UNIVERSITI MALAYSIA PAHANG

BORANG PENGESAHAN STATUS TESIS

TAJUK: THE USE OF *E-LIT* IN OPTIMIZING THE LEARNING EFFECTIVENESS OF *SONNET 18*.

SESI PENGAJIAN: _____

Saya **WAN SHAHRIZA BT WAN AB. RAHMAN**
(HURUF BESAR)

mengaku membenarkan tesis (~~PSM~~/-Sarjana /~~Doktor Falsafah~~)* ini disimpan di Perpustakaan Kolej Universiti Kejuruteraan & Teknologi Malaysia dengan syarat-syarat kegunaan seperti berikut:

1. Tesis adalah hakmilik Kolej Universiti Kejuruteraan & Teknologi Malaysia.
2. Perpustakaan Kolej Universiti Kejuruteraan & Teknologi Malaysia dibenarkan membuat salinan untuk tujuan pengajian sahaja.
3. Perpustakaan dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. **Sila tandakan (✓)

☐	SULIT	(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)
☐	TERHAD	(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)
☑	TIDAK TERHAD	

Disahkan oleh

(TANDATANGAN PENULIS)

(TANDATANGAN PENYELIA)

Alamat Tetap:
No 3, Lorong Berjaya Permai 3,
Taman Berjaya Permai,
25150 Kuantan.

Tarikh: 10/9/2008

PROF. MADYA DR. ABDULLAH IBRAHIM
(Nama Penyelia)

Tarikh: 10/9/2008

CATATAN:
* Potong yang tidak berkenaan.
** Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa/organisasi berkenaan dengan menyatakan sekali sebab dan tempoh tesis ini perlu dikelaskan sebagai SULIT atau TERHAD.
◇ Tesis dimaksudkan sebagai tesis bagi Ijazah Doktor Falsafah dan Sarjana secara penyelidikan, atau disertasi bagi pengajian secara kerja kursus dan penyelidikan atau Laporan Projek Sarjana Muda (PSM).

"I hereby declare that I have read this thesis and in my opinion it is sufficient in terms of scope and quality for the award of the degree of Master of Technology Management"

Signature : .....

Name : PROF. MADYA DR. ABDULLAH IBRAHIM

Date : 10/9/2008

BAHAGIAN A – Pengesahan Kerjasama*

Adalah disahkan bahawa projek penyelidikan tesis ini telah dilaksanakan melalui kerjasama antara _____ dengan _____.

Disahkan oleh:

Tandatangan : ..... Tarikh : .....

Nama : .....

Jawatan: .....

(Cop Rasmi)

*** Jika penyediaan tesis / projek melibatkan kerjasama.**

BAHAGIAN B - Untuk Kegunaan Pejabat Pusat Pengajian Siswazah (PPS)

Tesis ini telah diperiksa dan diakui oleh:

Nama dan Alamat Pemeriksa Luar:

Assoc. Prof. Dr. Baharuddin bin Aris
Head of Department,
Department of Educational Multimedia,
Faculty of Education,
Universiti Teknologi Malaysia,
81310 UTM Skudai,
Johor, Malaysia.

Nama dan Alamat Pemeriksa Dalam:

Assoc. Prof. Dr. Normah bt. Othman
Centre for Modern Languages and Human Sciences
Universiti Malaysia Pahang
Karung Berkunci 12, 25000 Kuantan,
Pahang, Malaysia.

Disahkan oleh Penolong Pendaftar di PPS:

Tandatangan : ..... Tarikh: 11 SEPT 08.

Nama : NOR SABRINA ISMAIL

THE USE OF *E-LIT* IN OPTIMIZING THE LEARNING EFFECTIVENESS OF *SONNET 18*.

WAN SHAHRIZA BINTI WAN AB. RAHMAN

A thesis submitted in fulfillment of the requirements for the award of the degree of Master of Technology Management.

Faculty of Manufacturing Engineering and Technology Management
Universiti Malaysia Pahang (UMP)

MAY 2008

I declare that this thesis entitled "*The Use of E-lit in Optimizing the Learning Effectiveness of Sonnet 18*" is the result of my own research except cited in the references. The thesis has not been accepted for any degree and is not currently submitted in candidature of any other degree.

Signature : .....

Name : WAN SHAHRIZA BT WAN AB. RAHMAN

Date : 10/9/2008

"To my husband, and wonderful children who have provided me with endless source of support, inspiration and courage."

ACKNOWLEDGEMENT

I would like to express my most sincere and deepest gratitude to my thesis supervisor, Assoc. Professor Dr. Abdullah Ibrahim. His constructive comments and suggestions have been a great help for me in completing this research. His understanding, encouragement, patience, personal guidance and support have helped me through the difficult moments.

During this work I have collaborated with many people for whom I have great regard, and I wish to extend my warmest thanks to all those who have helped me with my work, especially those in the Department of English of Maktab Rendah Sains MARA Kuantan.

I also would like to express my humble gratitude to my two fellow postgraduate friends who were doing their master researches about the same time as me. Mohd Rashid bin Ab. Hamid and Hadijah Haron have been my confidantes and energy-boosters throughout those months. Thanks for the assistance and the presence.

Last, and surely not the least, I owe my loving thanks to my husband, Ramli Mohd Hassan and my children Ilham, Intan, Irfan, Aiman, Aireen and Ihsan for `loaning' their wife and mother to this research project. Without their understanding and support, this work would not have been possible.

ABSTRACT

This study was done to investigate the use of an integrative computer-assisted language learning (CALL) module in facilitating the learning of "Sonnet 18", a poem by William Shakespeare. Ninety Form Four students from Maktab Rendah Sains MARA Kuantan were selected and divided into control and experimental groups (45 students for each group). As an intervention, the students in experimental group used *E-lit,* a CALL learning software whose acronym stands for Electronic Literature. The t-test analysis showed a significant difference in the level of learning retention between the experimental group who used the CALL module, and the control group who followed a traditional teaching method ($p<0.05$), in favour of the experimental group. In addition, a close-ended questionnaire and an open-ended questionnaire were administered to the experimental group to investigate their motivation, interest and enjoyment while using the CALL module. Students' responses and researcher's observation on the online discussion board activity were also taken into consideration. The results showed that students were greatly interested, motivated and really enjoyed their learning experience using CALL. However, the achievement in comprehension test revealed no significant difference between the two groups. Nevertheless, CALL has shown great potentials and possesses great merits as a learning option. This paper also suggested that future researchers who might be interested in CALL, could expand their studies on other literature genres, such as short stories and novel. In addition, a more sophisticated prototype software with a variety of multimedia presentations and interactive

activities could be developed to explore more of CALL potentials and thus, might be able to generate better results in favour of CALL. The paper also suggested that future researches be conducted in a longer period of time to see the possibility of an adverse effect of computer-assisted learning.

ABSTRAK

Kajian ini menyelidik penggunaan modul pembelajaran bahasa berbantukan computer (CALL) dalam membantu pembelajaran "Sonnet 18", sebuah sajak yang ditulis oleh William Shakespeare. Sembilan puluh pelajar Tingkatan Empat dari Maktab Rendah Sains MARA Kuantan telah dipilih dan dibahagikan kepada dua kumpulan iaitu kumpulan kajian dan kumpulan kawalan (45 pelajar bagi setiap kumpulan). Sebagai intervensi, pelajar-pelajar di dalam kumpulan kajian menggunakan *E-lit*, iaitu perisian bercirikan CALL, di mana ianya ialah akronim untuk *Electonic Literature*. Analisis ujian-t menunjukkan terdapat perbezaan yang signifikan dari segi keupayaan mengekalkan hasil pembelajaran (learning retention) di antara kumpulan kajian yang menggunakan CALL dan kumpulan kawalan yang mengikuti pembelajaran tradisional ($p<0.05$), dengan kelebihan di pihak kumpulan kajian. Selain dari itu, soal-selidik telah dijalankan ke atas kumpulan kajian untuk mengetahui tahap motivasi, minat dan keseronokan belajar mereka semasa menggunakan CALL. Selain dari itu, maklumbalas pelajar dan pemerhatian penyelidik terhadap aktiviti papan-perbincangan secara dalam talian juga diambil kira. Keputusannya menunjukkan pelajar-pelajar mempunyai tahap motivasi, minat dan keseronokan yang amat tinggi semasa menggunakan modul CALL. Bagaimanapun, hasil ujian untuk menentukan kefahaman pelajar tidak menunjukkan sebarang perbezaan yang signifikan di antara kedua-dua kumpulan. Bagaimanapun, CALL telah menunjukkan potensi-potensi yang besar dan memiliki kelebihan-kelebihan sebagai salah satu pilihan pembelajaran. Kertas kajian ini turut mencadangkan

supaya penyelidik-penyelidik akan datang yang berminat dengan CALL, meluaskan skop kajian mereka kepada genre-genre kesusateraan yang lain seperti cerpen dan novel. Di samping itu, perisian prototaip yang lebih canggih dengan pelbagai persembahan multimedia dan aktiviti interaktif boleh dibangunkan untuk menguji potensi-potensi CALL, dan justeru itu mungkin dapat menghasilkan keputusan-keputusan penyelidikan yang lebih memihak kepada CALL. Cadangan juga dikemukakan agar kajian-kajian masa depan dapat dijalankan dalam tempoh masa yang lebih panjang bagi membolehkan pemerhatian dilakukan terhadap kesan berlawanan yang mungkin terhasil terhadap pembelajaran berbantukan komputer.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION

CHAPTER 1:

INTRODUCTION

1. 1 Introduction

With the advances of the Information and Communication Technology (ICT), there is a change happening in education worldwide. New information technologies are increasingly being integrated into educational process to support pedagogy and learning. Despite the fact that there is no substitute for a good teacher, the traditional method of teaching – I talk, you listen – has to change. When computers are correctly used, they are especially well-suited to enhance the learning process. The ability of learners to control the pace, sequence and content of instruction is recognized as a distinct advantage in the use of computer-based learning.

Moreover, with the advancement in ICT technology, we are introduced to the whole new perspectives of information transfer and information sharing. ICT offers vast and extensive opportunities, diverse choices, not to mention attractive, captivating, stimulating and interest-sustainable multimedia lessons. With further available technologies in the world of communications, such as electronic-mail, Intranet, Internet,

video-conferencing, World Wide Web and others, this ICT is definitely bringing new life into teaching presentation and learning experience, the kind of life never imagined 30 years ago.

Language learning has been taking advantage of advanced technological facilities to create more and more interactive environment for learning. The computer-assisted language learning (CALL) approaches developed in parallel with all the facilities provided by the computer technology. With the help of networks' high transmission capabilities, it has been possible to access authentic cultural resources and bring foreign language students together with native speakers of that language.

Donaldson & Kotter (1999) designed a real-time MOO (Multi-user Object Oriented) System for second language learners from universities. The samples used this system once a week for collaborative tasks for five months. The researchers concluded that such CALL applications are interesting, help students learn more interactively, and motivate students in language learning.

A Meta-analysis of findings from 24 controlled evaluations showed that computer-assisted instruction has positive aspects on learners. It raised examination scores and reduced instruction time (Kulik et al., 1986). Another meta-analysis of 36 independent studies showed that computer applications have a positive effect on students' academic achievement from elementary school to college. The average effect size from 151 comparisons was 0.38. This indicates that the use of computer applications raised students' examination scores by 0.38 standard deviation (Khalili and Shashaani, 1994).

This goes to show that CALL is taking its place in the hearts of language educators for its potential in achieving better and more effective results in learning. The shift of paradigm from the traditional approach to this CALL, will put students at the center of learning process. Consequently, being active learners will further enhance students' interests and enthusiasm to learn, besides facilitating the overall understanding

of a lesson being taught. Learning now becomes a two-way discussion, not a one-way delivery system.

Yet, the computer never made it into the main-stream of language teaching. It has never been "recognised by the majority of language teachers as exemplifying good teaching, and remains peripheral to the core of classroom teaching" (Laurillard and Marullo, 1993, p. 145).

Getting away from the conventional teaching methods is not a task one finds easy. In fact, many teachers are reluctant to shift the paradigm to student-centered approach. Some teachers are computer-shy, which results in their hesitance in using the technology. Others have varied reasons such as fear of losing control of the class, fear of not being able to finish the syllabus and students' refusal to cooperate (Felder & Brent, 1996).

