليزية:

"The Effect of CALL on the Palestinian Primary School Learners' Achievement in Reading Comprehension"

وقد تم اختيار بعض الصفوف المدرسية في مدرستكم الموقرة لتطبيق الدراسة بالتعاون مع معلمة اللغة الانجليزية.

أملين من حضرتكم تقديم التسهيلات اللازمة له.

شاكرين لكم حسن تعاملكم

واقبلوا فائق الاحترام

رئيس هيئة الدراسات العليا في قسم اللغة الانجليزية

د. محمد عبد الحكيم فرام

Appendix 8

Ref.

Date

التاريخ: ٨/١٢/٢٠١٠

الرقم :

حضرة السيد مدير المدرسة الشرعية المحترم

الموضوع: السماح لطالب الدراسات العليا أيوب الأيوبي باجراء دراسة في المدرسة

تحية طيبة وبعد......

يقوم طالب الدراسات العليا أيوب الأيوبي بكتابة رسالة الماجستير حول استخدام الحاسوب والانترنت في تدريس اللغة الانجليزية:

"The Effect of CALL on the Palestinian Primary School Learners' Achievement in Reading Comprehension"

وقد تم اختيار بعض الصفوف المدرسية في مدرستكم الموقرة لإجراء الدراسة، حيث يتخلل ذلك تعريض الطلبة لاستخدام الحاسوب في التدريس بالتعاون مع معلم اللغة الانجليزية الأستاذ حسن عاشور. وكذلك يتطلب الأمر قيام الطالب أيوب الأيوبي بتوزيع استبانات و عقد امتحان في المدرسة على مرحلتين.

آملين من حضرتكم تقديم التسهيلات اللازمة له.

شاكرين لكم حسن تعاملكم

واقبلوا فائق الاحترام

رئيس هيئة الدراسات العليا في قسم اللغة الانجليزية

د. محمد عبد الحكيم فرام

Appendix 9