# THE PEDAGOGICAL EFFECTIVENESS OF COMPUTER-ASSISTED LANGUAGE LEARNING (CALL) IN VOCABULARY ACQUISITION AMONG TURKISH EFL LEARNERS.

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# ABSTRACT

**Title: The pedagogical effectiveness of computer-assisted language learning (CALL) in vocabulary acquisition among Turkish EFL learners.**

This study explores the use of CALL in teaching vocabulary in the classroom. Hence, It is possible to hypothesise that CALL programme enhances vocabulary acquisition of tertiary level students in Turkey. Specifically, it aims to answer the question: 'To what extent do CALL applications affect vocabulary acquisition of tertiary level students in Turkey, specifically in the Samsun region?' This question arises from issues around the pedagogy of vocabulary acquisition that I have encountered in teaching English as a Foreign Language, and my desire to find answers. To find fuller answers, I formulated the following sub-questions.

RQ 2. Does CALL instruction have an observable pedagogical effect in the vocabulary acquisition and learning of EFL learners?

RQ 3. What appear to be the benefits of and issues around CALL in vocabulary learning and acquisition?

RQ 4. In the light of the above, what pedagogical strategies for teaching vocabulary would seem to fit best with use of CALL?

The study used a mixed-method approach, involving seventy students considered to the have same level of vocabulary knowledge, who were randomly divided into two classes and exposed to two different learning conditions; i.e. traditional and CALL. The intervention group (35 students) was exposed to digital and online materials, where they were required to finish tasks inside and outside the classroom. For quantitative purposes, both groups were evaluated on a vocabulary test before and after the intervention and their scores were compared. Results showed that the intervention group scored significantly higher than the control group on the post-test. For qualitative purposes, a

questionnaire was conducted with the experimental group to explore students' attitude to CALL. In addition, I conducted classroom observations during the interventions. On analysis, the study indicated that the intervention group were better motivated and that they responded better to digital vocabulary learning tasks.

Findings also revealed a pedagogical dimension; i.e. simply following instructions provided by digital materials cannot provide conditions for what can be termed 'high quality teaching' (Harris, 1998). It is my belief that such teaching, in the context of vocabulary acquisition, demands that students notice and effectively process the target lexical items (Robinson, 1995).

Using Robinson's theoretical concept of 'noticing', together with the work of Warschauer and Healey (1998) who claim that the 'fun factor' is the key element of students' motivation (Mark Warschauer & Healey, 1998), I conclude that the use of CALL alone, although it may increase motivation, is insufficient for vocabulary learning and acquisition in my own teaching context. Pedagogical strategies where vocabulary can be learned in such a way that it can be said to have been 'acquired' by the student, demand that teachers know and understand how to integrate digital material in the language learning classroom.

Key words: Vocabulary acquisition, Computer-assisted language learning, Vocabulary Learning.

# ACKNOWLEDGEMENTS

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# ABBREVIATIONS AND DEFINITION OF TERMS

This section provides a brief and simple definition of the key abbreviations and definition of terms that are most often used in my study. More comprehensive information about "abbreviations and definition of Terms" has been added to the appendix section. (see Appendix K)

## Definition of Terms

| | |
|---|---|
| Autonomous Learner | Autonomous learners are both cognitively and meta-cognitively mindful of where they stand in the learning process, pursue and generate their own opportunities to build knowledge, and make efforts to earnestly be in control of their learning in and out of the classroom (Holden & Usuki, 1999, p. 3) |
| Computer Assisted Language Learning (CALL) | Using the Internet, software programmes and computers for language teaching. |
| Computer Assisted Vocabulary Instruction (CAVI) | Methods involving the use of computers for vocabulary learning and instructional purposes. |
| Learner Autonomy | Essentially, learners who have proven to be knowledgable, masterful and prosperous in their disciplines have trained themselves on the ability to learn. |
| Learner-Centered Language Teaching | It is defined as collaborative effort between teachers and learners. It differs from traditional language education in which the teachers transfer specific sets of rules to the students in a one-way channel (D Nunan, 1988, p. 2). |

## Abbreviations:

The abbreviations used in the study are as follows:

| CAI | Computer Assisted Instruction |
|-----|-------------------------------|
| CALL: | Computer assisted language learning |
| CAMILLE | Computer- Aided Multimedia Language Learning |
| CAVI: | Computer assisted vocabulary instruction |
| CAVL | Computer-Assisted Vocabulary Learning |
| EAP | English for Academic Purposes |
| EFL | English as Foreign Language |
| EGAP | English for General Academic Purposes |
| ELT: | English Language Teaching |
| EMI | English Medium Instruction |
| ESL | English as Second Language |
| ESP | English for Secondary Purposes |
| L1: | Native language |
| L2: | Second language |
| SLA: | Second Language Acquisition |
| TEPAV | Turkey Economic Policy Research Foundation |
| TMI | Turkish Medium Instruction |
| TPR | Total Physical Response |

# CHAPTER 1

## 1.1. Introduction: Purpose and Guide to Report

In the 2014 English Proficiency Index as mentioned in the study conducted in November 2015 entitled 'The State of English in Higher Education in Turkey: A Baseline Study' by the British Council and the Turkey Economic Policy Research Foundation (TEPAV), Turkey had a world ranking of 47th and a ranking amongst the twenty-four European countries in last place. This situation of Turkey in the world and among the twenty-four European countries is very alarming. This is so because, according to Education First Senior Vice President Christopher McCormick, as quoted in the aforementioned study, there is 'a direct correlation between the English skills of a population and economic performance of a country. On an individual level, recruiters and HR managers around the world report that job seekers with exceptional English compared to their country's level earned thirty to fifty percent higher salaries.'

With the 'English inadequacy' of Turkey as manifested by its rankings in the English Proficiency Index, the British Council and TEPAV conducted a baseline study in higher education to survey the reasons behind such 'English inadequacy'. The study came out with some important findings, which I summarise here because of their great relevance for my study:

1. **International aspect:** In contrast to its peers in the G20, Turkey in the modern times has made quantity its objective by substantially boosting the amount of and capacity of the nation's universities. Quality has not been overlooked and has seen an upturn as well. According to the Times Higher Education Supplement, a healthy amount of Turkish universities reported to have been performing favourably in the worldwide university

rankings. However, among the leading two thousand universities in the world and based on information taken from Turkey's University Ranking by Academic Performance (URAP), one hundred of Turkey's universities did not make it into this tier. Turkey's 'English inadequacy' is a vital element that is impairing the overall state of post-secondary schooling, impeding access to scholastic materials, relevant research literature from around the world, and the free movement of personnel and students.

2. **National instructions:** Turkey has been practising various instruction methods in its universities for a considerable time with the use of Turkish medium instruction (TMI), English medium instruction (EMI), and mixed-medium Turkish-English instruction (T-EMI), the latter of which has entered the fray recently. Though universities specialising in EMI have conventionally been 'more favoured and popular for students and parents in comparison to universities without EMI', the aforementioned poor levels of English competence in the students and staff and thus inadequate learning push toward a firm reasoning to specifically improve TMI programmes in terms of amount and caliber. As both students and staff have a tendency to utilise schemes to avoid the use of English in order to use Turkish instead, the mixed-medium T-EMI method has been demonstrated as mostly ineffectual

3. **Institutional teaching context:** A drawback of English language teaching in Turkish universities is that the nature of the curriculum and its conveyance in the present state does not offer complete support to the academic programmes or internationalization. The levels of both English knowledge and personal motivation are nominal at the time when students begin preparatory schools. These classes fall short since the curriculum is regarded as not having enough applicability and the distribution of class material is at a time when students are not particularly receptive.

4. **Departmental Language teaching context:** University level English teachers possess a high degree of experience and aptitude for the language, however: (a) the majority of teachers hold meager, or some cases, zero training in instructing English for Academic Purposes (EAP) or English for Secondary Purposes (ESP) and therefore they do not have the capabilities to structure English for General Academic Purposes (EGAP) lessons based on the current needs or tailor the tasks and activities to correspond to the student body's field of study; and, (b) many instructors habitually overlook occasions whereby it is advantageous to use student-to-student intercommunication, which has the immediate handicap of inhibiting the students' ability to achieve sufficient mastery in speaking skills, and the long-term ramifications of lowering their confidence and willingness to engage in debate and discussion in their academic career.

5. **Departmental context of English as medium of instruction:** Pupils enrolled in EMI largely reach global benchmarks for their level of English competency, but certain Turkish universities still face the issue of having an insufficient number of students with acceptable levels of English knowledge to meet the minimum prerequisites or develop current EMI programmes. EMI instructors typically do not consider the obstacles that students face in language study, and view the learning as solely the obligation and duty of the student. This can be explained by the fact that a very scant number of teachers have attained any sort of proper EMI training, largely due to this particular type of instruction being almost non-existent in Turkey.

### 1.1.1. English Language Teaching in the primary and secondary levels

The foregoing findings in higher education seem to collaborate the November 2013 report of the British Council and the TEPAV, mentioned in the November 2015 report, claiming that the 'English inadequacy' in Turkey is due to inferior teaching measures in academic institutions at the primary and secondary levels. The said report identified five major factors as regards the mentioned situation in the primary and secondary levels:

1. Instructors are able to meet the conditions to be officially classified as English educators, bearing the required professional expertise and degree of English proficiency; be that as it may, in a class atmosphere, English is seen and taught as primarily a topic of study instead of as a language for communicating.

2. Students fail to learn how to communicate and function independently in English.

3. The majority of classroom seating arrangements were laid out as such where students sat in pairs or together on bench seats; yet teachers neglected this natural opportunity in the seating arrangement to formally match students in pairs or small groups with the intent of autonomous vocabulary communication exercises within normal classroom conditions.

4. Formal course texts and syllabuses fail to acknowledge the differing levels and personal needs of the students.

5. The person in charge of dictating the direction and execution of English language teaching is typically not trained in the practise, or is even an English speaker at all. The authority is not given to the instructors themselves, but rather these outsiders who are incapable or not willing at all to offer guidance and support to teachers in the few occasions during a school visit.

One of the goals of my research was to discover countermeasures that could potentially lessen the negative impact of the above issues. Turkish institutions provided the base for examinations. While general conclusions have been revealed through research, additional

concerns have arisen and this study will attempt to propose recommendations for these. Prior to this study, I was driven to resolve comparable dilemmas, which I go into detail about later in this study. Undoubtedly, a pivotal issue that kept recurring in the project were Turkish learners' lack of motivation. Whether it's referring to the overall level or the absence of it, the word 'motivation' is used forty times across several chapters in this study. Given its extreme usage, it is not an inconceivable assumption that it is a serious issue faced by Turkish language learners.

Motivation must be a focus, since without it, limited meaningful learning will occur. A variety of recent studies on English Language Teaching in Turkish preparatory schools have observed this (TEPAV & Council, 2015, p. 93). It is further noted at what point motivation is at its lowest, which is in this preparatory, or first, year. This is because students have zero knowledge of what is expected of them as undergraduates, the workload, or the skill level they must attain (TEPAV & Council, 2015, p. 74). Below are the results from a questionnaire, administered to both teachers and students. In it, they weigh the perceived negative factors in how they feel it impacts the progression of English learning.

**Figure 1. 1: Factors affecting progress in English- British Council and the TEPAV 2015**

|  | Teachers' ranking (N = 350) | Students' ranking (N=4320) |
|---|---|---|
| Poor motivation | 1= | 3= |
| Lack of interest in English | 1= | 9= |
| Inadequate practice in speaking/listening | 3= | 2 |
| Large classes | 3= | 5= |
| Late start in learning English | 5= | 3= |
| Few chances to meet native speakers | 5= | 1 |
| Unsuitable materials | 7 | 7= |
| Not enough time for study | 8= | 7= |
| Unsuitable teaching | 8= | 5= |
| Poor resources for learning | 10 | 9= |

*Note: Adapted from ` The state of English in higher education in Turkey,' by British Council and the TEPAV 2015.*

Teachers ranked poor motivation and lack of interest as the most potent influences. Students, meanwhile, rated poor motivation third. Based on this, motivation is obviously a problem that must be resolved. It is suggested that this can be done by teaching lessons that employ techniques with higher interactivity, especially in the preparatory phase (British Council and the TEPAV, 2015, p. 82).