It is worth to note that CALL is not in any way to replace teachers in the whole learning process, but rather to assist them in the teaching. Both teachers and technology should work hand in hand, complementing each other.

1.2 Background of the Problem

It is undeniable that in recent years, there is a resurfacing of a renewed interest in literature, in the midst of educators' and public concerns over the deteriorating standard of English proficiency among students in Malaysian public school. A concerted effort to stage a revival of English is being undertaken to nurture a reading interest among students in schools and to inculcate a Malaysian English reading community which perceive reading, in particular, of literary text, as an important and fun on-going activity. The emphasis was on reading development, since "the aura attached to reading or the prestige with which it is regarded in the curriculum, the community, family and the

school is important to the development of a child's interest in reading" (Fatimah & Lynne, 1992, p.39).

Henceforth, in cognizance of the importance of reading fundamentals in language learning, the Ministry of Education, through the Curriculum Development Centre (CDC), embarked on several reading programmes to develop students' interest and their reading skills. Two of the programmes already launched were the Class Reader Programme (CRP) in the 1990s and the Literature Component in the English Language Curriculum (LCE) initiated in the year 2000.

The prospect of securing commendable grades in the English 1119 examination certainly resulted in the LCE programme being considered more seriously when in 1999, the Ministry of Education announced a major shift comprising a proposal to introduce "a

school is important to the development of a child's interest in reading" (Fatimah & Lynne, 1992, p.39).

Henceforth, in cognizance of the importance of reading fundamentals in language learning, the Ministry of Education, through the Curriculum Development Centre (CDC), embarked on several reading programmes to develop students' interest and their reading skills. Two of the programmes already launched were the Class Reader Programme (CRP) in the 1990s and the Literature Component in the English Language Curriculum (LCE) initiated in the year 2000.

The prospect of securing commendable grades in the English 1119 examination certainly resulted in the LCE programme being considered more seriously when in 1999, the Ministry of Education announced a major shift comprising a proposal to introduce "a small literature component" in its English syllabus for the Forms 1 and 4 in Malaysian secondary schools in 2000 [KP(PPK) 018/4) Jld 4 (33] (See Appendix A). This literature component became an integral part of the English Language syllabus and was tested in the Sijil Pelajaran Malaysia (SPM) examination by the year 2001 and the following year in the Penilaian Menengah Rendah (PMR) covering 20% of the English Language examination paper at these levels.

The move made by the Ministry of Education in adding a compulsory literature component into the curriculum of English KBSM in both upper and lower secondary levels of Malaysian education system is to promote learners "to engage in wider reading of good works for enjoyment and for self-development. They will also develop an understanding of other societies, cultures, values and traditions that will contribute to their emotional and spiritual growth" (Pusat Perkembangan Kurikulum, 2000, p6).

There is a general sense of uneasiness among teachers teaching English in both

teachers who have no other choice, but to teach it. Literature is seen as a new subject and many teachers are having difficulty in handling the classes due to the fact that they are not prepared either mentally or physically to teach this subject (Wong, 2002 UTM).

The fact that Literature component is made a compulsory section in the Sijil Pelajaran Malaysia 1119 English examination, has forced teachers to complete the syllabus comprising five short stories, six poems, and one selected novel out of the three novels listed by the Ministry, in the duration of two academic years for upper secondary level.

According to a case study done in Sekolah Menengah Kebangsaan Taman Daya, Johor, 75% of the students find that literature is rather boring with the reason that it is rather difficult to comprehend, or they do not have the interest in the subject itself (Wong Yee Fen, 2002). The same students said that teachers would only ask them to read the story and explain orally about it in class. No other activities were done.

"Sonnet 18", one of the poems listed as one of the compulsory texts to be read by students of upper secondary level is perhaps one of the well-known and best-loved poems written by William Shakespeare, a name that needs no introduction. The difficulty faced by teachers in teaching this particular poem is because the poet used many words of old English that are no longer used in the modern English language. Besides, the setting of the poem relates to the season which is regarded so highly by the poet. Malaysian students may not be able to understand why the season is of such importance since they are not familiar to different seasons in the colder countries, thus they may not be able to grasp the connotations related to each season.

Therefore, a CALL module which integrates elements of multimedia and hypermedia into various language activities to enhance language skills is seen as a great assistance in teaching "Sonnet 18" to the local students.

Despite the general awareness about the effectiveness of computer and internet in assisting learning and teaching, studies on school teachers by Kabilan (2003) and Kabilan et al. (2001) and Vethamani (2004), suggest that the use of computer and internet among teachers in Malaysia is still very narrow and limited.

There are many reasons that should provide ample support for anyone considering the use of computer-mediated applications in their teaching of both English and literature. It is, therefore, important that language teachers in Malaysia realize the much potential of computer and internet in assisting their teaching.

1.3 Statements of Problem

The compulsory literature component introduced by the Ministry of Education in English 1119 Sijil Pelajaran Malaysia (SPM) examination beginning in the year of 2000 has caused a problem as of how to go about teaching this component. One of the poems listed as a compulsory text is Sonnet 18 written by William Shakespeare which uses many words of old English, which are difficult both to pronounce and comprehend. An alternative teaching method that goes beyond classroom and books is essential to provide some kind of assistance to teachers and students in learning this particular poem. This research is done to determine the effectiveness of an integrative Computer-Assisted-Language-Learning (CALL) learning module, called *E-lit*, which stands for Electronic Literature, in optimizing the learning of Sonnet 18.

1.4 Rationales for Using Integrated Computer-Assisted Language Learning (CALL)

There are many valid reasons for incorporating computer applications through integrative CALL in literature lessons. Web-based computer applications allow for the creation of a learning environment that is vastly different from a conventional

classroom. This new environment will not only make learning literature more appealing, it will also make teaching literature more effective.

The uses of computer applications for teaching literature are many. Vethamani (2004) claims that computer-based applications facilitate an interactive mode of learning unlike many earlier forms of technologies like the audiotape and television that were non-interactive in nature. Vethamani also goes on to argue that through computer-assisted modules, students are freed from the four-wall boundaries that imprison them, and this allows them to roam into a borderless world. The computer modules also will allow learners to choose their own course and direction in learning about a text. All this will turn a reluctant and passive learner into an adventurous, active and fully-alert learner. This will enable the learners to become more independent, and are more accountable of their own learning adventure. They will become active participants of the whole learning process, thus ensuring greater and more optimum success.

Earlier on, Warschauer (1996) recognized a few major advantages of using Computer-Assisted Language Learning (CALL) modules in facilitating language learning. First of all, according to him, a more authentic learning environment is created, since listening is combined with seeing, just like in the real world. Secondly, skills are easily integrated, since the variety of media make it natural to combine reading, writing, speaking and listening in a single activity. Third, students have great control over their learning, since they can not only go at their own pace but even on their own individual path, going forward and backwards to different parts of the program, honing in on particular aspects and skipping other aspects altogether. And finally, a major advantage of CALL is that it facilitates a principle focus on the content, in this case the literature text itself, without sacrificing a secondary focus on language form or learning strategies.

1.5 Research Objectives

This research focuses on the use of multimedia and Internet in assisting the teaching of Sonnet 18, so as to optimize the effectiveness of both teaching and learning.

The purpose of this research is therefore, to compare the effectiveness of the teaching of Sonnet 18 in MRSM Kuantan between a group of students who used a computer-assisted language learning module called ***E-lit*** (whose acronym stands for Electronic Literature) and the other group of students who used a traditional teaching method in a conventional classroom setting.

More specifically, this research is aimed to:

1. measure the amount of improvement gained by the students who use the integrative Computer-Assisted Language Learning (CALL) module, as compared to the students who use the conventional teaching method as reflected by the gain scores in Posttest 1.
2. investigate whether one gender in the experimental group has more ability in understanding the literature text when using the Computer-Assisted language Leaning (CALL) method, than the other gender.
3. ascertain whether students in the experimental group can retain more information gained from the integrative Computer Assisted Language Learning (CALL) learning module, than the students who use conventional method of learning.
4. determine whether one gender in the experimental group has more ability to retain information gained from the integrative Computer-Assisted Language Learning (CALL) learning module than the other gender.
5. determine whether or not the integrative Computer-Assisted Language Learning (CALL) improves students' motivation, interest and enjoyment in the learning process.

1.6 Statements of Hypothesis (Ho)

1. Ho : There is no significant difference in the improvement shown, between the experimental group who uses CALL and the control group who uses conventional method of learning, as reflected by the gain scores in Posttest 1.
2. Ho: There is no significant difference in the improvement shown between genders in the experimental group, as reflected in the gain scores in Posttest 1.
3. Ho: There is no significant difference in the amount of information retained after some period of time has lapsed after the lesson being carried out, between the experimental group who uses CALL and the control group who uses conventional method of learning, as reflected by the gain scores in Posttest 2.
4. Ho: There is no significant difference in the amount of information retained between genders in the experimental group after some period of time has lapsed after the lesson being carried out, as reflected in the test scores in Posttest 2.
5. Ho: There is no motivation, interest and enjoyment shown by the experimental group who uses computer-assisted language learning (CALL) module while studying "Sonnet 18".

1.7 Theoretical Framework

1.7.1 Multiple Intelligences

The theory of multiple intelligences has grabbed the attention of many educators around the world, and more and more schools are currently using its philosophy to redesign the way it educates children. However, there are still thousands of schools out there that teach in the same old dull way, through dry lectures, and boring worksheets and textbooks (Armstrong, 1994).

This theory of multiple intelligences which was developed by Dr. Howard Gardner in 1983 suggests that the traditional notion of intelligence, based on I.Q. testing, is far too limited. Instead, Dr. Gardner proposes eight different intelligences to account for a broader range of human potential in children and adults. These intelligences are Verbal-Linguistic intelligence ("word smart"), Logical-mathematical intelligence (number/reasoning smart"), Visual-Spatial intelligence ("picture smart"), Bodily-Kinesthetic intelligence ("body smart"), Musical-rhythmic intelligence ("music smart"), Interpersonal intelligence ("people smart"), Intrapersonal intelligence ("self smart") and the eighth intelligence which was added later into the list is Naturalist intelligence ("nature smart").

Dr. Gardner says that our schools and culture focus most of their attention on linguistic and logical-mathematical intelligence. We esteem the highly articulate or logical people of our culture. However, Dr. Gardner asserts that we should also place equal attention on individuals who show gifts in the other intelligences: the artists, architects, musicians, naturalists, designers, dancers, therapists, entrepreneurs, and others who enrich the world in which we live. Unfortunately, many children who have these gifts don't receive much reinforcement for them in school. Many of these kids, in fact, end up being labeled "learning disabled," "ADD" (attention deficit disorder) or simply underachievers, when their unique ways of thinking and learning aren't addressed by a heavily linguistic or logical-mathematical classroom (Gardner, 1993). The theory of multiple intelligences proposes a major transformation in the way our schools are run.

The theory suggests that teachers be trained to present their lessons in a wide variety of ways using music, cooperative learning, art activities, role play, multimedia, field trips, inner reflection, and much more. It is so intriguing because it expands our horizon of available teaching and learning tools beyond the conventional linguistic and logical methods used in most schools such as through mere lectures, textbooks, writing assignments, formulas and whiteboard notes.

Not every intelligence has to be present in every lesson plan. In fact, it is not likely to be possible to insert all eight intelligences in a limited single lesson period. What is important is that, in language classrooms, without any special attention given to any particular students with certain intelligence, teachers have "to reach out for the students' full potential while not losing sight that their purpose is to teach language" (Larsen-Freeman, 2000).

1.7.2 Theory of Constructivism

"As long as they were people asking each other questions, we have had constructivist classrooms. Constructivism, the study of learning, is about how we all make sense of our world, and that really hasn't changed"

(Brooks, J.G., 1999, p26).

Constructivism is basically a theory - based on observation and scientific study - about how people learn. It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. When we encounter something new, we have to reconcile it with our previous ideas and experience, maybe changing what we believe, or maybe discarding the new information as irrelevant. In any case, we are active creators of our own knowledge. To do this, we must ask questions, explore, and assess what we know.

Jean Piaget, who developed the theories of childhood development and education, led the evolution of constructivism. He believed that humans learn through the construction of one logical structure after another. He also concluded that the logic of children and their modes of thinking are initially entirely different from those of adults. The implications of this theory and how he applied them have shaped the foundation for constructivist education.