My research pre-dates both the November 2015 and 2013 publications on the discoveries of the conditions of English in Turkey. However, their existence reminds me of the pressing and urgent need to better the conditions of teaching English to students in Turkey. According to my findings, CALL could be one method to strengthen student learning that could be implemented within a short time frame.

## 1.2. Background and Rationale: The Context of the Study and Its Significance

This segment will concentrate on the importance of the study. Background information on English teaching and rationale will be explained in detail, but also included is a short summary on the primary theories of vocabulary pedagogy.

Fieldwork on the British Council and TEPAV Project largely confirmed this scenario (TEPAV & Council, 2015). In a majority of the Turkish universities, the preparatory course was mandatory for all EMI programmes (TEPAV & Council, 2015). Turkish universities typically introduce English learning via a foundation course which lasts one year, teaching students the very basics of the language. Afterward, undergraduate programmes proceed with language support courses.

At the close of each semester, the practise of 'graduating' from the preparatory couse is common in most universities, granted the student has attained a predetermined passing

score on an in-house exam. However, some universities have graduates progress to a 'pre-faculty' course for the remainder of the academic year. Failing scores are expected, so most universities have procedures in place for those who fail to acheive a passing score on the end-of-semester exam. Repeat programmes mean that some students remain in preparatory school for two years or perhaps more.

The university in which my research was carried out is an example of such a university. Here, instruction is done in Turkish but many courses across all faculties are available in English (EMI programmes). Applicants to Canik Basari University must undertake the Language Proficiency Exam as part of their application, and those who do not meet the required criteria are mandated to enroll in the English Preparatory programme, which lasts for one year.

Students are placed at their level of proficiency, determined by the Common European Framework. There exist four chief courses in the one year Preparatory programme at the university in which my research was carried out, deemed A1, A2, B1 and B2. Class sizes are kept relatively small at 20-25 students, and each programme lasts eight weeks. Students who begin at the A1 level are required to reach and complete the B2 level course in order to progress with his/her faculty programme.

Each course in the programme consists of 20 classroom hours with an additional 5 hours of tutorials for each student. It is instructed by a team of 3 to 5 teachers. High achievers who reach a level where beneficial learning is no longer possible have the option to skip the programme.


For the last quarter of the century, it has been accepted by many researchers that vocabulary training is a critical component of advancing the process of mastering of a second or foreign language (e.g. Harley, 1996; Kolich, 1985).

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The problem of understanding the best approach to teaching vocabulary has nonetheless been unclear. Fries (1945) and Lado (1957) claim that 'vocabulary has to be taught in the form of lists of isolated words and reading of difficult classical texts within the frameworks of methodologies like the Grammar-Translation Method and the Audio-Lingual Method.' (p. 241-247). Krashen and Terrell (1983) assume that 'vocabulary is acquired automatically by exposing students to large quantities of comprehensible input according to methodologies like Communicative Language Teaching and the Natural Approach.' (p.27). Still other methodologies, such as the 'Focus on Form' methodology proposed by Doughty (1998) and Long (1996), involve flooding students with large quantities of positive input. (See 2.2.1) Based on my own fifteen years of teaching language, it has dawned on me that Turkish students acquire a greater volume of the English vocabulary if course materials and teaching strategies utilise a diverse blend of audio, video, images and tangible items. Clearly, despite the agreement on the fundamental significance of vocabulary acquisition with the goal of successful language understanding, researchers and experts clash exceedingly on their opinion on precisely how vocabulary should be acquired.

Moreover, in much of the literature the importance of the principle of saliency is stressed. Groot (2000), Hulstijn (1997), Irvin (1990), and Schmitt (2000) claim that making certain words more salient in the input given during instruction could enhance vocabulary learning. The research of DeRidder (2002) exhibited that words considered meaningful and practical by students were more readily noted and learned. Freebody and Anderson (1983) additionally testify that word saliency is a major determining factor for a student in whether or not they expend any effort to learn a new word.

It can be unmistakably said that the instruction and intake of the English language is riddled with problems in Turkey (Aktaş, 2005; Işık, 2008; Oğuz, 1999; Tılfarlıoğlu & Öztürk, 2007; British Council and TEPA, 2015). I have learnt from my tertiary level students that even though they have learnt English at school for years, many of them could not reach even the basic level of English. As an English teacher myself, my hunch is that the problem is caused by a range of factors, i.e. the inefficacy of language teachers, lack of or low interest and motivation of students, inappropriate instructional methods, absence of conducive learning environment, and lack of learning materials. This was affirmed by Aktas (2005) who sees the same causes of the problem in the learning of the English language by the students. But unlike Aktas (2005), based on my own personal experience as a teacher, my hypothesis is that inferior levels or complete absence of, motivation and concern within the students has an enormous impact on the difficulties faced when learning a new language. In this I am one with the views of Dörnyei (2001) and Ellis (1994) who claim that motivation is one of the crucial aspects for language instructors to achieve success.

Furthermore, the methods utilised to motivate students, put in place since the 1990s, involve designing classroom tasks so that they are more appealing and engaging through the use of credible materials which encourage additional interest in the target language has shifted with the advent of computers. (Winke, 2005). Without overemphasising the progression of easily-operated computers, software and their swift decline in price over the last decade, teachers and researchers have been experimenting and exploring techniques to integrate computers into their own teaching context. Along this line, Egbert and Jessup (1996) state that 'access to authentic input in the English as Foreign Language (henceforth, 'EFL' for brevity) classroom is no longer out of reach. With the advent of educational

technology, learners now find opportunities to interact and negotiate meaning with authentic tasks and a low anxiety atmosphere in a learner - centred classroom.' (p.1-24)

Given the preceding, the statement of Bush (1997) about technology is fundamental to my very hypothesis in the present undertaking. According to Bush (1997), 'using technology to teach language is effective for delivering instruction' (p. 287-349). This claim was supported by Lee (2000), Warschauer and Healey (1998), Kremenska (2007), and Lai and Kritsonis (2006) who all claim that the use of educational technology makes learning considerably easier, quicker, and more interesting. Inside the framework of my study, I will contend that technology in an English language learning environment, specifically the use of computers, is a vital requirement for a student to definitively learn a language. More explicitly, I will argue that CALL is an exceptional technological strategy or tool in language development that has pragmatically gained exemplary attestation of its effectiveness. I will argue from the point of view of a language instructor and will be claiming that CALL provides two major additions to traditional learning and teaching of vocabulary.

CALL is an interactive method of learning that is more geared towards the student's needs. Not bound by strict classroom hours, students are able to work when it is most convenient and at a time that is most beneficial to them. If a learner is slower than normal they can perform review tasks as often as they like, and quicker learners can excel ahead with more complex exercises (Siskin, 1999). Without the gregarious classroom atmosphere where certain students tend to dominate discussion, reserved and inhibited students can freely participate and benefit greatly from the singular, collaborative style of learning (Lee, 2000, p. 12). Computers are able to provide instantaneous, personalised feedback, which

encourages autonomous behaviours and learning (Galavis, 1998; C.-C. Lai & Kritsonis, 2006; Mark Warschauer & Healey, 1998) This can set them on the path to be more naturally self-confident learners, which will inspire them to use the target language more often and improve it (K. Lee, 2000; Nagata, 1998; Pennington, 1996; Shelley, Cashman, Gunter, & Gunter, 1999).

More importantly, CALL greatly motivates students in a number of ways. The younger generation is instinctively drawn to technology, using it recreationally in their everyday lives (Halpert, 1999). When a class involves computers, they make the connection that computers are enjoyable and entertaining. CALL offers a way to convey the knowledge in a fun way through games and activities. This makes them more interested and therefore motivated than they would be in a lecturer-based environment (K. Lee, 2000).

## 1.3. Technology and Computer Assisted Language Learning (CALL) in Turkey

While the rest of the world was making leaps and bounds in the field of CALL, Turkey was falling behind. Until the 1940s, Turkey was stuck with primitive teaching technology such as maps, laboratory equipment, and film strip projectors. Teachers in this era primarily had to rely on only written materials as a teaching aid. This changed with the advent of the 'Teaching Material Centre,' founded in 1961 (Alkan, 2010).

Research in the field now centralised under one roof, it sought to further the development of teaching materials and evaluation tools for Turkey. Small technological ripples can be observed because of this. Between the 1950s and 1970s, audio cassettes and overhead projectors made their debut as teaching aids, and quickly saw widespread use

(Hizal, 1991). Though these may appear to be miniscule advancements compared to the materials the Western world was using at this point, these items paved the way for modern technological advances in education of the 2000s, which saw design that is vastly more sophisticated. The Turkish government did take steps to initiate a number of projects to further work in curriculum and instructional materials, teacher training, student achievement tests, and broad scientific research on education. Regardless, electronic technology did not reach true actualisation until the television entered households in the 1970s (Turkmen & Pederson, 2005).

The initial educational television project, conceived by the Eskişehir Academy of Economic and Commercials Sciences, was a pioneer in using the television as an educational tool. It quickly became universal knowledge that the television had a multi-sensory appeal that worked in unison – visual and auditory – which made it fitting to teach more obscure concepts and ideas (McIsaac, Murphy, & Demiray, 1988; SAGLIK & OZTURK, 2001). This really made educational television take off, and in 1987-88, the Ministry of National Education (MoNE) began to broadcast educational courses over the summer months for the benefit of persons that could not proceed in the official academic school year. It was claimed that 'with the help of television, students' learning of new concepts improved about 30%, their attention about 35% and their perseverance about 50%' (Berkan & Demiray, 1990, p. 5).

While it was a great technological advancement for education, it was not long until its drawbacks were realised and its popularity began to fade. Teachers were obviously unable to receive instant feedback from television – feedback of any kind was non-existent, to the students or to the teachers. Teachers found that they were also facing problems with

classroom management as television uses one-way interaction (E. Mutlu, 1995). Watching television is a highly passive activity, and thus students may not feel it is interactive or sufficiently student-focused, and will become distracted or demotivated. In the 1980's, computers began their slow dominance and television's place in educational technology waned.

The first computers were used in military, business and economic departments. When the Internet entered the scene, together they solidified their place in the field of education. 'Computer Aided Education' (CAE) was a project introduced by MoNe in 1983, which trained instructors on computer literacy and programming. CAE had limitations, although, the software was not assimilated in the curriculum, and vendors retracted from the programme in masses due to preposterous bureaucracy (Yedekcioglu, 1996). Additionally, a lack of experienced teachers with the know-how to manage the hardware and software appropriately meant that no one was learning this new system properly. The 'Basic Education Programme Loan Agreement,' was signed in 1998. This was a joint effort by the Turkish government and the World Bank to purchase tech for 2,802 schools in 80 cities. These included things like office and education software, and computer hardware for the purposes of learning. Training courses for teachers were also on offer to better incorporate this into teaching going forward. Anadolu University was the very first Turkish university to establish a 'virtual university' in 1988.

Even now, online courses and self-test opportunities remain available for interested long-distance learners. Many similar programmes are available at other universities, such as the Middle East Technical University with its plethora of online options, Bilgi University with their e-MBA, and Bilkent University's joint venture with New York

University for courses via videoconference. The Internet swept the world during the 1990s, crossing geographical and cultural boundaries, but it took this trend until the 2000s to reach Turkey. Many reforms have been made over the last few decades, but the Turkish education system has been lagging behind in organising computer- assisted education. According to 2010 measures, the number of computers available in schools with grades K-12 are mediocre.

Promotion of education and language teaching was achieved nationwide in 2006 with the donation of DynED to the Ministry of Education. DynED involved a new metric: the Completion Percentage, and an Intelligent Tutor. The performance level of each student for every lesson is calculated by the completion percentage. This is a quantity of micro learning steps (MLS) that a student has achieved, which could be any of the following: listening and understanding a language word; recording a spoken word with comprehension; processing information and completing an activity in the target language; reading or writing a sentence or phrase with comprehension in the target language. Working in harmony with this is the Intelligent Tutor, which checks the details of each student are learning activities. Automatically, it summarises the results so teachers are able to instantly pick out which students in particular require extra attention and mentoring. An added bonus is that the Intelligent Tutor gives customised suggestions on how students can improve their study and review habits (Knowles, 2004).

CALL's progress has been admittedly slow in Turkey, but seems to me from reviewing the literature, and from my personal experience in higher education institutes, that is one that never stops. Each passing day brings more institutions willing to try CALL and introducing computer-assisted tools.

In 2010, Turkey executed one of the world's most ambitious educational technology undertakings: giving every student from grades five to twelve a tablet computer and installing interactive whiteboards in every classroom. With every student equipped with a tablet, schools connected, and interactive projection devices in every classroom, it was thought that there would be an immeasurable demand for suitable, pertinent, superior digital teaching and learning tools (Trucano, 2013).

Moreover, this programme of the Turkish government came about because of the report of the Turkey National Needs Assessment mentioned in the report on the State of English in Higher Education in Turkey conducted by the British Council and TEPAV (See chapter 1). According to the TNNA, 'Turkey is underperforming in the area of English language teaching (ELT) and that this 'deficit' is the result of inadequate teaching in primary and secondary schools. In the light of this, my own study is an attempt to explore effects of CALL design in vocabulary acquisition in the language classroom in a Turkish University, bearing in mind that this is only a possible starting point for the better integration of CALL programmes which the Turkish government planned to deliver in the mainstream of education in 10 years' time.

In this section, I have talked specifically about the situation in regard to technology and computer assisted language learning (CALL) in Turkey. The next section's purpose will be to look at the specifics of integrating CALL into an environment.

## 1.4. Research Hypotheses and Questions

This study will assess the use of CALL in teaching vocabulary in the classroom

and addresses the following hypotheses:

Research Hypotheses:

H1: CALL programme enhances vocabulary acquisition of tertiary level students in Turkey

H2: CALL instructions have an observable pedagogical effect in the vocabulary acquisition and learning of EFL learners?

Generally, it will aim to answer the question: 'To what extent do CALL applications affect vocabulary acquisition of tertiary level students in Turkey, specifically in the Samsun region?' This question came to me due to my desire to find solutions to the problems I encounter as an instructor of English as a foreign language. To come to a conclusive outcome, the study will correspondingly pursue solutions to the following secondary issues:

RQ 2. Does CALL instruction have an observable pedagogical effect in the vocabulary acquisition and learning of EFL learners?

RQ 3. What appear to be the benefits of and issues around CALL in vocabulary learning and acquisition?

RQ 4. In the light of the above, what pedagogical strategies for teaching vocabulary would seem to fit best with use of CALL?

RQ 5. What are the implications for English language teachers in tertiary education in Turkey?

I have gathered data both empirically and from existing literature. The empirical data, has been collected in the field of my own workplace, a university in Northern Turkey; it has

been analysed and put into context with my understanding from relevant literature, both on the substantive area, and from that on research methods.

Here, I will be mindful that 'facts and values cannot be separated and that understanding is inevitably prejudiced because it is situated in terms of the individual and the event' (Cousin, 2005; Elliott & LUKEŠ, 2008).

In saying this, I am trying to demonstrate that my findings cannot pretend to be entirely objective; they are influenced by my own experience and values as an EFL teacher in higher education.

I was only one person, researching and working solo, so my results are narrow in generalisability. The number of students and classes I had access to were limited, and I could only work in the one locale. I must clarify now certain terms which will be used often throughout this thesis. The terms 'acquisition' and 'learning' I will not be using as synonyms for each other. In the context of this study, the action of a learner accessing their vocabulary knowledge to conjure a word will be 'acquisition.' 'Learning' will refer to a learner recognising a word and comprehending it when read or heard. It is my hope that the findings I uncover will be of some benefit and relevance to other teachers and EFL departments in Turkey, who will reference this thesis in future writings.

Moreover, the conclusions reached will test the veracity of the aforementioned researchers' claims on the significance of using technology in language teaching through boosting the students' motivation and receptiveness to acquire vocabulary in the target language.

This chapter explored the history of the study, presented the predominant concern, research hypotheses and questions, significance of the problem, and technology and

computer assisted language learning (CALL) in Turkey. The next section is mainly a literature review in which relevant past studies will be examined more closely. These literature reviews will be on the topics of computer assisted vocabulary acquisition, vocabulary acquisition, educational technology, and approaches to language teaching.

## 1.5. Conclusion

In the rest of this thesis, I start by setting out a review of the existing literature, both theoretical and research-based, which has relevance to my substantive topic, i.e. language learning itself, specifically in terms of vocabulary acquisition; relating digital technology to language learning and acquisition, which I refer to as 'computer-assisted' language teaching and learning (language pedagogy) and student motivation in language learning.

In chapter 3 will be a methodology chapter is next where the details of this particular study – the materials, participants, data collection and analysis procedures – are covered

In chapter 4 analyses the data that was collected in the previous chapter. This is done via data analysis, observation discussion, an overview of the tests that were run, the results of the investigation, and questionnaire analysis.

In chapter 5 deals with the limitations of the present study, various revelations on the connection between CALL and vocabulary acquisition, the introduction of digital materials into classroom settings, and ramifications on a pedagogical scale. Alone with the conclusion where will offer suggestions and recommendations for future inquiry.

In order to set the scene for the following chapters, I give below the research questions which I developed over the course of my thinking and work on my topic. I explain in detail how and why I came to questions, which I indicated in section 1.3 at the start of chapter 3.

# Chapter Two

## 2.1. Literature Review

I am aware that it is the case that experts on language teaching and learning education have already researched, discussed, written, or explained the subject matter of the present study (like the statements and writing of Halpert (1999), Lee (2000), Warschauer and Healey (1998), Brown (1994), Brucklacher and Gimbert (1999), Kang and Dennis (1995), and Liaw (1997), However, this study is specifically focused on vocabulary acquisition through CALL. This chapter presents a discussion and explanation of professional literature related in matter and form to the present undertaking, some of which provided basis for the design of the present investigation. Specifically, this part contains literatures relating to vocabulary acquisition to discern previous approaches and theories of vocabulary acquisition and learning, in a general sense, and the specific effects of computer assisted language learning in vocabulary acquisition. In chronological order, the items discussed will be: English language learning with regards to vocabulary acquisition, the aspects of vocabulary knowledge, the nature of vocabulary acquisition, vocabulary acquisition literature reviews, the significance of vocabulary acquisition when acquiring a new foreign language, past methods of language teaching, educational technology and its impact on the study itself and foreign language advancement as a whole, and finally computer assisted language learning. A literature discussion regarding vocabulary acquisition and CALL, as well as motivation and CALL, will follow all of this.

## 2.2. English Language Learning and Vocabulary Acquisition

For this section, I draw on my experience as an English teacher in Turkey. In the teaching of the English language to learners and their subsequent learning of the same, the normal procedure is to start with the teaching and learning of the meaning of different English words. Putting it differently, the teacher and English language learners have to start with English vocabulary. The traditional technique of vocabulary instruction is very regimented. It was a very dull process of looking up words in dictionaries, noting them and memorising them (Cohen & Byrnes, 2007; Kang & Dennis, 1995). Students would be provided a list of new words, then had to copy the definition for the word that they found in the dictionary. The process of writing it out was thought to increase the chance of memorisation. Based on the definition they received, the student would then use the word in a sentence they create to signify that they truly understood the meaning and usage of the word. This method is particularly prevalent in American classrooms (Sargeant, Rajic, Read, & Ohlsson, 2006), and Turkish classrooms as well. Just because it is predominantly utilised, does not mean that it is the most effective method. Several researchers insist that this style of vocabulary teaching is not the most rewarding (Constantinescu, 2007; Martinez-Lage, 1997; Phillips, Foote, & Harper, 2008). It is questionable whether such superficial, linear activities lead students to a deeper level of word understanding or long-term retention. Kang (1995) offers that the criticisms are largely because definitions, on their own, do not provide a satisfactory level of context for the student to memorise and properly use the word outside of the classroom. However, English words have their morphological intricateness that demands critical and creative approaches for the words to be successfully taught by the teacher and learned by learners (Nagy & Scott, 2000). For example, a teacher cannot just simply say to the students the meaning of the term 'lake' for

them to be able to understand it. Here, the teacher needs to employ critical and creative approaches for students to really understand the meaning of the term.

These approaches require the competence to pick out circumstances whereby a particular word can be suitably used, to recall the different definitions of that word, and to recognize precisely in which situations a word is or is not appropriate (Nagy & Scott, 2000). Nagy and Scott (2000) further claim that knowing an English word thoroughly demands depth of meaning; precision of meaning; access that is easily recalled (examples of persons with this skill are experts at Scrabble and crossword puzzles); how well one can express their understanding; exercising knowledge of a word in a versatile way; recognising the value of using metaphor, analogy, word play; and the ability to identify a synonym, to give definitions, or to use a word 'expressively'. With all of these, indubitably, the teaching and learning of the English language is very challenging. The English language teacher has to go beyond the traditional teaching of other subjects. The teacher has to be innovative in his teaching if learning of the English language by the students is the real concern. The English language teacher has to employ available resources and conceptualize and create new resources so as to make the teaching and learning of the English language effective. One such available resource is technology (Bush, 1997).

### 2.2.1. Features of vocabulary knowledge

Words are much more complicated than perceived at their surface (N Schmitt & Zimmerman, 2002; Wesche & Paribakht, 2000). Some learners mistakenly believe that the components are simply its spelling, pronunciation, and definition. To truly understand a single word, learners must also recognise its grammatical properties, word parts, collocations and appropriate use based on context (Nation, 2001).

Nation (2001) argues that pronunciation, spelling and a word's meaning are key principles in language. Knowing these first will enable one's comprehension of what they read and hear. Of these, the meaning of a word is the most difficult. Learners must connect the written or spoken form of a word to the intended concept, and how well is this done determines how effectively one can remember a word and use it again properly. Compounded to this is that many words have more than one meaning, so it is critical to review the various definitions of a single word (Nation, 2001).

Moving on to more ambiguous concepts, collocation refers to a pair or sequence of words co-occurring with a frequency that is greater than simple chance - examples in the English language include the terms 'crystal clear' and 'strong coffee.' This practise is typical in native speaker use of words (Nation, 2001).

Forming new words by adding derivational suffixes and prefixes to a root word is called word parts. The English language makes extensive and widespread use of these prefixes and suffixes (Carstairs-McCarthy, 2002). According to studies on the topic and the morphological properties of words, word parts have a palpable role in our mental dictionary and how words are stored here (Nation, 2001). It plays an important role when learners attempt to combine words in a correct sentence, phrase and grammatical pattern (Carstairs-McCarthy, 2002).

The last aspect of vocabulary knowledge and communicating successfully is context. Certain words or phrases are more appropriate to use, depending on the nature of the situation during communication (Miller, 1999 cited in Nation, 2001).

In this section, aspects of vocabulary knowledge were reviewed. Learning a word is a multi-faceted process of understanding its pronunciation, spelling, word parts, meaning, grammatical properties, collocations, and contextual factors affecting its appropriate use

(Nation, 2001). The next section of the literature review, the nature of vocabulary knowledge in language acquisition is presented.