The essence of the constructivist approach to learning is the idea that learners individually discover and build their own knowledge (Anderson, Greeno, Reder, & Simon, 2000; Brooks & Brooks, 1999; Waxman, Padron, & Arnold, 2001). Learners

construct a unique mental image by combining information in their heads with the information they receive from their sense organs. With the constructivist approach, students control some of the learning focus and activities; teacher-centered strategies, such as lectures, are minimized; multiple ways of knowing are honored; learning activities and assessments are often rooted in authentic situations; and much learning occurs in groups. The constructivist theory views learners as active participants in their own learning, not passive recipients of information. Learners construct their own meaning by negotiating that meaning.

Constructivist teachers encourage students to constantly assess how the activity is helping them gain understanding. By questioning themselves and their strategies, students in the constructivist classroom ideally become "expert learners." This gives them ever-broadening tools to keep learning. With a well-planned classroom environment, the students learn HOW TO LEARN.

You might look at it as a spiral. When they continuously reflect on their experiences, students find their ideas gaining in complexity and power, and they develop increasingly strong abilities to integrate new information. One of the teacher's main roles becomes to encourage this learning and reflection process (Figure 1.1).

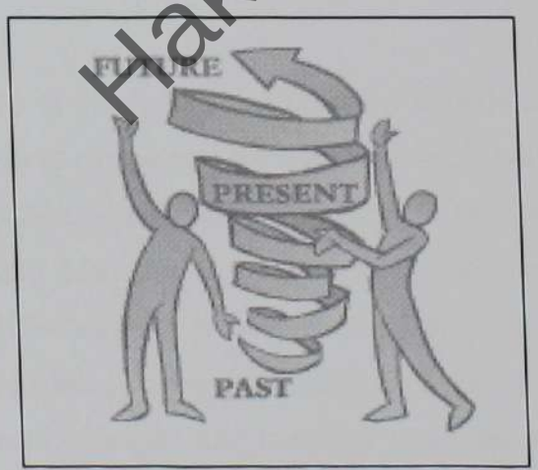

Figure 1.1 : The Theory of Constructivism
(Source: Educational Broadcasting Corporation, 2004)

Contrary to criticisms by some conservative educators, constructivism does not miss the active role of the teacher or the value of expert knowledge. Constructivism modifies that role, so that teachers help students to construct knowledge rather than to reproduce a series of facts. The constructivist teacher provides tools such as problem-solving and inquiry-based learning activities with which students formulate and test their ideas, draw conclusions and inferences, and pool and convey their knowledge in a collaborative learning environment. Constructivism transforms the student from a passive recipient of information to an active participant in the learning process. Always guided by the teacher, students construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the textbook.

1.8 Scope of Study

This research was done on ninety Form Four students of Maktab Rendah Sains MARA Kuantan, who were randomly taken from four classes of mixed ability and proficiency. These four classes were divided into two major groups; control and experimental groups. Each group was made up of 45 students of mixed proficiency, backgrounds and genders. The control group was given 3 double-period lessons, comprising 80 minutes per double period to undergo lessons using a conventional method of learning.

The other group of 45 students, which is our experimental group was also given 3 double-period lessons to experiment the learning experience using Computer-Assisted Language Learning (CALL) prototype software called ***E-lit***, which had been developed by the researcher using Macromedia Flash 5.0. The software had been tested for possible technical difficulties with an independent group comprising 25 students during a pilot study, and after which, every possible problem and imperfection of the software was rectified, improved, changed and modified to ensure the final product suits the demands and needs of the students. .

Contrary to criticisms by some conservative educators, constructivism does not dismiss the active role of the teacher or the value of expert knowledge. Constructivism modifies that role, so that teachers help students to construct knowledge rather than to reproduce a series of facts. The constructivist teacher provides tools such as problem-solving and inquiry-based learning activities with which students formulate and test their ideas, draw conclusions and inferences, and pool and convey their knowledge in a collaborative learning environment. Constructivism transforms the student from a passive recipient of information to an active participant in the learning process. Always guided by the teacher, students construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the textbook.

1.8 Scope of Study

This research was done on ninety Form Four students of Maktab Rendah Sains MARA Kuantan, who were randomly taken from four classes of mixed ability and proficiency. These four classes were divided into two major groups; control and experimental groups. Each group was made up of 45 students of mixed proficiency, backgrounds and genders. The control group was given 3 double-period lessons, comprising 80 minutes per double period to undergo lessons using a conventional method of learning.

The other group of 45 students, which is our experimental group was also given 3 double-period lessons to experiment the learning experience using Computer-Assisted Language Learning (CALL) prototype software called ***E-lit***, which had been developed by the researcher using Macromedia Flash 5.0. The software had been tested for possible technical difficulties with an independent group comprising 25 students during a pilot study, and after which, every possible problem and imperfection of the software was rectified, improved, changed and modified to ensure the final product suits the demands and needs of the students. .

Both experimental and control groups were taught the same literature text, which is "Sonnet 18", a poem written by William Shakespeare. The text is one of six compulsory poems listed by the Ministry of Education in the Syllabus for Upper Secondary Literature Component of SPM 1119 English Paper. Each of the student in the experimental group was given a software in the form of a cd for them to use during the whole 3 weeks of experimental period. The control group was taught by the researcher in their own traditional classroom setting with the same amount of information and input as the ones contained in the software.

1.9 Limitations of Study

The following limitations are expected out of this study:

i. The treatment was conducted in a period of 240 minutes or three double periods of 80 minutes each. This short-term treatment might also affect the results of the study. Students' responses or perceptions towards CALL lessons might differ if the period is lengthened or shortened.

ii. Since the whole learning process with the experimental group used a hundred-percent assistance from the computer, some students who are not familiar with the technology or find it difficult to use, may not favour the whole learning experience, and this may affect the results of the study.

iii. There are also some parts of the software which connect the students to the Internet in world-wide-web (www). There might be problems with the server or the internet connection that might disrupt the smoothness of the lesson. Besides, distractions from other web pages may also affect the research.

iv. The *E-lit* software lacks animation and sophisticated interactivity features. This limitation might decrease students' interests in the lesson, thus reducing the CALL actual potentials.

hindrance to a more successful CALL lesson whereby students are supposed to be able to run the *E-lit* software on self-access basis and are free to go to the online discussion board outside class hours.

1.10 The Importance of Study

This study is hoped to throw a light on a possible solution to the problems faced by teachers and students in the teaching and learning of literature component in MRSM Kuantan, particularly "Sonnet 18". This research is important in assisting to determine the future learning style which is more effective for MRSM students, especially in the area of language teaching. It is also hoped that this research can establish a current situation where learning can be manipulated in such a way as to achieve the most optimum desired results.

It is also highly anticipated that the research will open the eyes of English teachers to consider computer as an excellent medium to teach English. It is about time that all of us break the barriers that have hindered us from confronting this amazing technology. If more literature lessons can be developed into CALL, the language learning will turn to be a very pleasant and rewarding experience for both students and teachers.

1.11 Definitions of Terms

The following terms are defined according to what the researcher intends to mean while discussing them:

i. Integrative Computer-Assisted Language Learning (CALL) - "models which would integrate various skills (e.g., listening, speaking, reading, and writing) and also integrate technology more fully into the language learning process" (Warschauer, 1996, p39).

ii. Multimedia - A program or information environment that uses computers to integrate text, graphics, images, video, and audio (Shih and Alessi, 1996).

iii. Hypermedia - The use of data, text, graphics, video and voice as elements in a hypertext system. All the various forms of information are linked together so that a user can easily move from one to another.

iv. Conventional/Traditional methods of teaching/learning – the methods of teaching/learning where teachers will be the sole information provider for the students and the involvement of the students in the whole learning process is very minimal.

v. Student-centered learning – the method in which students are actively involved in the learning process.

vi. Maktab Rendah Sains MARA – refers to the fully-residential secondary learning institution under the Ministry of Entrepreneur and Cooperative Development, where students are generally selected based on their good performances in either Ujian Penilaian Sekolah Rendah (UPSR) or Penilaian Menengah Rendah (PMR) examinations. 80% of the students come from rural areas and non-English speaking backgrounds. The institution is also known as MARA Junior Science College, as it is termed in English.

ii. Multimedia - A program or information environment that uses computers to integrate text, graphics, images, video, and audio (Shih and Alessi, 1996).

iii. Hypermedia - The use of data, text, graphics, video and voice as elements in a hypertext system. All the various forms of information are linked together so that a user can easily move from one to another.

iv. Conventional/Traditional methods of teaching/learning – the methods of teaching/learning where teachers will be the sole information provider for the students and the involvement of the students in the whole learning process is very minimal.

v. Student-centered learning – the method in which students are actively involved in the learning process.

vi. Maktab Rendah Sains MARA – refers to the fully-residential secondary learning institution under the Ministry of Entrepreneur and Cooperative Development, where students are generally selected based on their good performances in either Ujian Penilaian Sekolah Rendah (UPSR) or Penilaian Menengah Rendah (PMR) examinations. 80% of the students come from rural areas and non-English speaking backgrounds. The institution is also known as MARA Junior Science College, as it is termed in English.

vii. Literature component – refers to the compulsory language component which has been inserted in the syllabus of the 1119 English paper for lower and upper secondary schools.

viii Upper secondary school – refers to the Form 4 and Form 5 levels in Malaysian education system.

1.12 Summary

This study was conducted to address the problems of teaching and learning "Sonnet 18" in 1119 English SPM syllabus at Maktab Rendah Sains MARA Kuantan. There are many challenges and difficulties faced by teachers in teaching this text Given the fact that a class is usually a combination of varied proficiency levels of students, different backgrounds, skills, attitudes and knowledge, there are a lot of problems can be expected. Moreover, literature which challenges students of their aesthetic skills, is definitely not an easy area to teach and learn. Therefore, this study will focus on how effective a CALL module, called *E-lit* is in optimizing the learning effectiveness of "Sonnet 18 " in Maktab Rendah Sains MARA Kuantan.

The following chapter, in the review of literature, the researcher would discuss rather extensively and intensively various aspects of the Computer-Assisted Language Learning (CALL). In the Research Methodology Chapter (Chapter 3), the discussion zooms in at the actual research, steps and procedures taken. The chapter describes the research site, the sampling group, the literature text, the pilot study and the experts' comments on the learning module, besides a rather detailed explanation of the research design. Chapter 4 particularly outlays the process involved in the development of the learning module, called ***E-lit.*** This is followed by the analysis of data which make up Chapter 5 and followed by the discussion and implications in Chapter 6. The chapter will discuss the findings of analysis done in previous chapter. Finally, the last chapter would conclude the research findings and provide the suggestions and recommendations for similar future research.

CHAPTER 2

LITERATURE REVIEW

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will look in depth into the potentials of Integrative Computer Assisted Language Learning (CALL) in serving as a tool for language teaching and learning in Malaysia, especially Literature Component in 1119 SPM Syllabus in Malaysia Education System, based on previous researches and studies done on the

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will look in depth into the potentials of Integrative Computer Assisted Language Learning (CALL) in serving as a tool for language teaching and learning in Malaysia, especially Literature Component in 1119 SPM Syllabus in Malaysia Education System, based on previous researches and studies done on the subject. It will also look at the background and history of CALL, and review the strengths and weaknesses of each CALL stage. In addition, this chapter will also discuss aspects that will be taken into consideration in developing the prototype CALL software for the purpose of this study.

2.2 The Importance of Learning Literature in Second Language Learning

"Literature , like any art form, engages the reader a complex set of emotional, symbolic, moral, intellectual and social considerations."

(Lye, 2003, p1)

Krashen (1987) asserts that the role of the second language learning is to enable students to utilize the language in the real world. Literature, on the other hand, is the assets for language learning and the challenge for today's teachers is to make literature relevant to the students. Krashen (2005) adds later that if done correctly, the study of literature can be a powerful means of promoting intellectual development. "Literature is applied philosophy, covering ethics (how we are supposed to live), and metaphysics (why are we here), in ways which are not possible by other means" (p67).

It is important for language teachers to bring the literature class alive and to make it as interesting and as realistic as possible. Students who can be made to love

2.2 The Importance of Learning Literature in Second Language Learning

"Literature , like any art form, engages the reader a complex set of emotional, symbolic, moral, intellectual and social considerations."