## 2.2.2. The Nature of Vocabulary Acquisition

On average, a language learner at an advanced level retains approximately ten thousand words. Although there is no universal consensus to explain how learners are able to absorb such a large amount of vocabulary, there have been some important, recurring features of vocabulary acquisition acquired via research on the subject (Schmitt & Zimmerman, 2002)

Vocabulary acquisition can be done in an incremental nature (N Schmitt & Zimmerman, 2002). This involves the gradual learning of the various aspects of a single word, as opposed to all at once. Long-term retention is not likely when knowledge is presented entirely at one time, and furthermore, some pieces of knowledge should be learned before others. One example of this incremental learning can be seen in a 2002 study by Schmitt, whereby learners mastered a word's spelling first, and then progressed to the definition of the word.

When it comes to vocabulary acquisition, one must be able to discern between receptive and productive vocabulary. Receptive vocabulary refers to the act of a learner recognising and comprehending a word when read or heard, whereas productive vocabulary refers to a learner accessing their vocabulary knowledge to produce a word. These two terms should not be viewed as two separate systems, but rather as differing degrees on the same scale that are dependent on each other (Melka, 2001).

Retention fragility is an important, if not undesirable, aspect of vocabulary acquisition. Forgetting what has been learned is a natural part of learning. Several research studies in second language vocabulary have shown that lexical knowledge is less likely to be retained than grammatical knowledge (Cohen as cited in Craik Craik, 2002) For it to not be a wasted effort and to encourage strong retention, vocabulary items should be recycled and used consistently once they are partially or completely learned (Schmitt & Zimmerman, 2002).

In summary, knowledge of a word involves more than simply knowing its meaning, as was the traditional way of thought (Nation, 2001; Read, 2000). A word requires mastery of its pronunciation, spelling, affiliations with other words, and all the various definitions it has. It is a grand undertaking, so a gradual learning approach should be taken (N Schmitt & Zimmerman, 2002). Once all of these knowledge types have been learned, further effort should be put into using and reviewing the information systematically to resist losing the knowledge (Craik, 2002).

## 2.2.3. Intentional and Incidental Vocabulary Learning

Lexical skills are one of the most integral aspects of a second language, encompassing all scopes: reading, listening, speaking and writing (Nation, 2001; Norbert Schmitt, 2000). Thus, it is a particularly demanding task for language learners.
Research attempts to find the most productive ways to acquire and use the target vocabulary has generated two schools of thought: incidental vocabulary learning and intentional vocabulary learning. Incidental involves expanding the vocabulary through reading materials, while intentional is the use of dictionaries, teachers, courses and certain exercises to enable a more 'hands on' approach. It has been argued that both should be

An intentional vocabulary instruction environment, on the other hand, emphasises unfamiliar words be sought out and looked up in a dictionary or taken to teachers and peers to learn the word. Here, learners take a more active role in their vocabulary building (Nation, 2001; Wesche & Paribakht, 2000; Zahar et al., 2001).

A criticism of the intentional vocabulary instruction method is that learners may not always grasp or check the correctness of the inferred meaning of words (Hulstijn, 1992). Unless roughly eighty percent of the words in a text are familiar, it is an immense challenge to determine the meaning of unfamiliar words solely based on context - one must already possess a solid foundation of knowledge of the target language (Nation, 2001; Sokmen, 1997). Because this is a self-driven approach, learners may not look up words in the dictionary or consult their teacher, and will simply ignore unknown words in a text (Hulstijn et al., 1996).

This section presented many topics, such as the different features concerning vocabulary knowledge, the essence of vocabulary acquisition, and Vocabulary Learning through Intentional and Incidental schemes. The forthcoming section will deal with Literatures with respect to Vocabulary Acquisition.

## 2.3. Literatures on Vocabulary Acquisition

In the 1990s, research focused mostly on strategies of vocabulary acquisition. Much contention surrounded the lexical approach when Michael Lewis began documenting it in the 1990s. However, as the years passed, it has become more apparent that it does not signal a great change in the way things are done in the classroom. Instead, it is more of a re-focusing, and a change in the way we think about classrooms.

According to Lewis, language fluency is not primarily an extensive bank of words and mastering a set of generative grammar rules. He defines fluency as having access to a stock of lexical items, or chunks. Put simply, Lewis rejects the assumption that once sentence frames have been mastered, they can be inserted haphazardly into any "gaps," therefore expanding your vocabulary. It is possible to create grammatically correct sentences, however they will likely not be sentences that occur naturally in real life. What we need to communicate effectively is not the possibility of saying 'Colourless green ideas slept furiously', to quote Chomsky's famous example. What is needed is the capability to produce likely, natural and thus successful language, which is chiefly done through mastering lexis. Lewis views lexis as a set of lexical items, most of which are multi-word chunks, instead of simply a vocabulary list. Lexical items have the same generative power as grammar patterns, if not more, and thus create a pathway for the production of natural successful language. This claim is supported by data from statistical analysis of language. By interpreting millions of occurrences of a language, it can definitely be concluded that humans speak in pre-patterned chunks. This revelation means that it has become necessary to seek out these chunks and learn to use them correctly.

Lewis' lexical approach focuses students' improvement on lexis and word combinations. It centers on the foundation that there is a direct link between language learning and the capacity for recognising and producing lexical phrases as unanalysed entities, or chunks, and that 'these chunks become the raw data by which learners perceive patterns of language traditionally thought of as grammar' (Lewis, 1993, p. 95).

Lewis states (2000) 'fluency is based on the acquisition of a large store of fixed or semi-fixed prefabricated items, which are available as the foundation for any linguistic novelty or creativity' (p.15). This then demands a comprehension of collocation amongst all learners, particularly those enrolled in elementary level courses, to attain the active

development of oral output inside and outside of classroom utilisations. When it comes to exercises outside of the classroom, CALL applications can be a helpful tool. Noticing collocations is a necessary but inadequate condition for inputs to evolve to intake, according to Lewis (2000).

Additionally, Schmidt (1996) draws our attention to motivation which can be defined in one way as the willingness to expend effort with the purpose of achieving a goal. Similarly, (Robinson, 1995), mentions the special situation of 'noticing' which is that it means in the context of vocabulary acquisition, students will notice specific, lexical input and effectively process the target lexical items. Students who are unmotivated to recognise language in literature have a chance of failing to achieve intake. This statement is further reaffirmed by Thornbury (1998), who supplements that acquisition does not occur without notice or recognition.

'It explicitly recognises word patterns for (relatively) de-lexical words, collocational power for (relatively) semantically powerful words, and longer multi-word items, particularly institutionalised sentences, as requiring different, and parallel pedagogical treatment'(Lewis, 1993:195 cited in Moudraia, 2001, p. 1).

In the context of my case at Canik Basari University, students in the light of my findings should be encouraged to partake in activities that focus on collocations. It is common for learners to have low motivation because they believe that they sufficiently understand English grammar. These particular persons typically wield a good command of active vocabulary and do not see the necessity for acquiring new items. In my case, teacher's guidance is the key element. If the teacher instructs on the same grammar points combined with infrequently used, unnatural lexis, a lack of interest will likely follow. Lewis (2000) claims that a majority of learners actually hit a wall on the intermediate plateau and tends to continue producing both spoken and written language that includes awkward sounding

elements. Learners should be encouraged to expose themselves to a vast range of written and spoken language external to the classroom, and noticing collocations within that material.

With the Lewis' theory of noticing, and Robinson's attention theory, my hypothesis in this study is that CALL can be generally beneficial to EFL students and particularly to Turkish EFL students when it comes to matters of making target lexis noticible.

Hulstijn, Hollander, and Greidanus (1996) examined incidental Language 2 vocabulary acquisition by Dutch university students of French. When reading to comprehend a French text that contained words whose meanings were difficult to infer from context, students who looked up words in the dictionary and students who had glosses of target words in the margins enjoyed significant vocabulary gains as measured by a post-test that was administered at once. The delayed post-test showed that the students who had the opportunity to consult a dictionary displayed the highest levels of retention of randomly learned words, as compared to students given negligible footnotes and students with no access to any auxiliary material. This study demonstrated three factors that favourably influenced incidental vocabulary acquisition while reading, to wit: the provision of supporting assistance materials, the use of a dictionary and the recurrence of new words in the text. This work is significant because it advances a testable hypothesis that can be evaluated in experimental vocabulary acquisition research, which I can also utilize in this present study.

Kojic-Sabo and Lightbrown (1999) had the strategy of ascertaining learners' vocabulary learning strategies, or patterns of learning style, that specified their approach to learning and assembled students into peer groups accordingly. In the same study it was also

shown that EFL learners were more likely to rely on review strategies, that is, the Decontextualized Vocabulary Learning Strategies, than ESL learners. Even so, ESL students who utilized reviewing techniques showed greater independence and creativity than students who did not use such techniques.

Furthermore, other studies showed that methodologies may adjust over time as learners grow, evolve, or become more adept in the target language. A study by Ahmed (1989) revealed confirmation of an education scheme evolving as learners became more proficient. Schmitt's (1997) survey of six hundred Japanese respondents, targeting which strategies they used and which they felt most useful, showed usage patterns do change for Japanese learners on the whole. Additionally, it was observed that strategies reported as most effective by mature respondents make use of "deeper" processing and cognitive effort. Thus, mature learners understand their value. The CALL strategy that this research will propose will provide a basis that will help learners to mature and foster automaticity the importance of automaticity from my perspective and following Robinson (1995), is that it means students will notice specific, lexical input. That input will then enter short-term memory. As the student performs some activity with the input, processing takes place which allows the term to enter long-term memory. There is then a likelihood that providing the student recalls the lexical item within a fairly short period of time, or preferably, recalls it multiple times at different chronological time, that item will become 'acquired'. In making this claim, I am utilizing the suggestion of Door (2006), Ellis (1997) and Robinson (2003) that without attention to Language two inputs, there can be no intake, and without intake the learner cannot store new knowledge about the target language.

Gu and Johnson also conducted a study in 1996 on Chinese university learners' vocabulary learning strategies. Participating in this study were eight hundred and fifty sophomore students who were non-English majors. A questionnaire was administered to students that were divided into three integral sections: Personal Data, Beliefs about Vocabulary Learning, and Vocabulary Learning Strategies. The responses received from the participants were matched with their results on a test measuring vocabulary size and overall English proficiency levels. The findings of the study indicated that 'students would benefit more if they aimed at learning the language skills rather than just remembering English equivalents of all Chinese words' (Gu & Johnson, 1996). Also noteworthy, the study found that Visual Repetition and Imagery Encoding were powerful negative predictors of vocabulary size and English proficiency, implying that learners should not rely on approaches consisting mainly of visual repetition or fanciful imagery techniques when ingraining words into memory. Upon the other hand, Schmitt (1997) studied six hundred Japanese English language students across four different age groups — junior high school, high school, university students, and adult learners. Likewise, Schmitt utilised a questionnaire to collect data about which vocabulary learning strategies were implemented and these strategies were graded on their practicality, according to student opinion. The study results exhibited that there is a potent reliance on bilingual dictionaries: eighty-five percent of the participants voiced an affirmative opinion to incorporating a bilingual dictionary in the process of understanding word meaning.

The study conducted by Keating (2008) explored the assertion that Language 2 vocabulary acquisition and retention can shift. Third-semester students of Spanish at an American university read a controlled text that consisted of eight pseudo-Spanish words with credible definitions. Participants were arbitrarily given one out of three tasks. Word

recognition tests were given immediately after the group assignments and were followed once again two weeks later. Groups B and C were reported in the study as being significantly more successful at translating from Spanish, the target language, to English their native tongue, than was Group A which manifested the respondent-students' ability to link new Language 2 words to extant Language 1 labels. A comparison of the post-tests showed a significant effect.

In 2012, Özmen conducted a study to assess which language learning strategies were predominantly used by Turkish English language learners. The Oxford's Strategy Inventory for Language Learning (SILL) was the quantitative methodological research tool used on learning strategies. This research tool is designed for use in both ESL and EFL contexts. The respondents of the study were the thirty-one students from the Zirve University English Prep School in Gaziantep, Turkey. All these respondents finished their two-month pre-intermediate level, succeeded in the final exams to pass the intermediate level, and were considered 'successful learners'. Being considered as 'successful learners', they were selected to examine their learning strategies. The average age of the group was twenty years old and almost equally divided into sixteen female and fifteen male correspondents. The study took place in the classroom and results showed that they repeated new words by saying or writing them, and practised naturalistically. The results also indicated that fifty percent of the participants were adept at using linguistic clues. Fifty-seven percent of the participants took note of their own mistakes and endeavoured to find ways to improve as learners. Only twenty percent of participants were able to effectively and demonstrably lower their anxiety and encourage themselves as learners. The aforementioned fifty percent, upon the other hand, were unable to relax and were afraid of using the language. Due to their fear of making mistakes, they felt discouraged

about speaking English. The results of this study indicated that student success is not directly related to the strategies they use since the numbers of students who used strategies were not so high.

Lastly, Irem Kızılaslan (2011) also conducted a qualitative study that endeavoured to examine twenty-one persons – seven of the respondents were male and fourteen were female - Turkish senior ELT student-teachers' competence, specifically targeting the teaching of four basic language skills. The study results and statistics were harvested from a variety of sources such as field notes, interviews and follow-up focus group interviews. It suggested that student-teachers do not have the required level of expertise as set by the Ministry of National Education General Directorate of Teacher Training; in fact, there is room for much improvement. Participants chosen for the study were culled from a group of ninety senior student-teachers who were poised to complete their teaching practice period. All the participants selected met this criterion: their teaching practice period took place in a primary school setting. Kızılaslan (2011) observed that the student-teachers conducted teaching practice exercises in order to determine their competence for teaching language skills. Adhering to the naturalistic observation approach, the researcher did not manipulate or stimulate student-teacher behaviours. The nature of the observation changed and sharpened in focus as the study progressed, resulting in more selected observations related to language skills utilizing the strategy suggested by Punch (2009).

As a final step, focus group interviews were held with seven participants who were encouraged to speak freely and broadly about their behaviours and attitudes in class employing the suggestion of Berg (2004). Data was analysed in accordance with the 'mechanics' indicated by Bogdan and Biklen (2007). When the different types of data

(from interviews, field notes and focus-group discussions) were gathered, they were read at least twice. The study focused on four different language skills, and the results demonstrated that:

1. On teaching listening, interview data revealed that student-teachers had the basic competencies related to teaching listening. They reported that the teaching of listening was an irreplaceable part of language teaching and that it should be integrated with speaking practice. Participants stated that listening and speaking skills are closely connected and that interaction between the two is required for effective communication to take place.

2. On teaching speaking, respondents manifested that speaking is a basic foreign language skill and key indicator of competence. All participants were aware of the core competencies required for their students to improve their speaking skills.

3. On teaching reading, interview data indicated that student-teachers had mastery of the core competencies required to teach reading, some of which included focusing on different sub-skills of reading, employing authentic texts or word games for example.

In a conformable manner, the study showed that student-teachers did not have all the competencies which are vital for productive language. I believe that my study will show the extent in which Computer Assisted Language Learning (CALL) will help student-teachers achieve the necessary degree of expertise as required by the Turkish Ministry of National Education General Directorate of Teacher Training.

The preceding various studies reviewed showed how strategies have developed and have had a tremendous role in vocabulary acquisition, offering students ways to engage in learning more attentively and competently as mature learners. I will endeavour to show how an additional tool, like CALL, will get students to use deeper processing strategies that involve greater cognitive effort. If utilizing online language dictionaries has a positive

effect on student learning process, as seen above, then certainly CALL will have an even more noticeable effect on vocabulary acquisition.

Here, I presented Literatures regarding Vocabulary Acquisition and their relevance to the study. Section 2.4 is allocated to why vocabulary acquisition is important when learning a foreign language.

## 2.4. The Importance of Vocabulary Acquisition in Learning a Foreign Language

According to Swan and Walter (1992), 'vocabulary acquisition is the largest and most important task facing the language learner' (p. 287), because the learner is not exposed to the new words they are learning an every day life. Unlike the words in his or her mother tongue, before he or she can effectively follow the rules of grammar of another language, he or she needs first to know the meaning of the words of the language. With this claim of Swan and Walter (1992), it appears that fully understanding the definition of a target language words is crucial to learn first before moving on to the rules of grammar. Nation (1990) and Lai and Kritsonis (2006) share the same view.

Nation (1990) claims that 'when students are asked to perform language tasks without adequate vocabulary, they suffer difficulties.' (p.341-363) He adds that 'vocabulary is vitally important for reading.' Lai and Kritsonis (2006) state that language teaching must be concerned with vocabulary acquisition, in one way or another.
Indeed, while many language teaching approaches have evolved over the years like those suggested by Fries (1945), Lado (1957), Krashen and Terrell (1983), Kolich (1985), Harley (1996), Long (1996), and Doughty (1998), it is always noteworthy that language is the combination of vocabulary and essential structures. This fact serves as the very foundation of almost every foreign language syllabus (C.-C. Lai & Kritsonis, 2006). In Turkey, the

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same remains to be the case. Acquiring vocabulary continues to be a highly influential factor in the learning of the English language.

Indeed, the statements of Wilkins (1974) that 'as concerns communication, vocabulary is only one component in a complex system of many other components' and that 'grammar, i.e., structures and their functions, is also a crucial element in communication' are meritorious (p. 111). However, 'regardless of how adept a student is at learning grammar, mastery of grammar does not necessarily facilitate communication. A student will only be able to communicate to the extent that he knows the relevant vocabulary (Wallace, 1998, p. 253).'

**Figure 2. 1. Importance of Vocabulary Acquisition Based on Schmidt (2003)**
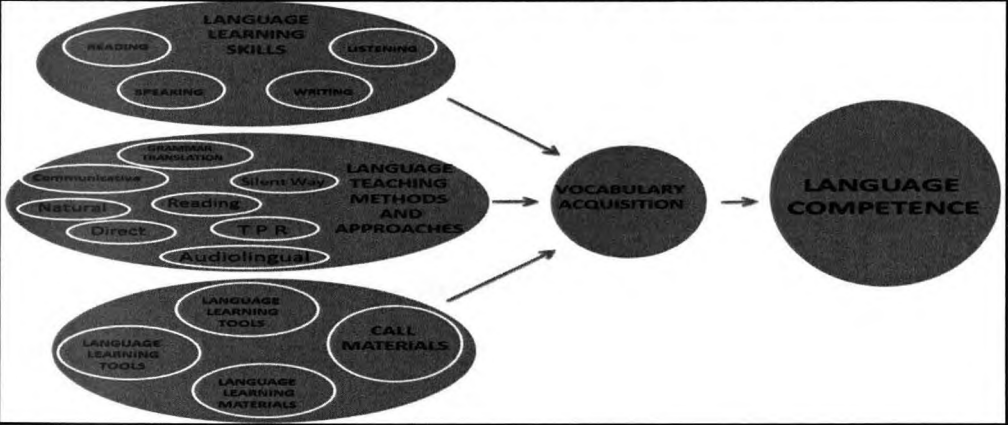


Adapted to Show My Own View

Vocabulary acquisition has moved into the spotlight in the 21st century, assuming a more fundamental role in language learning (Lewis, 1993; N Schmitt, 1997; Sökmen, 2006). Nowadays, teachers are being trained on how to teach more practical terminology that students will actually need and use. As a teacher, the focal point of my own instruction was on how to recognise the context of certain vocabulary, use it correctly in a sentence, and be able to direct my students to do the same. The current debates in the field are no

longer whether to teach vocabulary or not, it is when and the amount of vocabulary instructors should teach (Sternberg, 1987; Carter & McCarthy, 1988; Scherfer, 1993). It is unreasonable to expect that students are able to absorb all the vocabulary they will need and use in just a classroom setting alone. The trend is shifting toward helping students learn vocabulary on their own free will, and more importantly, feel the desire to. As I have discussed before (see 2:1), current teaching practises only go so far as the classroom can allow, which does not stimulate motivation much. It is not erroneous to claim that vocabulary is a language learning necessity, and that all things considered from my study, I believe CALL will play a motivational role in acquisition of vocabulary.

And also in my experience as an English teacher, I find agreement with the claim of Wallace (1998) because meaningful communication can occur with relative success through an adequate knowledge of vocabulary. Vocabulary acquisition must therefore be understood as a primordial consideration and an integral part of foreign language learning as it clearly holds the door open for communication to occur. Putting it differently, learning a foreign language necessitates acquisition of vocabulary of words of the foreign language being learned so as for one to learn the ability to communicate effectively in the said foreign language.

In addition to this, David Wilkins (1972, p. 111) claims that 'without grammar very little can be conveyed; without vocabulary nothing can be conveyed.' Thus, he states, as borrowed by Thornbury (2002, p. 13) that 'if you spend most of your time studying grammar, your English will not improve very much. You will see most improvement if you learn more words and expressions. You can say very little with grammar, but you can say almost anything with words.'

In addition to the foregoing, Celce-Murcia and Rosenzweig (1979) claim that 'vocabulary should be understood as a core component in the early stages of language teaching' (p. 254). They add that 'a sufficient 'stock of vocabulary' without the encumbrance of too many structures helps the learner more often than not. An adequate stock of vocabulary greatly helps the learner in reading comprehension and in becoming more proficient at survival communication. Having a near-perfect command of structures, albeit with insufficient vocabulary, is not nearly as helpful. Just as an inadequate knowledge of structures is undesirable, so too would a limited stock of vocabulary be undesirable. Both sets of knowledge should be acquired. Neglecting to teach either, or nearly neglecting to do so, would result in detrimental consequences even at the earliest stages.'

As per my experience as an English teacher and looking at the results of the assessment of my students, successful vocabulary acquisition cannot take place through the use of a dictionary alone. It is a far more complex process than that. This experience that I have is collaborated by the study of Allen (1983). Allen (1983) claims that 'recent research on word meanings which deals with lexical problems indicates that these lexical problems frequently interfere with communication and that not using the right words results in a communication breakdown.' (p. 5). Moreover, vocabulary acquisition is an individual as well as a class issue. The succeeding discussion expounds this.

This section dealt with how vocabulary acquisition is valuable in the long term in foreign language learning. The following chapter will discuss methodologies in the field of language teaching and learning, as well as general pedagogy.

## 2.5. Definition of Educational Technology

Potentially, any definition of technology is far-reaching. Any type of equipment, whether inside or outside the classroom, that is used to improve the teaching and learning process can fall under the umbrella of the term (Achaoso, 2003). Some strictly limit the term technology to mean 'hardware' only. Hardware are tangible devices that are messengers of information and serve as a means to achieve a task, but those in the industry refer to a systematic process of problem-solving using scientific means when they speak of technology (Reiser & Ely, 1997).

Software, computer-based technologies and Web-based learning are also incorporated into the term. Some would be surprised that even comparatively primitive means such as a blackboard, chalk, traditional books and overhead projects count as technology. A large number of recent studies conducted use the terms educational technology and instructional technology interchangeably. However, because education is more general, educational technology should be observed more as a construct that is more substantial than the entirety of instructional technology.

For the purposes of my study, educational technology is, in essence, the concept, theory, and field that focus on using technology to assist in learning (AECT, 1977). It is easy to see how educational technology is a much broader concept on its surface. Just as instruction is a compartment of education, 'instructional technology' is a subdivision of educational technology (Cemalettin, 2006).

Likewise, educational technology is often substituted for 'technology in education' even though these terms have different meanings in reality. Technology in education is

employment of technology to the processes which address educational activity. In simpler terms, it is the application of technology to support educations within institutions – a couple examples would the health industry, or finance. Certain terms have also been used to refer to the field as a whole, but in actuality they point to specific particulars in the field, like instructional development, educational or instructional media, and instructional systems design technology (Cemalettin, 2006).