(Lye, 2003, p1)

Krashen (1987) asserts that the role of the second language learning is to enable students to utilize the language in the real world. Literature, on the other hand, is the assets for language learning and the challenge for today's teachers is to make literature relevant to the students. Krashen (2005) adds later that if done correctly, the study of literature can be a powerful means of promoting intellectual development. "Literature is applied philosophy, covering ethics (how we are supposed to live), and metaphysics (why are we here), in ways which are not possible by other means" (p67).

It is important for language teachers to bring the literature class alive and to make it as interesting and as realistic as possible. Students who can be made to love literature will find themselves later crave for more and more readings, and eventually they read voluntarily, rather than forced by the teacher (Krashen, 2004). Once this reading habit is inculcated among students, it can help improve language proficiency and also infuse an appreciation of literary works (Senan Ibrahim, 2000).

Undeniably, literature expands language awareness. Asking learners to examine sophisticated or non-standard examples of language, which can occur in literary texts, makes them more aware of the norms of language use (Widdowson, 1975).

Lye (2003) touched on a very important benefit of studying literature. According to him, literature can help us to get more insight and reflection on life and the nature of human experiences. Thus, this enriches one's wisdom as he or she is taken by a literary text to explore and experience more on human's complexities. Since literature requires a use of language, images and ideas which is "refined, precise and self-reflective" (p73), it can make us think and imagine more deeply and more accurately.

Jenkins and Austin (1987) suggest that literature can help in cultural understanding. A piece of good literature can transcend time, space and language , and helps readers to "learn about an individual, or a group of people whose stories take place in specific historical or physical setting . Dowd (1992, p17) also argues that "... from reading, hearing or using culturally diverse materials, readers learn that beneath surface differences of color, culture or ethnicity, all people experience universal feelings of sadness, love, self-worth, justice and kindness."

Literature educates the whole person more than any other subjects. By examining values in literary texts, teachers encourage learners to develop attitudes towards them. These values and attitudes relate to the world outside the classroom. Through literature, students will also develop an understanding of other societies, cultures, values and traditions that will contribute to their emotional and spiritual growth (Pusat Perkembangan Kurikulum, 2000). Furthermore, an effective literature class will enable students to achieve "greater understanding of themselves and others and would eventually be able to perform effectively and positively as members of society in keeping with the aspirations of the National Education Philosophy" (Senan Ibrahim, 2000, p.iv).

2.3 The History of Computer-Assisted-Language-Learning (CALL)

Computers have been used for language teaching since the 1960s. This forty-plus year history can be roughly divided into three main stages: **behavioristic** CALL, **communicative** CALL, and **integrative** CALL (Warschauer and Healey, 1998). Each stage corresponds to a certain level of technology as well as a certain pedagogical approach.

CHAPTER 5

ANALYSIS OF DATA

Package for Social Sciences (SPSS) software (see Appendix N). In addition to the quantitative analysis, there was also qualitative analysis, done on the open-ended questionnaire and also on students' responses collected via the discussion board. The analysis on both of these responses would help in determining whether or not ***E-lit***, the Computer-assisted language learning (CALL) module, which was developed for the purpose of this research, did provide useful assistance for the students in learning "Sonnet 18" in MRSM Kuantan.

Therefore, this chapter is hoped to answer the following research questions through qualitative analysis:

1 Is there a significant difference in the improvement shown, between the experimental group who uses CALL and the control group who uses conventional method of learning, as reflected by the gain scores in Posttest 1?

2. Is there a significant difference in the improvement shown between genders in the experimental group, as reflected in the gain scores in Posttest 1?

3. Is there a significant difference in the amount of information retained after some period of time has lapsed after the lesson being carried out, between the experimental group who uses CALL and the control group who uses conventional method of learning, as reflected in the test scores in Posttest 2?

4. Is there a significant difference in the amount of information retained between genders in the experimental group after some period of time has lapsed after the lesson being carried out, as reflected in the test scores in Posttest 2?

In addition to the quantitative analysis on Posttest 1 and Posttest 2 results, there was also a qualititative analysis done on close-ended questionnaire and a qualitative analysis done on open-ended questionnaire and students' feedbacks in the

discussion board. These analyses were expected to answer the final research question, i.e. -

5. Is the CALL software able to increase students' motivation, interest and enjoyment in studying "Sonnet 18"?

5.2 Pretest Analysis

The pretest scores for both groups were analyzed to see whether the two groups were of equal ability before the treatment started. The analysis which was done through the mean analysis and t-test produced the results as shown in tables 5.1 and 5.2, respectively.

Table 5.1: Mean for Pretest Scores

Groups	N	Full Scores	Mean	Standard Deviation
Control	45	100	48.00	22.371
Experimental	45	100	43.91	20.353

Table 5.2: T-test analysis on the pretest mean scores of control and experimental groups

	t	df	Sig (2-tailed)
Equal variances assumed	0.907	88	.367

From Table 5.1, it could be seen that the control group performed slightly better than the experimental group, with the difference in mean scores of 4.09. However, the t-test analysis confirmed that the pretest scores of the two groups were

not significantly different. With the t-value=0.907 (df=88) and significant value p= 0.367, which is greater than 0.05, which was the pre-selected probability level in determining whether or not the difference occurs by chance, it could safely be concluded that the average 4.09 marks more obtained by the control group, than the experimental group was due to chance. Therefore, the two groups were perceived to be having equal ability at the beginning of this study.

The t-test analysis was also done on different genders to see whether they differed at the beginning of this study. Table 5.3 shows the pretest mean scores for each gender for the control group and experimental group.

Table 5.3: Mean Scores in Pretest According to Genders in Control Group and Experimental Group

Group	Gender	N	Full Scores	Mean Scores	Standard Deviation
Control	Male	17	100	45.53	21.561
	Female	28	100	50.71	22.800
Experimental	Male	17	100	47.94	16.494
	Female	28	100	41.46	22.303

The t-test analysis on pretest mean scores was performed to see whether the genders for each group differed significantly in their language ability at the beginning of the study. The outcomes of t-test for control group and experimental group were as in Table 5.4. and Table 5.5 respectively.

Table 5.4 : T-test Analysis on the Pretest Mean Scores for Male and Female in the Control Group

	t	df	Sig (2-tailed)
Equal variances assumed	-.1.046	43	.302

Table 5.5 : T-test Analysis on the Pretest Mean Scores for Male and Female in the Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	1.036	43	.306

Based on the outcomes in Table 5.4, the independent-samples t-test gave t=1.046 (df=43), p=0.302. This indicated that both genders in the control group were not significantly different at the beginning of this study. Similarly, Table 5.5 which yielded the t-value of 1.036 (df=43) and p=0.306, also suggested that both genders in the experimental group also did not differ significantly at the beginning of the study.

In addition to the comparisons between different genders in the same group, the comparisons were also made on the same gender from different groups; i.e. comparison between male students in the control group and the male students in the experimental group and the comparison between female students in the control group and female students in the experimental group. All these comparisons were to ensure that at the beginning of this study, none of the gender was more superior to the other, either in the same group of from different group.

Table 5.6 shows the t-test analysis done on the pretest mean scores of male students in the control group and those in the experimental group.

Table 5.6 : T-test Analysis on the Pretest Mean Scores for Male Students in the Control and Experimental Groups

	t	df	Sig (2-tailed)
Equal variances assumed	-0.670	32	.508

The two-tailed t-test showed t=-0.670 (df-32), and p=0508. This shows that the male students in both groups were not significantly different initially.

Table 5.7 shows the t-test analysis done on the pretest mean scores of female students in the control group and those in the experimental group.

Table 5.7: T-test Analysis on the Pretest Mean Scores for Female Students In the Control and Experimental Groups

	t	df	Sig (2-tailed)
Equal variances assumed	0.459	54	0.131

The outcomes of t-test analysis in Table 5.7, t-0.459 (df=54), p=0.131 also indicated that the female students in both control and experimental groups were not significantly different at the beginning of this study.

5.3 Posttest 1 Analysis

The mean scores from Posttest 1 of both control and experimental groups were compared to the mean scores in Pretest in order to determine the mean gain score of each group, after the intervention treatment. These scores, which were obtained from the Posttest 1, could be used to see whether or not there was improvement made by the students, which also would indicate that students might have gained understanding on the literature text that they had learnt either through the computer-assisted language learning (CALL), *E-lit* software, or through traditional teaching in the classroom. The result would be used to accept or reject our null hypothesis that there is no significant difference in the amount of understanding achieved by the experimental group, as compared to the control group. Using the mean analysis on the scores of the two groups, the following outcomes in Table 5.8 were generated.

Table 5.8: Mean Gain Scores in Posttest 1

Group	N	Full Marks	Pretest Mean Score	Pretest Std. Dev.	Posttest 1 Mean Score	Posttest 1 Std. Dev	Mean Gain Score	Gain Score Std. Dev.
Control Group	45	100	48.00	22.371	81.18	14.959	33.178	28.895
Exp. Group	45	100	43.91	20.353	77.44	13.594	33.533	1.600

From the table, we could see that both control and experimental groups gained drastically improved scores compared to their initial scores in the pretest. Looking at the results of the posttest 1, it could be seen that the control group again seemed to achieve a slightly higher mean score than the experimental group. The control group gained the mean score of 81.18, whereas the experimental group gained the mean score of 77.44. This shows the difference of 3.74 marks of the mean gain scores between the two groups.

However, it was noted that the experimental group was the one who had better improvement compared to the control group. The improvement marked by the experimental group after the *E-lit* treatment was 33.533, as compared to the control group whose gain mean score was 33.178, after they attended the normal lessons in the classroom. The question is, was this difference of 0.355 marks in the mean gain score between the two groups considered significant? In order to see whether this difference was significant or not , a t-test on the mean gain scores was performed. The results yielded were shown in Table 5.9.

Table 5.9 : T-test analysis on the mean gain scores of control and experimental groups

	t	df	Sig (2-tailed)
Equal variances assumed	.306	88	.760

The t-test analysis at 0.05 confidence interval produced the *t* value of 0.306 and the significant value of 0.760. This showed that the mean gain scores between two groups were not significantly different.

To see whether there was a "gender-factor" that might have affected the results between two different learning methods, the mean scores were analyzed by gender. The following table shows the mean scores in posttest 1, broken down according to genders.

Table 5.10 : Mean Scores in Posttest 1 According to Gender

Group	Gender	N	Full Marks	Posttest 1 Mean Score	Posttest 1 Std. Dev
Control Group	M	17	100	77.06	13.700
	F	28	100	83.68	15.372
Exp. Group	M	17	100	69.71	14.084
	F	28	100	82.14	11.091

From table 5.10, It could clearly be seen that in both control and experimental groups, the female students gained higher marks compared to the male students. In control group, the female students obtained the mean score of 83.68 compared to the male students who only managed to secure the mean score of 77.06 This difference of 6.62%, was however, not significant, as shown in the outcomes of t-test in Table 5.11 below. The table shows the p-value=0.152, t=-1.457 (df=43).

Table 5.11 : T-test analysis on the mean scores of Posttest 1 according to gender in the Control Group

	t	df	Sig (2-tailed)
Equal variances assumed	-1.457	43	.152

Table 5.10 also shows that the female students in the experimental group also seemed to surpass the male students in their achievement in Posttest 1. The mean test score for females in the experimental group was 82.14, which was 11.43 higher than the test score obtained by the male students, which was only 69.71. The t-test below (Table 5.12) confirmed that these scores were significantly different. The significance level (p=0.02), which was lower than the alpha 0.05 indicated that the female students in the experimental group obtained significantly higher scores compared to the male students in the same group.

Table 5.12: T-test analysis on the mean scores of Posttest 1 according to gender in the Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	-3.291	43	0.02

To see whether each gender in one group performed significantly different than its counterpart in the other group, two other t-tests were done. The first one in Table 5.13 was to determine whether the male students in the control group, with their mean score of 77.06 were better than the male students in the experimental group, who obtained the mean score of 69.71. The second t-test result in Table 5.14 was to see whether the female students in the control group who obtained the mean posttest 1 score of 83.68 were significantly better than the female students in the experimental group who got the mean score of 82.14 .

Table 5.13 : T-test analysis on the mean scores of Posttest 1 for male students in the Control and Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	1.543	32	.133

Table 5.14 : T-test analysis on the mean scores of Posttest 1 for female students in the Control and Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	0.429	54	0.670

Looking at the significant values for both t-tests, we could conclude that there was no significant difference in the achievement of each gender in one group, compared to the same gender in the other group. As far as this study is concerned, the scores in Posttest 1 between the two groups and between genders were not significantly different except for the experimental group where female students significantly outperformed the male students.