Technology has the potential to be viewed in more extensive terms. Social science is one branch that does this, attributing material construction to social significance to technology. Scholars in the field define 'technology' as the systematic application of all sources of organized knowledge (literature, science, the arts, etc), suggesting that non-technologically based concepts of art, craft, and works of science can act as contributors (Luppicini, 2005). It is further argued by Luppicini (2005) that social science scholars relate technology with social values. They imply that the environment is important in defining technology which assists human adaptation to, participation in and utilization of the environment.

Technology is often used to generate a 'what if' scenario of what possibilities one person could attain with assistance. A multimedia computer, for example, is capable of a wide range of text, graphics, sound, and video media on a single machine. Today's modern personal computers offer new and seemingly unlimited possibilities to access information, communicate in various forms, and create multi-modal presentations of text, pictures, sound and video (Mark Warschauer & Healey, 1998). When linked together, the end result is an amplified version of the original. A powerful hypermedia through which learners can forge their own way through a complex path but with a simple point-and-click interface

(Loykaew, 2007 cited in DOKUR, 2008). Educational technology is designed to compile, relay and process information. When used in an educational setting, it commonly involves a combination of both hardware and software in existing physical and organisational environments (Christie, Ronan, & Sandery, 1996). Quite simply put, bearing in mind the technology of writing and illustration, it would appear that technology is, and always has been, an essential part of the language teaching process (Milton, 2002).

## 2.5.1. History of Educational Technology

Educational technology is a movement of the 20th century, with major developments rising to prominence during and immediately after World War II. Its initial focal point being on audio-visual media, it gradually evolved to be more centred on the systematic development of teaching and behavioural psychology-based learning procedures. At present, cognitive psychology, social psychology, psychometrics, and perception psychology are the major contributing fields to educational technology (Donald, 1997). Looking at its history, a wide range of technology has been present in classrooms for a long time. These can be in the form of simple tools like pencils, blackboards, slides, to newer technology like overhead projectors, videos and computers. While the use of technology in education is certainly not new, the development of educational technology as a field is.

Over the past few decades, the field has been systematised and experienced many changes, due to new knowledge revealed regarding the processes of human learning and the essence of teaching methods. Two major theories have made influential headway on the advancement of instructional media for schools: behaviourism and constructivism (Cemalettin, 2006). Behaviourism put down intellectual roots at the turn of the twentieth

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century, but its impact on education was not recognised until the 1960s. The rise in interest in behaviourism coincided with the creation of the first computer-assisted programmes. Computers appeared to offer solid solutions to the problems of the time. Students could be assigned to a computer and be able to work at their own pace, and the computer would then track their work.

Teachers were constantly pressed for time, but the computer could provide an instant record of each student's progress for the teacher. The educational technology profession was also affected by the behavioural movement, and it is believed that it is possible to design instruction so that all students could learn. This resulted in a movement to design learning materials and utilise a systems approach to instruction (Mehlinger & Powers, 2002). The last half of the twentieth century saw a shift from behaviourism to more cognitive theories of learning among psychologists.

The term constructivism, based on the views of cognitive psychologists, began to influence education. Constructivists took a stance that learners must formulate their own understanding of what they were being taught. This notion assumes that the responsibility of delivering knowledge, or guaranteeing student performance meets a certain standard, does not fall solely on the teachers. The teacher's role is predominantly to mentor students towards the general direction of their own interpretations of knowledge, whilst evolving into persons more adept at directing their own learning (Mehlinger & Powers, 2002). Some constructivists initially criticised the use of computers in school because computers have an association with behaviourist theories of learning. On the other hand, some acknowledge their use and praise computers as a potential assistant, composing

programmes that utilise constructivist beliefs. Now, CALL programmes exist that support higher-level thinking and inspire collaborative learning (Mehlinger & Powers, 2002).

## 2.5.2. Impact of Educational Technology on Learning

Some practitioners operate under the pretence that technology can promote learning when it is used in the process of education. It must be remembered that technology, from those as complicated as computers to as basic as pencils, do not have programmed, guaranteed influences. Their effects or outcomes depend solely on how they are utilised. Many institutions have the bad habit of automatically believing that students will learn more easily just because technology is present. With this attitude, computers will be used to teach the same things as they always have before. No adaptation is made in the way the material is taught, and yet excelled learning outcomes are expected anyway (Ehrmann, 1995). Computers are meant to assist in the transmission of information or instructional material needed for teachers to meet student requirements and reach objectives. (Christie et al., 1996) outlines the various forms that technology can be presented. I summarise their main points here:

• text for sequential concept development, in cases where users desire to enhance their reading skills, or must form their own interpretations of the material content;

• photographic images to provide context and/or an easy way to convey additional detail that would be difficult or too lengthy to explain with words. These are helpful also in expanding learner's understanding by triggering their imagination;

• Audio to experience music, voice or other sound effects relevant to the items that are to be learned;

• Video to display an ever-changing event and merge both sounds and images to better convey a point;

• Computer animations to clarify that which may not be possible or practical with video.

Technology provides students a means to immerse themselves in a range of contexts with high levels of authenticity. For example, watching a television programme in other languages not only exposes a learner to the language itself, but also paints real-life visual scenes from the target language's culture, and gives a heightened sense of immediacy (Christie et al., 1996).

### 2.5.3. How Educational Technology Works

I largely call on Christie et al, 1996 in this part of the review, with support from Loykaew, 2007. When using educational technology, the quality of the content is a significant issue. The use of technology does not guarantee that users will understand what is presented to them, or that they will interpret it in the correct way when a particular medium is used for education. In a classroom setting, unless the teacher possesses the required knowledge of the topic and competency of the computer software features, not a lot of effectiveness will be added to their productivity (Christie et al., 1996).Technology needs to support the teacher, making one-on-one interaction possible for any student with software access and the equipment to run it.

When multimedia resources are all linked together in a well done manner, language learning sees certain benefits. Foremost, the spawned learning environment is vastly more genuine. Auditory and visual cues, simultaneously acting, have a real world feel. Skills are more easily accepted due to the glut of media with the ability to fuse reading, writing, speaking and listening into a single activity. Students exercise more command over their personal learning with the power to learn at a pace suited to them and investigate their

progress in real-time. The freedom of choice allows students to additionally jump between parts of the programme depending on their whims, review past lessons and skip some altogether if they wish. One of the biggest advantages is that hypermedia has a primary target of content and an auxiliary focus on language form or learning strategies. To put this in perspective, while a student is studying the main lesson, he or she can also connect to an assortment of background links at the same time. These will permit accelerated access to other sections they may wish to study or encourage an appropriate learning strategy be adopted (Loykaew, 2007 cited in DOKUR, 2008). The proper use of visuals can improve the quality of learning, claims Leavitt (2006). An integration of text with accompanying visuals can direct learner's attention to information, characteristics or steps of particular importance, and potentially increase student comprehension. Humans tend to learn better from text and visual sources together, so generally the materials that present information in this format will have a greater chance in improving learning. It should be noted that visuals improving thinking patterns and enhancing learning only occurs if they work together with the learner's cognitive system (Schnotz, in Okan, 2003).. A learner with a higher than average background knowledge on a new subject will not be as affected by visuals, whereas those with little to no prior knowledge may benefit more from visuals, especially in complicated subjects (Carney & Levin, in Okan, 2003). Multimedia itself cannot assist in learning. Only if the learner is cognitively active will multimedia be worthwhile.

### 2.5.4. Educational Technology in ELT

As mentioned in Section 2.3, throughout its history, foreign language teaching has been speckled with forms of technology in language classrooms. Archaic examples include the blackboard, which nearly all teachers preferred at a certain point in history and was a commonplace tool of education technology. At the time, it was the perfect vehicle for one-

way instruction – teachers wrote out grammar rules and students translated on it. The overhead projector was the next technological milestone, and acted more as a supplementary tool as opposed to completely supplanting the blackboard. This was a piece of machinery, again, more suited for a teacher-dominated classroom. The 1970s and 1980s saw the coming of language lab lessons, in which learners had many opportunities to use drills and repetition exercises considered to be invaluable for oral skills. In light of this, the audio tape quickly became the ideal choice for teachers who subscribed to an audio-lingual method (ALM) of teaching. This is the belief that students learn best through constant repetition in the target language. However, this method was severely criticised when subsequent poor performance of ALM students in language labs came to pass.

In this section of the review, the basics of Educational Technology with its definition and history were covered. Also analysed were more specific aspects like how it works, educational technology's impact on learning, and its role in ELT. My conclusion at this point that the relevant literature suggests that technology should be considered to be a tool with different modes that enhances the input presentation (Clark, 1983; Mayer, 1997). In the next section, I continue the theme of technology, and discuss its effect on foreign language development and its historical connotations.

## 2.6. The Impact of Technology on Foreign Language Development and the Study

I suggest that it is currently self-evident in public spaces that access to these information, data, and ideas is at the tip of our fingers. This easy access has tremendously shaped almost all facets of human enterprises like economics, politics, and research. Language education is not exempted as shown by different researches such that of Bush

(1997), Lee (2000), Warschauer and Healey (1998), Galavis (1998), and Kremenska (2007).

Based on my own experience of learning a language in school and then teaching in higher education, it appears that the old 'chalk-talk' system where the teacher writes on the board using the chalk and talks to the students is now an outdated style of training and studying the English language in Turkey. The option is now open for students to learn outside of the classroom, without text written on a chalkboard or verbal instruction by a teacher, by accessing the Internet on their own. Moreover, more often than not, students partially already know what the teacher is teaching because of prior knowledge gained from use of the Internet. In other words, digital access means that before a teacher teaches, learners have already learnt something of the topic independently.

In brief, within the context of my study, members of the present student generation have greater access to visual and aural resources in the learning of the English language because of technology. Such access has a significant bearing on EFL pedagogy.

This study seeks to throw more light on the impact of technology on foreign language development, particularly, the English language development. Particularly, its goal is to probe the direct response of Computer-Assisted Language Learning (CALL) on the English vocabulary learning of students of Turkish origin, and to extract significance for its pedagogy.

It is important to relate the overall concepts of technology and how it affects foreign language development to this study itself, which is what has been done in this section. I have touched very briefly on it and have begun to look more specifically at implications of the literature for my study. The next section is allocated specifically to the appearance of Computer Assisted Language Learning in the literature.

## 2.7. Computer Assisted Language Learning

CALL is a large focus of this thesis. I will first focus on the basics, such as the definition and nature of CALL. I will then deeply dissect CALL as it was before the internet, and how it has transformed since its invention.

## 2.7.1. What is Computer Assisted Language Learning (CALL)?

Computer Assisted Language Learning involves using a computer to expedite effectiveness and to further a number of aspects of the language learning process. CALL programmes come in many forms and with a variety of features, such as the language to be learned, the language of instruction, by what method it will be delivered, optimal skill range, the subject (grammar, informal conversation and pronunciation) and specifics of the approach used when teaching.

**CALL Related Acronyms:** The field of CALL uses many acronyms. The primary acronyms are as follows:

CALL : Computer Assisted Language Learning

CAI    : Computer Assisted Instruction

CAVI  : Computer Assisted Vocabulary Instruction

ICALL : Intelligent Computer Assisted Language Learning

CELL  : Computer Enhanced Language Learning

TELL  : Technology Enhanced Language Learning

WELL : Web Enhanced Language Learning Figure

All these terms may seem identical and interchangeable, but the distinguishing factor amongst the acronyms is the amount of focus allocated to the computer as part of the language learning process. CAI disregards the subject matter entirely, and refers to using a

computer for general education. ICALL is a combination of techniques from Artificial Intelligence and Computational Linguistics with the intent of bettering CALL operations. WELL is precise in that it concentrates on Internet usage in the course of language learning, being more definite than CALL, but will involve a greater part of CALL territory as computer technology moves toward a more Internet-focus. CELL and TELL are largely similar to CALL, and differ mostly in name only. Throughout this chapter, CALL will be used as a general term to cover all of the above, unless otherwise stated. (LAN, 2015). Lan (2015) describes all possible acronyms in his study. But I describe in my study the most common term used in the field.