5.4 Posttest 2 Analysis.

The posttest 2 was given to both control and experimental groups two months after the treatment program. This test was given unannounced and students were caught unprepared. This was purposely done to avoid students making revision and memorization of the text contents. The purpose of this Posttest 2 was to see how well students managed to retain what they had learnt before, and to see whether or not one group performed better than the other group in this test. This is important in determining whether one method of learning is capable in increasing the level of learning retention in students.

Table 5.15 shows the mean scores of Posttest 2 for the control group and the experimental group.

Table 5.15 : Mean Scores in Posttest 2

Group	N	Full Marks	Posttest 2 Mean Score	Posttest 2 Std. Dev
Control Group	45	100	56.84	12.939
Exp. Group	45	100	65.82	14.963

In the posttest 2, the control and experimental groups obtained the mean score of 56.84 and 65.82, respectively. This marked the difference of 8.98%. The t-test was done to determine whether the difference in the mean score of the Posttest 2 is significant or not. The outcomes of the t-test were as in Table 5.16.

Table 5.16 : T-test analysis on the mean scores of Posttest 2 of Control and Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	-3.045	88	0.03

At the confidence interval of 0.05, the t-test produced the t value of -3.045 (df=88) and the significant level of 0.03. Based on this analysis, it could be concluded that there was a significant difference in the Posttest 2 scores between the control group and the experimental group. The experimental group gained a significantly higher mean score than the control group. This shows that the experimental group has successfully managed to retain significantly more information from their CALL module as compared to the control group.

Table 5.17 shows the mean scores of Posttest 2, according to genders.

Table 5.17 : Mean Scores in Posttest 2 According to Genders

Group	Gender	N	Full Marks	Posttest 2 Mean Score	Posttest 2 Std. Dev
Control Group	M	17	100	58.29	15.719
	F	28	100	55.96	11.147
Exp. Group	M	17	100	61.59	15.367
	F	28	100	68.39	14.379

From the table, it could be seen that in the control group, male students gained better scores compared to the female students. This difference of 2.33 scores, however was not considered a significant difference, as reflected in Table 5.18.

Table 5.18 : T-test analysis on the mean scores of Posttest 2 according to gender in the Control Group

	t	df	Sig (2-tailed)
Equal variances assumed	0.581	43	0.564

The significant level of 0.564 as yielded from the t-test was higher than our predetermined confidence interval of 0.05, thus making the difference statistically insignificant Thus, we could say that both male and female students in the control group had a pretty much equal amount of learning retention from the traditional class that they attended.

For the experimental group, the female students seemed to score higher marks in the Posttest 2, compared to the male students. The mean scores for female and male students were 68.39 and 61.59, respectively. This produced the difference in mean scores between the two genders of 6.80. The t-test analysis of the genders in the experimental group produced the following results in Table 5.19.

Table 5.19 : T-test analysis on the mean scores of Posttest 2 according to gender in the Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	-1.500	43	0.141

Looking at the t-test analysis, again, it could be concluded that there was no significant difference in the level of learning retention between genders in the experimental group. The female and male students did not seem to differ in their ability to retain information, despite the use of technology. Both genders recalled almost the same amount of information from their past learning.

Two more t-test analyses were done to see whether or not there would be some significant differences in the Posttest 2 scores between the same genders from different groups. The first t-test was performed on the male students in Control Group and in the experimental Group. As shown in table 5.11, the male students in the experimental group gained 61.59, 3.30 higher than the male students in the control group, who obtained the mean score of 58.29. The t-test on these two mean scores generated the outcomes as in Table 5.20.

Table 5.20 : T-test analysis on the mean scores of Posttest 2 for male students in the Control and Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	-0.618	32	0.541

As suggested by the outcomes of Table 5.20, there was no significant difference in the mean scores of Posttest 2 between male students in the Control Group and the male students in the Experimental Group. The significance level of 0.541 on 2-tailed analysis suggested that there was a very high possibility for the results to have occurred by chance. Therefore, we could safely say that the difference was not significant. To see whether the female students also had an insignificant difference of the mean score between those in the control group and those in experimental group, another t-test was performed. The results were produced in Table 5.21.

Table 5.21 : T-test analysis on the mean scores of Posttest 2 for female students in the Control and Experimental Group

	t	df	Sig (2-tailed)
Equal variances assumed	-3.615	54	0.01

The female students in the experimental group clearly surpassed the female students in the control group by quite a vast difference, which was 12.43. The t-test which was done to determine whether this difference was significant or not yielded the t-value of -3.615 and the significance level of 0.001. This indicated that there was a very significant difference between the mean score obtained by the female students in the experimental group and that obtained by the female students in the control group. This suggests that the female students performed better in their

learning when assisted by the computer, compared to when they attended the normal lesson in the traditional classroom.

5.5 Analysis on the Close-Ended Questionnaire

Students' opinions on the Computer-Assisted Language Learning (CALL) software, *E-lit* were sought in order to gauge how much the *E-lit* module had affected students' overall learning experience. The students' responses which were collected through a questionnaire based on the Likert-scale scores ranging from 1 to 5, were later analysed using the mean analysis. These responses are important in evaluating students' acceptance towards the learning module and could be used as a yardstick in exploring future potentials of the CALL modules.

The analysis was done through the SPSS. Before entering the scales as rated by the students into SPSS, a few items which were negatively worded against the *E-lit* software were re-rated in reverse order, so as to get a true picture of students' perception towards the *E-lit* learning software. Those items were:

Item 6 - *I need my teacher to be present during the whole E-lit learning.*

Item 20 - *I find E-lit difficult to use because my knowledge of computer islimited.*

Item 23 - *I prefer to study "Sonnet 18" through a traditional method in a classroom.*

Item 27 - *After using E-lit, I still need my teacher to explain a few things.*

The mean and standard deviation for each question in the questionnaire are as in Appendix D. The table 5.22 shows the overall mean of all 30 questions which were posed to the experimental group in seeking their opinions towards the *E-lit* module.

Table 5.22 : Overall Mean Score of Experimental Group's Opinion towards *E-lit* based on Responses in the Questionnaire

Number of Question Items	Number of students	Full Score	Mean	Standard Deviation
30	45	5.00	4.20	0.73

From table 5.22, the overall mean score of the experimental group's opinions towards the *E-lit* module, based on the Likert Scale ratings, was 4.20 out of 5.0 full score. This clearly shows that the experimental group had a highly positive view on the *E-lit* module that they had used in their learning. There is no doubt that they perceived *E-lit* as a very helpful and useful assisting tool in helping them learn "Sonnet 18".

The thirty question items in the questionnaire were broken down according to five different variables based on the relevance of each question. Next, the mean analysis was done again on each of the five variables, namely *confidence*, *interest, motivation, learning mastery* and *software strength*. The analysis yielded the following figures in Table 5.23.

Table 5.23 : Mean Score of Experimental Group's Opinion towards *E-lit* according to different variables based on responses in the questionnaire.

Variables	Question Items	Full Score	Mean	Standard Deviation
Confidence	3, 5, 6, 20, 27, 29	5.0	4.01	0.81
Interest	2, 7, 13, 14, 23, 24	5.0	4.27	0.76
Motivation	1, 10, 26	5.0	4.28	0.68
Learning assistance	4, 9, 19, 21, 28, 30	5.0	4.16	0.73

Software Strength	8, 11, 12, 15, 16, 17, 18, 22,25	5.0	4.29	0.69

From the table, it could be seen that for each of the variables, i.e. confidence, interest, motivation, learning assistance and software strength, the students rated the *E-lit* software very highly and positively. In fact, each variable was rated above 4.00 out of 5.00 full score. The Computer-assisted language learning (CALL) software, *E-lit* seemed to promote high confidence, interest and motivation in the students, with each being rated 4.01, 4.27 and 4.28 respectively. In addition, students found *E-lit* software to be an excellent learning assistance to them, with the score of 4.16. The question items that were asked to the students specifically to determine how students perceived *E-lit* in the aspect of its strength as a learning software, generated the mean score on the Likert-scale of 4.29, thus proving that *E-lit* possess an indisputable high strength in students' eyes. The complete mean analysis for each question in the close-ended questionnaire could be viewed in Appendix L.

5.6 Analysis on the Open-Ended Questionnaire

An open-ended questionnaire consisting of 10 questions has been prepared and distributed to 20 randomly chosen students from the experimental group. The purpose of this questionnaire is to get students to express their opinions on the *E-lit* software in a more freely manner. The analysis on this open-ended questionnaire was done qualitatively.

The first question asked in this questionnaire was : "*As one of the students who have been chosen to use the computer software E-lit, give your general opinion on the software.*" 100% of the respondents gave very positive responses using the following words and phrases :

i. Very good, good – 8 respondents (40%)

ii. Interesting, very interesting, interests me to study - 4 respondents (20%)

iii. Helpful, very helpful – 5 respondents (25%)

iv. Facilitate learning, effective learning – 3 respondents (15%)

A few respondents gave the following reasons to support their general opinions above:

i. The students don't feel bored and sleepy (Respondent 4).

ii. The software helps understanding the text more deeply. (Respondents 6, 12, 14, 15, 17, 18, 19, 20)

iii. Visual images in the software help understanding the poem better (Respondent 9).

iv. The software makes me remember the contents better. (Respondent 1)

v. Students like to learn using computer (Respondent 7).

vi. Fun and entertaining, increases interest to learn literature. (Respondents 2, 10, 16,)

vii. Songs, pictures and sounds keep me interested and attracted to the lessons (Respondents 6, 13)

viii. Makes learning easier and faster. (Respondents 4, 5)

The second question was "*Do you like your learning experience using computer? Give your reason(s)*". Again, all 20 respondents (100%) answered 'yes' to this question. Their reasons were summarized as below:

i. It promotes better understanding. -10 respondents (50%)

ii. It is fun, interesting, not boring, does not make me sleepy – 10 respondents (50%).

iii. It has visual and sound effects - 3 respondents (15%).

iv. It allows us to repeat what we do not understand -3 respondents (15%).

v. Ample notes and explanation given – 3 respondents (15%).

vi. I can test my understanding by answering comprehension questions. - 1 respondent (5%)

vii. A new and different learning experience – 2 respondents (10%)

viii. Students nowadays have to learn to use computer – 1 respondent (5%).

ix. Does not give a burden to my mind. – 1 respondent (5%).

The third question was: "*Do you think the software covers all important aspects of "Sonnet 18" in depth*?". 17 (85%) respondents answered "yes". 1 (5%) responded with the word "maybe". 1 (5%) respondent, however, gave a negative "no" to this question. Another respondent (5%), wrote "the meaning of the poem' which might indicate that the software gave detailed explanation of the meaning of the poem.

The fourth question, "*Did you encounter any problem while using this software*?" This question was to see how friendly the software has been to the students. This is important because user-friendly feature of any software determines the effectiveness and usability of the software. For this question all 20 respondents (100%) admitted that they did not have any problem using the software. One respondent noted that the software was very easy to use.

The fifth question asked was, "*What feature of the software that you find most helpful in understanding the poem*?" The responses were summarized below. A few respondents gave more than one feature that they found most helpful.

i. The line-to-line explanation to the poem – 13 respondents.

ii. Pronunciation – 3 respondents

iii. Translation part – 2 respondents

iv. Exercise – 5 respondents

v. Vocabulary help – 1 respondent

vi. Picture – 1 respondent

Two respondents did not specify any special feature that they had found most helpful, but rather answered, "All parts of the software" as being helpful to them.

Question number six was "*If you were given a choice, would you choose to study a literature component through a computer-assisted lesson like the E-lit module, or would you rather study it in a classroom taught by a teacher*?" 19 respondents, or 95% chose a computer-assisted lesson, while one respondent did not answer this question. It seemed that computer-assisted language learning (CALL) was a unanimously agreed choice among these respondents who answered the question.

When asked to recall any weakness of the *E-lit* software that they had used , 17 respondents (85%) stated that there was no weakness of the software, while three others suggested some improvements. Respondent 19 suggested that more exercises be added to enhance understanding, Respondent 11 wanted more explanation be done in Malay, and respondent 18 thought that more animations would make the software more interesting.

Question 9 in this open-ended questionnaire was to get students' feedback on the online discussion-board which was one of the features in the *E-lit* software. The question reads: "*Do you like the discussion board activity?*" 17 respondents (85%) said they liked the activity, while three other respondents (15%) gave negative answers. The reasons given for not liking the discussion board activity were :

i. Students tended to digress from the real subject (Sonnet 18) while posting their comments in the discussion board (Respondent 15).

ii. I am not interested in this kind of activity (Respondent 16).

iii. It is boring (Respondent 19).

Finally, the last question in this questionnaire asked about problems or difficulties that were there in MRSM Kuantan which might affect computer-assisted language learning (CALL) classes. 12 respondents (60%) blamed it on a limited number of computers and particularly those with the internet connection, 3 respondents (15%) gave "time-factor" and tight schedule as a hindrance to a successful CALL class. 1 respondent (5%) was very positive and thought that there wouldn't be a problem if the teachers were committed to making CALL lessons a success. 1 respondent (5%) thought that it was students that might be a problem to the success of CALL. Another respondent (5%) wrote "no problem" without elaborating, while the other one respondent (5%) did not answer this question.

5.7 Analysis on the Students' Responses in the Discussion Board.

The software enables students to link to an online discussion board which was initially registered by the researcher with the Bravenet.com, a well-known free service provider for discussion boards, forums, guest books etc. The web address was http://pub49.bravenet.com/forum/4202531130. This discussion board activity was one of three enrichment activities in the *E-lit,* suggested for the experimental group. Within the three double periods allocated for the whole study, the group managed to experience posting comments and interacting with each other at least at two different class periods. Some students also got the chance to reply to postings and even posted new entries outside formal class hours when they had free time.

Below are students' postings retrieved from the thread '*Are You Ok So Far*?' which was opened specially for students to express comments, opinions, feelings and suggestions about the *E-lit* learning experience. While commenting on their experience using the software, almost all postings were positively written.

Among very positive comments are:

i) "*I guess this E-lit is a great way to educate students. As I can see, there are a lot of colourful pictures that can help students understand*

and make them eager to learn English Literature." (Mohamad Nurmazafiq)

ii) "*... this E-lit module is fun, great. I like this kind of lesson. I hope we can continue learning like this.*" (Nadya)

iii) "*I feel very happy and enjoy when using this E-lit.*" (Love Secret)

iv) "*I am very happy because I understand this poem. When I read it the first time, I didn't really have an idea what this poem was about... after doing this programme, I understand the poem better. Thanks.*" (Nur Aidil Marina)

v) "*Studying by using E-lit was so interesting and not boring. It has song to make me happy. I think I can score A in this subject.*" (Nur Syafiqa Idayu Gani)

vi) "*I think E-lit is good. I enjoy learning Sonnet 18 through this method.*" (athiLeea)

vii) "*The lesson is very enjoyable. There are a lot of nice pictures. It also increases my knowledge about this poem. I hope my teacher will use this kind of method to teach Literature soon.*" (Nurul Ain)

viii) "*I love it*!!" (a_killer)

ix) "*Using E-lit module is interesting. Actually it does attract me towards learning more poems by using this method. It's quite fun with all the background music, pictures and all the exercises are also good. So, from now on I won't feel sleepy, bored and all...it's FUN!!!* " (Johana Johari)

x) "*I think this type of learning is very interesting, now I understand what the poem is all about.*" (Muhamad Husni)

Besides the positive comments above on the E-lit learning software, there were also some healthy discussions from the students about the poem itself. Looking at how happy students were while posting, replying, reading back other students' responses and commenting on what others wrote, it was not hard to conclude that students enjoyed taking part in this discussion board activity.

However, the time constraint did not enable the students to spend more time on this activity.

5.8 Summary

This chapter presented the results of the quantitative data analyses done on the scores from Pretest, Posttest 1, Posttest 2 and a close-ended questionnaire which used the Likert-scale. Besides, qualitative data analysis was also carried out based on the experimental group's responses in the open-ended questionnaire and an online discussion board. All these instruments were used to collect data for the purpose of measuring the effectiveness of *E-lit* , a Computer-Assisted-Language Learning (CALL) software which was developed by the researcher herself to suit students' needs while learning "Sonnet 18", one of six poems listed by the Ministry of Education as compulsory texts to be read by the Upper Secondary School students. The software was developed using Macromedia Flash. The study was done with the underlying premises that the CALL software would be able to improve students' learning comprehension and learning retention. From the results of the mean analysis and t-test produced by the Statistical Package for Social Sciences (SPSS) software, it could be seen that in the aspect of students' improvement, there was no significant difference between the experimental group and the control group. However, the experimental group did outperform the control group significantly in the learning retention test (Posttest 2), which was done two months after they had finished their lessons on "Sonnet 18". The open-ended questionnaire, the close-ended questionnaire and the students' responses in the discussion board signified that *E-lit* has proven to be very helpful, motivating and excellent self-learnt module for the students in learning the literature text. The next chapter would interpret these results and discuss the findings. There would also be some comparisons made with the earlier researches.

CHAPTER 6

INTERPRETATION OF DATA AND DISCUSSION

CHAPTER 6

INTEPRETATION OF DATA AND DISCUSSION

6.1 Introduction

This research was done particularly to address some of the questions raised about the influence technology has on learning. The integrated Computer-Assisted-Language Learning (CALL) is seen as a very promising complement to traditional teaching methods in assisting students to learn, particularly, a literature text. In this study, a poem titled "Sonnet 18", written by William Shakespeare, was chosen . The poem, which adopted foreign time and place settings whereby summer season was used as a central idea and a metaphorical symbol, might not be a friendly text to the students. This was made worse by the presence of old English words which students might find difficult even to pronounce, let alone to understand. The study was also interested to find whether or not gender factor has its influence in determining the results of the findings. Quantitative and qualitative data analyses

were performed on these findings for the purpose of translating them into meaningful research conclusions. This chapter would present the overview of the research, followed by the discussion on the findings from the previous chapter. The findings would be compared with and contrasted to earlier findings in the same or similar research area.

6.2 Interpretation of Data and Discussion

The samples of this study involved 45 students forming a control group, and another 45 students forming an experimental group. In the beginning of the study, both groups sat for a pretest which was designed to test their language skill and knowledge on "Sonnet 18". These newly registered Form Four students had not had any prior formal lessons on "Sonnet 18".

The results of the pretest showed that:

i) The control group obtained a higher mean score compared to the experimental group.

ii) The female students did better than the male students in the control group.

iii) The male students did better than the female students in the experimental group.

iv) The female students in the control group had higher mean score than the female students in the experimental group.

v) The male students in the experimental group had higher mean score than the male students in the control group.

T-test analyses were performed separately to ensure whether these differences in pretest achievements for different groups and genders were significant. The outcomes of the t-test confirmed that there was no significant difference between these groups and genders:

i) The control and experimental group.
ii) The female students and the male students in the control group.
iii) The female students and the male students in the experimental group.
iv) The female students in the control group and the female students in the experimental group.
v) The male students in the control group and the male students in the experimental group.

Based on the t-test outcomes, all results showed no significant differences in the pretest mean scores in each of the cases above. Therefore, it could be concluded that at the beginning of this study, the control and experimental groups were at an equal ability, and both genders also did not differ significantly, be it in the control group or in the experimental group.

The posttest 1 which was carried out right after both control and experimental groups had finished with the intervention programme brought about an interesting finding. The posttest 1 served as a comprehension test for both control group who used a traditional instruction and the experimental group with a Computer-Assisted-Language-Learning (CALL) approach. The analysis done on the mean gain score showed that the control group had recorded 33.18% improvement in the posttest 1 as compared to the pretest while the experimental group, also marked an almost similar improvement, which was 33.53%. Firstly, it is worth to mention that the vast difference between pretest and posttest 1 results might have indicated that successful learning had taken place in both groups. A t-test was done to ascertain whether the slightly higher gain score achieved by the experimental group might have been significant to suggest that CALL had worked better than the traditional approach in helping students understand "Sonnet 18".

The t-test analysis at 0.05 confidence interval produced the *t* value of 0.306 (df=88) and the significant value of 0.760. This showed that the difference of the

mean gain scores between two groups was not significant. The slight difference might have been due to chance. Therefore, this answers the first research question posed earlier : *Is there a significant difference in the improvement shown, between the experimental group who uses CALL and the control group who uses conventional method of learning, as reflected by the gain scores in Posttest 1*? Obviously, the difference was not significant, indicating that the experimental group which underwent computer-assisted-language learning (CALL) experience through the learning software, *E-lit* and the control group which attended normal classroom lessons conducted by a teacher did not show significant difference in their level of understanding, as demonstrated through their Posttest 1 gain scores.

Therefore, the first hypothesis was accepted.

This finding suggests that no matter what medium used in transferring the contents of the literature text, "Sonnet 18", both groups of students managed to grasp the poem considerably well. Technology, which was represented by *E-lit* software was proven capable in assisting students in the experimental group to understand the text, despite the very minimal role played by a human, who in this study was the researcher herself who was present throughout the lessons but stayed very much in the background. The control group who learnt the poem through traditional teaching method, without a single help from any kind of multimedia technology, also gained a commendable amount of understanding. This goes to show that technology and human, work separately, are equally able to deliver the contents of the subject being taught .

Earlier researchers have compared the effects produced by computer-based instruction as compared with the effects of traditional instruction alone. Yaccub (1998), for example, summarized from his meta-analysis that on the average, higher gains are produced when using computer-assisted instruction (CAI) rather than just traditional teaching methods. His findings revealed that the effect size is likely to double from 0.35 to 0.64 when CAI is utilized. However, some findings have

shown no significant difference between CAI and traditional teaching methods (Frick et al., 1999; Hays et al., 1992; Koner, et al., 2001).

What might be derived from this finding will continue to be debatable, but it seems here in this study, that multimedia technology and a sole human being working separately, independent of each other, are of equal strength in achieving some level of understanding among their respective group of students. If good technologically-integrated software and a well-prepared teacher could work hand in hand, in a combined effort, would they be able to produce a much better result? That would be an interesting question to answer. Dalton and Hannafin (1988) wrote "while both traditional and computer-based delivery systems have valuable roles in supporting instruction, they are of greatest value when complementing one another" (p.32).

The analysis of the Posttest 1 gain scores based on genders were done to satisfy the following research question:- *Is there a significant difference in the improvement between genders in the experimental group, as reflected in the gain scores in Posttest 1?*

From the analysis done, it was found that the female students in the experimental group outperformed their male counterparts by 11.43%. The t-test yielded the significance level of 0.02, t= -3.291 (df-43), which meant that there was only 2% probability that the difference might have occurred by chance. Therefore, it could be concluded that CALL software *(E-lit)* was able to produce a significantly better mean gain score among female students compared to male students.

Therefore, the second null hypothesis was rejected

A qualitative research conducted by Oosterwegel, et al (2004) examined female and male students' attitudes towards computer. Their research revealed no significant difference between gender and attitudes towards the computer. On the

other hand, several researchers reported that females have significantly lower computer self-efficacy than males (Cassidy & Eachus 2002; Jennings & Onwuegbuzie 2001). However, analyses of the findings by Ray, et al. (1999) indicated that, contrary to popular beliefs on these issues, women reflected more positive attitudes than men regarding the value of computers to make users more productive. Although neither men nor women in this group reflected concern about the impact of technology on people and their work environments, women were more positive than men in this regard. They also found that women reflected greater comfort in using computers than men. In addition, Ok (2003) claimed that female students show more positive attitude towards language learning and they make use of learning strategies more often than males.

In this study, female students apparently showed higher level of understanding of the text, compared to the males, as reflected in their posttest 1 mean scores. They had given more attention to details as provided in the *E-lit* module. They also seemed to be more fascinated with the song, poem recitals and beautiful scenery pictures in the module. Moving at a more slower pace compared to the male students while navigating the learning software, the female students were more engrossed and more involved with learning. Male students, on the other hand seemed to rush from one page to another, from one section to another, and from one sub-menu to another. Most of them browsed through each page rather quickly in order to get overview look at all the pages and sections.

The posttest 2 was given unannounced to the students approximately two months after the lesson had been completed. This was deliberately done to allow some time lapse between the lesson and the posttest 2. Posttest 2 serves as a test for learning retention, i.e. to gauge how well students managed to retain information gained from their learning. The analysis was performed on the mean scores in order to answer the following research question: *"Is there a significant difference in the amount of information retained after some period of time has lapsed after the lesson being carried out, between the experimental group who uses CALL and the control*

group who uses conventional method of learning, as reflected in the test scores in Posttest 2?"