## 2.7.2 History of Computer Assisted Language Learning (CALL)

In this section, I will primarily examine the definition of CALL. Once a firm interpretation of the term has been established, I will delve into the history of CALL, specifically, how the concept has changed, before and after the introduction of the Internet.

Computer – Assisted Language Learning, abbreviated to CALL, is defined as 'the search for and study of applications of the computer in language teaching and learning' (Michael Levy, 1997, p. 1).

English Language Teaching is constantly evolving, and since its inception, it has seen numerous paradigm shifts. As each of these shifts occur, a new teaching approach emerges that presents a more modern-day ideology, and better reflects the needs of the students and teachers (Lee, Jor, & Lai, 2005). According to Warschauer and Healey (1998) CALL is a prime example of the development and advancement in contemporary language learning and teaching. The practical applications of CALL in an educational atmosphere have seen

stark changes with the arrival of the Internet (Mark Warschauer & Healey, 1998). Thus, I have separated its history into these two periods, before and after the Internet, and explore them in detail below.

### 2.7.2.1 Prior to the Invention of the Internet

According to the Warschauer and Haealey (K. Lee, 2000; Mark Warschauer & Healey, 1998), the history of CALL spans forty years and has three distinct stages: behaviourist, communicative, and integrative CALL.

It began in the 1960 with behaviourist CALL and the drill-and-practice method being commonplace, such as the Programmed Logic for Automatic Teaching Operations (PLATO) Project which used the TUTOR language to conceive materials and the Time-Shared, Interactive, Computer Controlled Information Television (TICCIT) that used its own integrated instructional system by blending television technology and computers.

The Control Data Corporation and the University of Illinois created PLATO (Programmed Logic for Automatic Teaching Operations). This system dictated which supplementary materials should accompany a teaching programme, such as visual graphics, learner-based audio input and a flexible response analysis (Chapelle, 2001). Levy suggest that with its ground breaking features, it would not be ludicrous to declare that PLATO had set the groundwork for teaching methods and materials still used today, and that CALL itself may have begun with this system (Levy, 1997).

Meanwhile, the Mitre Corporation together with Brigham University developed TICCIT (Time- Shared, Interactive, Computer- Controlled Information Television) (C. Chapelle, 2001). TICCIT possessed the capacity to merge text, audio, and video as a supplement to

learning. For this reason, this system may have been the first case of the use of multimedia in computer-assisted instruction (CAI). The most impressive trait of the TICCIT system is that the learner has complete control over how they learn. This system goes beyond simply choosing the content to learn, but also includes the method of presentation and delivery (Michael Levy, 1997). Instead of being one blanket system that was intended to be universally effective, TICCIT allowed users to tailor their language-learning experience to their own preferences.

Despite their reputation of drawing the blueprints for CALL studies, these innovations were still restricted by their place in time. The 1980's were bound by archaic computer technology and equipment, inadequate professional organization and very primitive existing research in the field of applied linguistics. Therefore, these systems were objectively unable to reach their full potential (C. Chapelle, 2001).

As the availability of microcomputers became increasingly widespread, CALL matured into a more personalised form. This can be explained by microcomputers being capable of a physical state of separateness and independence from a mainframe computer, which were typically owned and maintained by a business or university. That meant that this opened up a world of control in the hands of the learner. Learners now had a choice of materials, and endless opportunities to retry if they were incorrect or desired a review. Additionally, it provided the convenience and freedom to work at one's own pace (Benson, 2001).

It was fortuitous that certain academic methods of language learning were making their mark at the same time that technology as a whole was beginning to flourish in 1973 - a time when microcomputers were being invented (Michael Levy, 1997). These methods

include Total Physical Response (Asher, 1977), Community Language Learning (Curran, 1976), and Communicative Language Teaching (Michael Levy, 1997).

Some researchers criticize CALL environment because it tends to be short, repetitive, lacks structural complexity, and provides only limited language use (Windeatt, 1986). Despite the criticism there are substantial advantages in using CALL reported in the literature. Among these are: authentic materials for study which promote cultural and social learning; satisfying human needs in the affective domain, such as a pressure-free environment and motivation; greater interaction; instant feedback; time saving; self-paced learning; and, enhancing student achievement. Moreover, CALL provides input to both conscious and unconscious learning processes (Kang & Dennis, 1995; K. Lee, 2000; Nagata, 1998; Pennington, 1996; Shelley et al., 1999).

In view of the preceding discussion, despite some of the criticism levelled, my hypothesis in this study, confirmed by my findings, is that CALL can be especially beneficial to EFL students, in general, and to Turkish EFL students in particular, specifically on vocabulary acquisition.

### 2.7.2.2 After the Invention of the Internet

CALL entered into the next technological era alongside the Internet, the latter considered an enormous asset to the former, by supplying a way for users to obtain information, and a means to communicate and publish this information (Pritchard & Cartwright, 2004).

For the purposes of this thesis study, CALL was used to assist in crafting a classroom environment in which learners had opportunities to develop autonomy. Synchronous and asynchronous CMC tools were used both inside and outside of the class.

Synchronous CMC tools are those that permit communication in real-time and simultaneous collaboration despite different geographical locations. These have the benefit and convenience of connecting people instantly in the same point in time. Due to this advantage, it is particularly useful in group and collaborative work especially those involving participants from other parts of the world. Its reliability is unrivalled when it comes to time-sensitive issues that demand instant feedback or information exchange (Wang & Gearhart, 2006). A couple notable examples are instant messaging and Internet conferencing. Semi-anonymous chat environments such as these are much more welcoming and carefree than being in a traditional classroom.

Asynchronous tools, on the other hand, involve communication and collaboration over a range of time in different time spans and varying locations. These tools allow people to connect at each person's own personal schedule and when it is convenient for them. In situations when immediate feedback is not required, asynchronous communication is found to be more practical. The learning of tasks that require focused discussion, reflective thinking, and negotiation for team solutions benefited the most from this style of communication (Wang & Gearhart, 2006, p. 23). In cases with ongoing dialogue and collaboration over a period of time, asynchronous tools enable the meaningful resources and information to be available at any time. They also have the advantage of being able to keep track of the interaction history between groups. Whenever it is needed, this collective knowledge can be easily reviewed, shared and distributed. The most common forms of asynchronous tools are e-mails, discussion forums and blogs. Blogs are now being used regularly in language classrooms for a variety of purposes, which are dictated by the needs of the students. Moodle is an example of a system that combines all the potential facilities of CALL, and is used in this study.

In summary, many projects have been launched between the 1960s to the 2000s. The highlights and those that have made the biggest impact have been explained above. These particular projects outshone their competition and stood the test of time because of their sophisticated and adept construction. Many of today's similar concepts are actually advancements and results that have built off of these projects. These improvements are now much more refined and available to a much wider spectrum of people.

Drawing mainly on Dawley's 2007 work, this expansive chapter looked at the history of CALL, from its humble roots before the Internet and its intensive capabilities after the Internet. The Internet opened up a wide variety of methods to enhance the language learning and teaching process. The forthcoming chapter will debate the advantages and disadvantages of using CALL in language distribution specifically in Turkey.

## 2.8. Advantages and Disadvantages of Computer Assisted Language Learning

### 2.8.1. Advantages of Computer Assisted Language Learning (CALL)

Educators have fully recognised that using computer technology and its accompanying language learning programmes have astounding advantages such as being able to create independent learning environments and overall convenience (Kung, 2002). Digging deeper, one can also reason that it can motivate students to learn, increase interaction on all levels of the hierarchy, and boost global understanding among other things (K. Lee, 2000). CALL provides multisensory input with a glut of visual and audio materials. Multiple Intelligence Theory (MIT) is a notion that maximising learning outcomes can be done by working in tandem with the organic way the brain processes, stores and retrieves information.

A computer-assisted language learning programme can be used in this fashion, assuming it is well-developed. Computer technology nowadays can offer real materials and turn education into enjoyable games and interactive activities that alleviate the stress and anxiety of learning. Lessons can then be repeated at one's leisure, or if the activity was particularly enjoyable, purely for fun. This enriched environment that computers can create for students helps foster a positive attitude towards CALL, and make them more receptive to future CALL programmes. The use of CALL tutorials and tools inside and outside of the classroom provide new circumstances to promote language development. This is achieved through developing reading, writing, comprehension and speaking talent in combination with grammar, pronunciation, and vocabulary knowledge.

There is an infinite number of sources, materials and supplements that can be harnessed by learners to strengthen the basis of their language learning, whether by targeting a specific skill one at a time or absorbing the language as a whole. Computers are able to assist students in three ways to advance their reading ability. These are incidental reading, reading comprehension and text manipulation. The first two concepts are straightforward, but text manipulation refers to learners studying a text for content and structure, and then completing related activities and traditional comprehension questions correctly (Jones & Fortescue, 1987). Healey (1999) adds that computers may be advantageous to build more advanced reading skills found in native speakers such as skimming and scanning a text, recognising details and main ideas, topic sentences and predicting a word or theory which comes next. Computers have made everyday life easier, but they can also for this reason enhance writing skills. Word processing programmes, for example, automatically scans for spelling, punctuation and sentence structure errors, and notifies the user of them. This is a form of automatic feedback in a way, where a learner

can see immediately what they have done wrong, and what the correct form is. Through the use of diverse complementary communicative and interactive activities, computer technology can strengthen linguistic abilities, direct a student's attitude toward learning, motivate, and encourage self-instruction and self-confidence. Grammar and vocabulary is commonly seen as a dull part of language learning, but CALL can make these mechanical exercises and tests more engaging and interesting than what can be done in a normal classroom. Even a simple animation of a smiling face for a correct answer, or instant feedback with encouraging words like 'Try Again, Not correct' for incorrect ones can motivate students. When students receive prompt, automatic feedback like this, it tends to have a positive impact on their self-esteem, which in turn effects motivation. This may not be feasible in classrooms as teachers are on a schedule and must cover all the subjects in a syllabus within a predetermined time. It would be much too time consuming for a teacher to correct a single student's mistake each time, and to do it for every student.

Constant negative feedback like this may also discourage the student. Unlike books and audio media such as tape and CD recordings, computers have the unique ability to provide two-way interaction with the students (Kenning & Kenning, 1983). They are able to analyse mistakes and react in real-time, which in turn leads the learners to correct themselves and understand the principles right there and then before moving on. In terms of testing, CALL possesses a number of benefits in terms of administration and human considerations. Test administration through the use of computers preserves the security of tests and has the potential to be more cost-effective yet still maintaining an impressive degree of reliability. IRT (Item Response Theory) coupled with computer-adaptive testing enables flexibility and customisability, since it is able to personalise the complexity of the questions according to the test takers proficiency. Computers were designed to be more

accurate than humans. Therefore, it is a more accurate assessment of the test-taker's language proficiency when scoring and reporting the results. Diagnostic feedback is able to be produced instantaneously to each individual student about his or her erroneous answers. If artificial intelligence is utilised, this feedback can be amply descriptive and effective (Baker, 1989; Bunderson, 1988)

The human considerations include granting learners the ability to work at a pace they are comfortable with. Over traditional paper-and-pencil tests, computerised tests customarily take less time to complete and are consequently more time efficient (Craik et al., 2001; Kaya-Carton, Carton, & Dandonoli, 1991; LAURIER, 1996; Madsen, 1991). This is especially evident in computer adaptive tests, as the numbers of items that students need to complete are condensed, since the computer plans questions automatically based on the test taker's aptitude (Fulcher, 2001). Again, when comparing against printed test takers, computer-assisted test takers consulted to grammar references twice as often and showed higher scores in the achievement test (García & Arias, 2000). Students tend to experience less frustration in computer adaptive language tests since the test items are tailored and appropriate to their own skill level. In paper-and-pencil tests, typically one test is administered to all based on a perceived skill average, of which some students fall below this level. Computerised tests may also be seen as less stress-inducing since the questions are presented gradually – one at a time – so the student can fully focus on the item at hand.