The mean analysis showed that the control and the experimental groups obtained 56.84 and 65.82 respectively in the posttest 2. The t-test result, which produced the significance level of 0.03, indicated that the difference in posttest 2 scores between the two groups was indeed significant. This answered the research question that there was a significant difference in the amount of information retained between the control group and the experimental group. The experimental group was able to store and retrieve significantly more information from their previous learning that took place two months earlier, as compared to the control group.

The third hypothesis was rejected.

Earlier researches found that student scores on delayed tests indicated that the retention of content learned using computer-assisted instruction is superior to retention over traditional instruction (Capper and Copple, 1985; Grimes, 1977; Kulik, et al., 1985; Rupe 1986; Stennett 1985; Woodward, et al.,1988).

Interactivity appears to have a strong positive effect on learning (Bower & Winzenz, 1970; Jacoby, Craik, & Begg, 1979; Kolers, 1979; Salomon, 1984; Walker, Jones, & Mar, 1983; Verano, 1987). Another researcher, Stafford (1990) examined 96 learning studies and concluded that interactivity was associated with learning achievement and retention of knowledge over time. Similar examinations of 75 learning studies (Bosco,1986; Fletcher, 1990) found that people learn the material faster and have better attitudes toward learning the material when they learn in an interactive instructional environment.

So, the significant difference that could be seen between the experimental group who used CALL and the traditionally-instructed control group in their retention test scores (Posttest 2) may be due to the higher and increased interactivity

of multimedia instruction through the *E-lit* software. This interactive environment could be easily created using the CALL modules, and is able to reach out for a lot more students compared to through a traditional instruction where a single human teacher might be limited to a small number of students only.

Next, the fourth research question asks : *"Is there a significant difference in the amount of information retained between genders in the experimental group after some period of time has lapsed after the lesson being carried out, as reflected in the test scores in Posttest 2?"*

Although the female students seemed to obtain a higher mean score in the retention test (posttest 2), compared to their male friends in the experimental group, the t-test revealed that this difference is not significant. . This suggests that the males and females in the experimental group benefited equally from their past lessons and recall more or less equal amount of information. There is no evidence to suggest that one gender has more retention ability than the other. This is also true in the control group where the different retention test scores between genders is of no significance.

Grace (2000) investigated the effect of first language translation on males and females who are primarily French students engaged in a CALL lesson. The delayed test which was administered 2 weeks after the CALL lesson also revealed that there was no significant difference between males and females.

The results of this study, in fact, did not show any significant differences between genders, except for the experimental group where the females had significantly better performance in the posttest 1.

The fourth hypothesis was then accepted.

Earlier researches, as a matter of fact, recorded conflicting results and findings in this field. Van Strein & Bouma (1990) perceived gender differences in visualization as insignificant and difficult to detect. It is consistent with a recent study by Williams et al. (1992) that also found that gender differences were not significant in student performance. These findings were contrary to some researches that claimed gender is typically a significant predictor in educational, psychological and linguistic researches.

The final research question is : "*Is the CALL software able to increase students' motivation, interest and enjoyment in studying "Sonnet 18"?* From students' responses in the close-ended questionnaire, it was obvious that students favoured the *E-lit* module very positively. It was apparent that their CALL experience had been a very pleasant one for them. The overall mean score for the *E-lit* module as rated by the experimental students was 4.20 out of 5.00 on the Likert-scale. This high rating given by the students who used the CALL software indicated that they had greatly enjoyed learning the literature text through *E-lit.*

As the questions in the questionnaire were broken down according to different variables, it could be seen that *E-lit* had been successful in promoting confidence, interest and motivation among students, and also had provided the students with excellent learning assistance, besides possessing very high software strength. Each of these variables had reached the mean score of above 4.00, on the 5.00 Likert-scale.

In the aspect of interest, *E-lit* was successful in promoting students interest in learning literature. The mean score for students' interest, on the Likert-scale was 4.27, a very strong indicator that students had greatly become interested in their learning. Students also showed that they were highly motivated to learn literature through CALL module, as depicted by the mean score of 4.28 on the Likert-scale.

In addition, the open-ended questionnaire, which was randomly given to 20 respondents from the experimental group further strengthened the conviction that *E-lit* module is capable in increasing students' interest, motivation and enjoyment throughout the whole learning process. Students answered some questions very positively, and indirectly showed their high interest, motivation and enjoyment while undergoing the intervention treatment. Their high sense of interest, motivation and enjoyment could be seen in many responses, extracted from their answers throughout the questionnaire. Some of their responses were:

i. interesting, very interesting, interests me to study
ii. fun and entertaining, increases my interest to learn literature
iii. Songs, pictures and sounds keep me interested and attracted to the lessons
iv. It is fun, interesting, not boring, does not make me sleepy
v. Songs, pictures and sounds keep me interested and attracted to the lessons.

Students also showed high level of enjoyment while taking part in the online discussion board. This could be seen from their lively exchange of postings and their responses. It was observed that students were excited in posting their messages in the discussion board and were very eager to check on the replies they received. While expressing their views on certain topic, students also seemed to be very confident and possessed a high self-esteem. This could be due to the anonymity feature of the discussion board where students were allowed to use their own choice of screen names, therefore allowing them to remain anonymous and unidentified. This was a contrasting image to the situation in the traditional classroom where the very dominant students would be the ones taking part in the class discussion whereas the more reserved ones resorted to being quiet and withdrawn. In the language classroom, it is not really important whether the students say something right or not, but what really matters is their courage to participate in the discussion using the targeted language. In this case, we could say that a CALL lesson is an excellent way in having students participate and involve in the learning.

It is often necessary, in a language learning classroom, to provide repeated practice to meet important objectives. Because this can be boring, painful, and frustrating, many students lose interest and motivation to learn foreign languages. CALL programmes present the learner with a novelty. They teach the language in different and more interesting, attractive ways and present language through games, animated graphics and problem-solving techniques. As a result even tedious drills become more interesting. In fact, CALL motivates the students to go beyond the point of initial mastery and practice activity until they become automatic (Ravichandran, 2000).

Based on the analyses and observation done during the study, it is very apparent that CALL software was capable of increasing students' motivation, interest and enjoyment to a very high level while studying Sonnet 18.

The fifth and final hypothesis is therefore rejected.

Many researchers, in fact, have studied the effects of CALL on students' motivation, interest and enjoyment. Kartal (2002), for example, agreed that computer use in foreign language teaching is motivating for students since computers can individualize learning, and help students learn faster and easier than before. Furthermore, according to Becker (2000), teachers providing more engaging technologically-enhanced lessons report that students are motivated to continue using the computer at other times of the school day and outside school.

Cooper and Brna (2002) reported evidence that pleasure and variety kept students engaged and motivated. They went on to conclude that if computer-based lessons are carefully planned and pedagogically implemented, it can support relationships and motivation that in turn support long-lasting engagement and learning.

On another note, McKinnon, et al. (2000) found that students in their experimental group became enthusiastic computer users and performed significantly better compared the ones in the non-experimental group. However, during the three year's time, their attitudes towards computers became significantly less positive, which is explained by computers becoming such a routine part of their studying that they lose their halo effect.

As educators, we have to be cautious of the possibility of students losing interest in their CALL lesson after some time. Careful planning and creative development of the CALL lesson needs to be put as high priority by teachers so as not to drive away the already motivated and interested students,

6.3 Summary of Research Findings

After all the data were analyzed, interpreted and discussed, the findings of the research were summarized as follows:

1. There is no significant difference in the improvement shown, between the experimental group who uses CALL and the control group who uses conventional method of learning, as reflected by the gain scores in Posttest 1.
2. There a significant difference in the improvement shown, between genders in the experimental group, as reflected in the gain scores in Posttest 1, where the achievement of the female students surpassed that of the male students.
3. There is a significant difference in the amount of information retained after some period of time has lapsed after the lesson being carried out, between the experimental group who uses CALL and the control group who uses conventional method of learning, as reflected in the test scores in Posttest 2.
4. There is no significant difference in the amount of information retained between genders in the experimental group after some period of time

has lapsed after the lesson being carried out, as reflected in the test scores in Posttest 2.

5. CALL software is able to increase students' motivation, interest and enjoyment in studying "Sonnet 18".

Based on the analyses done, three of the hypotheses were rejected while two were accepted.

6.4 Reflections

Does computer really assist the learning of language? To answer this question, one needs to give it a try. Although computer does have its limitations, the major benefits offered by the computer in enhancing language acquisition outweigh whatever limitation is there. Teachers have to start overcome the barriers that have hindered them from confronting this technology. It is about time that computer is included as a vital part of teaching aids, especially in the language classroom. The integration of the world wide web (www) into classroom lessons should be seriously considered in many aspects of language learning.

However, despite its obvious benefits and strengths, the prospect of computer-assisted language learning has troubled teachers more. Many see computer as a threat not only in terms of its power to replace the traditional skills, which the language teachers promote, but also its eventual replacement of the teacher himself. Furthermore, shifting the control centre from the authoritarian teacher to the learner in the learner-centered environment and accepting the humble role of a facilitator instead of being the sole source of information, does not come easy for the traditional teacher. In addition, the computer-student interactive learning might result in students thinking less of the teacher. They might see the teacher's role as becoming less important.

The reducing importance in the role of the teachers might affect teacher's pride in a way. The fact that the students literally turn their back to the teacher while facing their computers, and interact with the teacher only when there is a great need for assistance, may further add to the dejected feeling in part of the teacher. However, this role-reversal shouldn't be used as an issue here. What is important is for all teachers to recognize that the central aim of any language lesson is to enable students to learn. The role-reversal sentiment could be exploited so that we could create a learning-centered environment, rather than learner-centered, where the emphasis is put on the learning process rather than the learners as individuals.

6.5 Summary

E-lit module which was developed using Macromedia Flash authoring software was used as a tool in trying to determine whether the Computer-Assisted Language Learning (CALL) module is effective in assisting the learning of "Sonnet 18" in Maktab Rendah Sains MARA Kuantan, From the findings of the research, it could be concluded that E-lit is capable in promoting students' confidence, motivation, interest and enjoyment. All these are important in ensuring that students are involved in their own learning process. By being involved, students will perform better and achieve more. Although in terms of understanding, there is no significant difference between the achievement of students in the control and the experimental group, it does not mean that CALL has failed to work effectively. The fact that students in the control group also achieved a somewhat similar achievement results might explain that a traditional teacher also is able to deliver the lesson effectively even though without the assistance of computer and multimedia presentation. The role of human in language teaching, thus, needs not be undermined, even though in the surfacing prospects of the multimedia technology. Hence, it is essential that CALL is not seen as an alternative to traditional teacher, but rather a complement.

CHAPTER 7

CONCLUSION

CHAPTER 7

CONCLUSION

7.1 Introduction

The research deals with the basic question whether or not the computer-assisted language learning (CALL) module is capable of producing a more effective learning compared to the traditional teaching method. It is always a basic concern of any educators to make the lessons effective, challenging and stimulating. The results of this research proved that CALL could serve as a good complement to a good teacher. By having a committed teacher using a CALL approach to assist learning and teaching in a language class, there is a very high possibility that the learning will be a very rewarding experience for both teacher and students.

7.2 The Constraints of The Research

There were some constraints that had perhaps hindered more accurate results of the findings. First of all, the researcher's somewhat limited knowledge and skills in software-development had probably produced software that could have been developed in a more sophisticated way. The lack of formal training in software design and authoring language perhaps had limited the researcher in producing more interactive learning software. Better-developed software would probably yield better achievement results among the experimental group students.

Secondly, the basic idea of a CALL lesson is to allow students to work individually on personal pace. Each student was given the *E-lit* software, burnt on a CD, for them to use during class and outside class hour. The constraint for this was when the students were not able to go into the computer lab outside class and school hour without the presence of a teacher. This seems to be a written rule observed in Maktab Rendah Sains MARA Kuantan. This defeated the whole purpose of letting the students have the *E-lit* cd with them, where it was initially for the students to use at their own free wills and free time. If students had a more flexible access to the computer lab, they perhaps could continue with the discussion board activity on ongoing basis, which would make the experience more stimulating and exciting.

Thirdly, the Internet connection in Maktab Rendah Sains MARA Kuantan was rather slow and often interrupted. Students had to wait a long time for pages from internet to load, and this resulted in frustration and restlessness. Throughout this study, it was observed that the smoothness of the lesson was hampered whenever Internet activities were involved.

Finally, there was time constraint in conducting the research. The actual research took place in approximately two months' time. The results would probably yield different outcomes if the period of time for the whole research could be expanded to a few more months or even a year. The extended time for further

observation might reveal other interesting findings, such as whether or not there is a certain point in time where students might find their computer-assisted lessons boring and dry.

7.3 Suggestions for Future Research

Looking at how this CALL module on Sonnet 18 was highly accepted by the students, it is expected that the same response would be derived if CALL is used for other literature texts as well. Future researchers might be interested to see how CALL can help in understanding short stories and even the novel. Since the traditional way of learning literature is through teacher's explaining lines, stanzas or paragraphs, CALL could be considered as an excellent way to promote student-centered environment in language class.

Future researchers might also try on developing more sophisticated software with many more elements of interactivity, animation, and graphics. Language games could also be inserted in the software to get students to enjoy the lessons more. Other authoring software and programming languages could also be used in order to develop good software with different types of multimedia and interactive presentations.

It is also recommended that the future researches could be done in a longer period of time. Observations could also be made to see if after a certain point of time, students get bored using the computer and would want to resort to a traditional teaching style.

7.4 Summary

A success of any lesson depends not on a single factor. There are many contributing reasons that will make a lesson more effective than the other lessons. Nevertheless, a computer-assisted language learning (CALL) has shown great potentials and possesses great merits as a learning option. Even though a teacher is still indispensable in the language classroom, CALL's potentials have to be seriously considered in assisting the language learning. An ideal CALL courseware remains not an alternative but a complementary tool in reinforcing classroom activities. The teacher should avoid being skeptical about the use of computer in language teaching and begin to re-evaluate his methods in the light of computer's tremendous teaching potential. The computer can best assist teachers if it is seen not as a replacement for their work but as a supplement to it.

BIBLIOGRAPHY

BIBLIOGRAPHY

Ahmad, K., Corbett, G., Rogers, M., & Sussex, R. (1985). *Computers, language learning and language teaching*. Cambridge, England: Cambridge University Press

Armstrong, T. (1994). *Multiple Intelligences in the classroom*, Alexandria, VA: Association for Supervision and Curriculum Development.

Backer, J. (1995). *Teaching grammar with CALL: Survey of theoretical literature*,. Israel: The Hebrew University of Jerusalem.

Becker, H (2000). Pedagogical motivations for pupil, computer use that lead to student engagement, *Educational Technology*, 40 (5); pp 5-17.

Bosco, J. (1986). An analysis of evaluations of interactive video. *Educational Technology, 25*, pp. 7-16

Bower, G. H. & Winzenz, D. (1970). Comparison of associative learning strategies. *Psychonomic Science, 20*, pp. 119-120.

Brooks, J.G. & Brooks, Martin G (1999). *In search of understanding: the case for the constructivist classroom*, Alexandria, VA: Association for Supervision and Curriculum Development.

Brussino, G. (1996). Developing a multimedia component for a foreign language course (Occasional Paper No 7). Institute of Language Teaching and Learning.

Capper, J., & Copple, C. (1985).*Computer use in education: Research review and instructional implications*. Washington, DC: Center for Research into Practice.

Cassidy, S. & Eachus, P. (2000). Learning style, academic belief systems, self-report student proficiency and academic achievement in higher education. *Journal of Educational Psychology, 20(3)*, 307-322.

Chapelle, C. (1997). CALL in the year 2000: Still in search of research paradigms? *Language Learning and Technology Journal*, 1, 1, 19-43.

Chiquito, A. B, Meskill, C. & Renjilian-Burgy, J. (1997). Multiple, mixed, malleable media. Bush and Terry, pp. 47–76.

Cooper, B., & Brna, P. (2002). Supporting high quality interaction and motivation in the classroom using ICT: the social and emotional learning and engagement in the NIMIS project. *Education,Communication & Information, 2,* 113-138.

Cronbach, L. J. (1975, February). Beyond the two disciplines of scientific psychology. *American Psychologist*, *30*(2), 116-127.

Dalton, D. W., & Hannafin, M. J. "The Effects of Computer-Assisted and Traditional Mastery Methods on Computation Accuracy and Attitudes." Journal of Educational Research 82/1 (1988): 27-33.

Donaldson, J. & Kotter, M. (1996). Language learning in a MOO: Creating a transoceanic bilingual virtual community, Lit Linguist Computing 1999 14: 67-76.

Dowd, F. S. (1992). "Evaluating children's books portraying Native American and Asian cultures." *Childhood Education*, 68 (4), 219-224)

Fatimah Hashim & Lynne Norazit (1992). "Barriers to reading: An investigation of why the reading habit was not caught on Malaysian children". Literacy in Asian Societies. Proceedings of MRA Conference, Kuala Lumpur, Malaysia, July 3-5, 33-40.

Felder, R. M. & Brent, R. "Navigating the bumpy road to student-centered instruction." College Teaching 44, no. 2 (1996): pp 43–47.

Fletcher, D. (1990). The effectiveness and cost of interactive videodisc instruction in defense training and education (IDA Paper P-2372). Alexandria, VA: Institute for Defense Analyses.

Fox, G. (1998). 'The internet: making it work in the ESL classroom'. *The Internet TESL Journal, 4/9.*

Frick, T., Kisling, E., Cai, W., Yu, B. M., Giles, F., & Brown, J. P. (1999). Impact of navigational models on task completion in web-based information systems. Indiana (Eric Document Reproduction Service No. ED 436 141)

Gardner, H., & Hatch, T. (1989). Multiple intelligences go to school: Educational implications of the theory of multiple intelligences. *Educational Researcher*, *18*(8), pp. 4-9.

Gardner, H. (1983) Frames of mind: the theory of multiple intelligences. New York: Basic.

Garrett, N. (1991) Foreword to P. Dunkel (Ed.), C*omputer-assisted language learning and testing: Research issues and practice*, (xii-xvi). New York: Newbury House.

Grace, C. (2000). Gender Differences: Vocabulary Retention and Access to Translations for Beginning Language Learners in CALL. *The Modern Language Journal. 2000. 84, ii*, 214-224.

Grimes, D. M. (1977). Computers for Learning: The Uses of Computer Assisted Instruction (CAI) in California Public Schools. Sacramento, CA: California State Department of Education.

Hays, R. T., Jacobs, J. W., Prince, C., & Salas, E. (1992). Flight simulator training effectiveness: A meta-analysis. *Military Psych*ology, 4(2), 63-74.

Higgins, J. (1988). Language, learners, and computers. New York: Longman.

Higgins, J. (1986). The computer and grammar teaching. In G. Leech & C. Candlin, C. (Eds.). Computers in English language teaching and research (pp. 31-45). New York: Longman.

Hopkins, K.D., Glass, G.V., & Hopkins, B.R. (1987). Basic statistics for the behavioral science (2nd ed.). Boston: Allyn and Bacon.

Jacoby, L. L., Craik, F. I. M., & Begg, I. (1979). Effects of decision difficulty on recognition and recall. *Journal of Verbal Learning and Verbal Behavior, 18,* 585-600

Jenkins, E. C. & Austin, M. C. (1987). Literature for children about Asian and Asian Americans. New York: Greenwood Press, p. 6.

Jennings, S. E. & Onwuegbuzie, A. J. (2001). Computer attitudes as a function of age, gender, math attitude, and developmental status. *Journal of Educational Computing Research*, 25 (4): 367-384.

Jones, C. & Fortescue, S. (1987). Using computers in the language classroom. Harlow, Longman.

Kabilan, M. K. (2003). Malaysian Secondary English language teachers' practices and experiences of online professional development. Unpublished PhD Thesis. National University of Malaysia, Bangi, Selangor

Kabilan, M.K., Yusuf & Khamis, M. (2001). Current practices of professional development of English language teachers: some trends and suggestions. Paper presented at the International Conference on Teacher Education, July 16-17, 2001. Shah Alam, Malaysia.

Kassop, M.(2003). Ten ways online education matches, or surpasses, face-to-face learning. *The Technology Source*, May/June. Internet document: http://ts.mivu.org/default.asp?show=article&id= 1059

Kenning, M.M., & Kenning, M. J. (1990). Computers and language learning: Current theory and practice. New York: Ellis Horwood.

Khalili, A. and Shashaani, L. (1994). The effectiveness of computer applications: A meta-analysis. *Journal of Research on Computing in Education*, 27, pp. 48-61.

Koner, B. C., Lamsal, M., & Banerjee, B. D. (2001). Conventional teaching remains effective in teaching medical biochemistry in BPKIHS, Nepal, although students enjoy supplementary computer teaching. *Biochemistry and Molecular Biology Education v. 29 no. 4 (July 2001) p. 137-41, 29(4),* 137-141.

Kolers, P. A. (1979). A pattern analyzing basis of recognition. In L. S. Cermak & F. I. M. Craik (Eds.), Levels of processing in human memory). Mahwah, New Jersey: Erlbaum, pp. 363-384

Krashen, S.D. (2004). The power of reading. Portsmouth: Heinemann and Westport, CN: Libraries Unlimited.

Krashen, S. D. (1987). Principles and practices in second language acquisition. New York: Prentice-Hall.

Kubala, T. (1998). Addressing student needs: Teaching on the internet. *THE Journal*, 25(8), 71-75.

Kulik, C.C., Kulik, J. A., & Shwalb, B. J. (1986). The effectiveness of computer-based adult education: A meta-analysis. *Journal of Educational Computing Research (2),* pp 235-252.

Kulik, J. A., Kulik, C. C. & Bangert-Drowns, R. L. "Effectiveness of Computer-Based Education in Elementary Schools." Computers in Human Behavior 1/1 (1985): 59-74.

Larsen-Freeman, D. (2000). Techniques and principles in language Teaching. Oxford: Oxford University Press., p172

Laurilard, D. And G. Marullo (1993). Computer-based approaches to second language learning. In P. Scrimshaw (Ed.) Language, classrooms and computers, Routledge, London, pp. 145- 165.

Lazar, G. (1993). Literature and language teaching, Cambridge.

Lye, John (2003), The uses of studying literature,,
URL: http://www.brocku.ca/english/jlye/uses.html

McKinnon, D. H., Nolan, P. C. J., & Sinclair, K. E. (2000). A longitudinal study of student attitudes toward computers: resolving an attitude decay paradox. *Journal of Research on Computing in Education*, 32, 325-335.

Murphy.E. (2001). A review of the use of technology in second-language learning. *Journal of immersion*, 23,(2), pp.10-15. Ontario: Canadian Association of Immersion Teachers.

Ok, L. K. (2003). The relationship of school year, sex and proficiency on the use of learning strategies in learning English of Korean junior high school students. URL: http://www.asian-efl-journal.com/sept_03_ok.pdf.

Oosterwegel, A., Littleton, K., Light, P. (2004). Understanding computer-related attitudes through an idiographic analysis of gender and self-representations. Learning and Instruction, 14 (2004): 215–233.

Patton, M. Q. (1990). Qualitative evaluation and research methods (2nd ed.). Newbury Park, CA: Sage Publications, Inc.

Phillips, M. (1987) Potential paradigms and possible problems for CALL. *System* 15:3.

Pusack, J. & Otto, S. (1997). Taking control of multimedia. In M. Bush & R. Terry (Eds) Technology-enhanced language learning , pp.1-46. Illinois: National Textbook Company.

Pusat Perkembangan Kurikulum (1989). Huraian sukatan pelajaran Bahasa Inggeris Tingkatan 5. Kuala Lumpur: Kementerian Pelajaran Malaysia.

Ravichandran, T. (2000). Computer-assisted language learning (CALL) in the perspective of interactive approach: advantages and apprehensions. Paper presented and published in the Proceedings: *National Seminar on CALL*, Anna University, Chennai, 10-12 Feb. 2000, pp. 82-89.

Ray, C. M., Sormunen, C. & Harris, T. M. (1999) "Men's and women's attitudes toward computer technology: A comparison technology: A comparison", *Office Systems Research Journal, vol. 17, no. 1, Spring 1999*, pp. 1-8.