This is compared to paper-and-pencil tests where potentially hundreds of test items can be observed in an intimidating, lengthy test booklet. Many students use computers for recreational purposes, and this positive connotation with computers carries over even when

taking a test and a surprising number find the the testing process enjoyable (Stevenson & Gross, 1991).

Computer technology and CALL tools enable students to carry out independent studies outside of the classroom at their own leisure with interdisciplinary and multicultural learning opportunities. It can be accessed 24 hours of the day, 7 days a week, and is packed with stimulating multimedia, simulations, games and interactive input. Some of the more abstract concepts and cognitions that are too complicated to vocalise or conceive in second or foreign language learning, computers are able to offset this by showing a visual image on the screen. It has been reported that the 'interactive visual media which computers provide seem to have a unique instructional capability for topics that involve social situations or problem solving, such as interpersonal solving, foreign language or second language learning' (D Nunan, 1999, p. 26). Computers coupled with their language learning programmes can possibly inflict greater independence from classrooms for learners. They are able to create 'virtual classrooms' that is a learner's own personal space to work that can be used at any time and as frequently as needed or desired.

By providing a suitable environment, the necessary materials and a sense of privacy for all students, computers are equally as effective with slow learners as fast learners. Every student can complete tasks in their own time without feeling anxious about falling behind, or frustrated and bored by needing to wait for others to catch up. This technology provides a less threatening, stress-free learning environment. In that same vein, shy and inhibited students have the potential to greatly benefit from an individualized technology-learning environment, as they will not be overshadowed by grander or more outgoing personalities. High-achieving learners can progress at their usual accelerated pace and reach even higher levels (M Warschauer, 2004).

I have found in my own work and in the work of instructors in Turkish universities in which I have experience, that there is a tendency among most students to be more comfortable expressing themselves online. In a classroom with face-to-face communication, some may feel pressure to be certain to give the correct answer, or simply fade into the crowd and let others dominate the discussion. I suggest that a more relaxed atmosphere always has a beneficial impact on motivation for the students, and improves learning outcomes as students function better. According to findings by Robertson et al. (1987) learners that enrolled in computer-assisted language learning programmes proved to achieve a considerably higher rating in self-esteem than their peers. MIT, used in conjunction with the all-encompassing capabilities of computers, can wholly dismiss the psychological, physiological and behavioural effects of stress (Yemenici & Teele, 2006). An enriched environment – one flooded with interpersonal communication, multiple assessment methods and music – has a thorough impact on physiology.

The cerebral cortex of the brain, when stimulated by an environment, can grow (Diamond & Hopson, 1999). Conversely, boring environments and deprivation cause pruning, which has a prevailing impact on the sections of the brain accountable for learning and memory. This may suggest that enriched learning environments give rise to higher intelligence, long-term retention, and maximised levels of learning.

These learning environments, paired with conventional second language classroom study, allow the instructor to concentrate efforts on areas of the language teaching where computers fall short, such as pronunciation, spoken dialogue, and training for essay writing and presentation. Students learn more independently and require less teacher intervention,

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which opens up a wealth of free time for the teacher to adjust the lesson plan (Roger, 1996).

Theorists in both the cognitive and humanist fields agree that practising, experiencing and experimenting with the target language is crucial for students' learning. According to experiential theory educators, learning encompasses a comprehension of the world through reinterpreting knowledge. It is how one makes sense of information, extracts meaning and relates this new knowledge to everyday life (Ormrod, 1999). When the target subject is highly relevant and applicable, greater goals are reached. Computer technology, when combined with the Internet, produces a 'global village' whereby students can acquire huge amounts of human experience.

The learners are not just receiving knowledge, but also creating it. As Lee (2000, p. 5) puts it, 'as the way information is presented is not linear, second language learners can still develop thinking skills and choose what to explore.' As learners' master autonomy and take control of their own learning, they expand their personal views, opinions and experience. Additionally, they gain skills helpful to survive in the real world. Technology and language learning are cyclical, in that technology is a tool for language learning, and language learning is a means to use technology. However, both are tools for accomplishing individual and overall society development (M Warschauer, 2002).

## 2.8.2. Disadvantages of Computer Assisted Language Learning (CALL)

Computer technology, while a breakthrough in the field of education, is not without its shortcomings. First, I will focus on the financial aspect. Computers themselves are expensive pieces of machinery, and the attached language learning programmes are not

without cost either. When computers are made to be a mandatory part of a course, necessary for students to access lessons, complete homework, and submit assignments, those students from low-income families are those that suffer. They will not be able to afford the software, let alone the computer, and schools with reduced budgets may not have the resources to offer a suitable computer lab. This can cause unbalanced educational conditions for schools and students from the low-income end of the spectrum.

Then it comes to knowing how to use the hardware and software in the first place. Unless both the teacher and the students have a base level of computer literacy, the forecasted success of the programme will not be attained. If either party lacks the basic aptitude, a training course should be offered that instructs on the proper use of computer technology. Computer incompetence can lead to a negative stigma toward computers, and by extension, language as well.

Technical problems with the software are bound to arise, and teachers should be able to compensate for this. This is their responsibility, not the student's. Though technology advancement is impressive, it is still not perfect, and teachers should be prepared for the programme's shortcomings and restrictions. Computers have difficulty with unexpected situations or complex language input, so teachers should be aware when trying to make adjustments. In today's ever-connected world, programmes also rely heavily on connection to the Internet. With the way HTTP (Hypertext Transfer Protocol) works, by clicking on a page, one is sending a request that must travel back to the original server. If this particular server is busy, it can result in a noticeable and frustrating delay on the user's end. (Hubbard, 2010).

Cheap or older computers also suffer from poor graphical capabilities, causing them to run sluggishly, present multimedia inaccurately, or not at all, which should be considered for tests that use even basic graphs or animations (J. D. Brown, 1997).

Despite the number of reforms that have been put into place in the past decade, the process of rooting CALL into mainstream curriculums in Turkey has been stunted. Meanwhile, an increasing number of private institutions have implemented motions to use computers for learning. They are doing this by providing opportunities for distance learning, or simply integrating CALL tools, websites and CMC tools like e-mail.

This section outlined the prevailing advantages and disadvantages of using computer assisted language learning. Technology and computer assisted language learning in the specific setting of Turkey are analysed next.

## 2.9. Integration of Computer Assisted Language Learning (CALL)

The preceding discussion reviewed studies about vocabulary acquisition; this part of the chapter will turn to the question: 'How new technologies can be successfully integrated into the curriculum?' This is a question that Salaberry (2001, p. 51) trusted the pedagogical potency of various technologies is related to. The CALL is one of those fields where various attempts are made to fit information technology into the existing educational system. Salaberry (2001, p. 51) indicates that English language teachers try to teach new vocabulary in most of their lessons. In turn, their students spend a lot of time trying to learn new vocabulary words. It must be noted that this approach doesn't guarantee a favourable impact on the students' vocabulary learning. Admittedly and regretfully, many students simply do not learn new vocabulary. This is one of the reasons why I have chosen

to explore the way CALL applications affect vocabulary acquisition in university aged students in Turkey. The succeeding studies presented below show that computer applications bestow satisfying effects on the vocabulary scores of second language learners for students who work with the multimedia programmes exhibit higher retention of vocabulary; students' motivation for learning sees an improvement with computer-assisted instruction; and, the interactive nature of using a computer to work contributes to an autonomous feeling within the student, which provides the vocabulary learner with an authentic learning environment.

In the study of Johnson (1986), he observed thirty-eight first-grade and second-grade Spanish-speaking students to examine the impact of using the computer as a learning apparatus for vocabulary, reading, and writing. Conclusions revealed that computer technology has beneficial effects on the vocabulary, reading, and writing scores of second language learners. Additionally, Kulik and Kulik (1986), in their analysis of college-level computer-assisted learning, observed that students in the experimental group needed only two-thirds as much classroom instructional time as did students receiving traditional instruction.

The study conducted by Lyman-Hager, et al. (1997), moreover explored the effect of multimedia applications on vocabulary learning. The study consisted of two cohorts: the first read an excerpt from a story with a computer and the second read the same story using conventional printed texts. Both cohorts had glosses at their disposal. Furthermore, the computer cohort had access to multimedia annotations, but the traditional text group only had access to a traditional book with a gloss whose definitions were identical to those available to the computer group. Participants were tasked with writing a piece recollecting

a story they were given immediately after they had completed reading the story. After this in precisely one week's time, they were required to take a vocabulary test. Results demonstrated that individuals who worked with the multimedia programme exhibited higher retention of vocabulary than students who worked with the traditional printed texts.

In the study on the acquisition of Japanese vocabulary of fourteen students in a second-semester Japanese course at the University of San Francisco, Nagata (1998) reported that the two groups (input-practice and output-practice) had positive responses towards CALL (e.g., fast feedback, lower anxiety, etc.). Conclusions showed that students' motivation for learning also improved with computer-assisted instruction, where 'the interactive character of working on a computer offers the student a feeling of autonomy, control and skill' (cited in Dunkel, 1990, p. 42).

The study by Levine, Ferenz, and Reves' (2000) demonstrated that students who were exposed to the multimedia programme displayed a better recollection of vocabulary over those students who dealt with the non-computerized text. Bar-llan University students in two classes of English proficiency Advanced One level were the subjects of this study. They took a four hour per week yearlong course. There were also two classes of Advanced Two level students who took a two hour per week course that was a year in duration. The experimental group (16 Level One and 13 Level Two) studied in a computer-based class whereas the control group (16 Level One and 13 Level Two) was taught in a traditional classroom setting. Subjects and texts, it should be mentioned, were all delivered in the same format. The experimental group demonstrated markedly higher averages on vocabulary recognition skills than the control group. Levine, Ferenz, and Reves' (2000) found that computerized learning environments affect EFL reading abilities to more

substantial levels than the traditional atmosphere. It provides the vocabulary learner with an authentic learning environment.

Groot (2000) conducted a study on subjects spanning from senior high school to first year university freshmen in Dutch. The participants of the study were presented with words either in the experimental group (using CALL) or the control group (using a bilingual list of words). His conclusion was that those in the experimental group scored higher than those in the control group. Results showed that this was true both on the post-test and the retention test.

Sanchez (2006) researched on the use of simulation technology in the classroom. The study utilized virtual field trips (VFT) to determine whether they could provide students with artificial experiences that effectively resemble real world situations. Providing students with synthetic experiences in which to encounter vocabulary words within their appropriate context, Sanchez (2006) posited that virtual field trips was possible to increase their ability to learn vocabulary. Important questions that guided her research strategy included Will VFT significantly increase performance on a vocabulary test and also in a writing sample? Will students report higher levels of self-efficacy when they have used the VFT, and will they be more motivated to learn? These kinds of questions were mirrored in this present undertaking as a research strategy. In order to determine the effectiveness of synthetic learning environments (SLE) in vocabulary acquisition, Sanchez postulated and executed a methodology as follows:

Hypotheses 1: Students who use VFT will acquire more vocabulary words than students who watch videotaped stories about field trips.

Hypothesis 2: Students who use VFT will demonstrate greater long term retention of vocabulary words than students who watch video-taped stories about field trips.

Results of the study of Sanchez did not indicate an increase in vocabulary acquisition, though the type of word knowledge measured by a matching task similar to the type used in the vocabulary test has been considered to be a receptive test citing Nash and Snowling (2006).

Furthermore, results did indicate that the VFT's rich experiential learning environments filled with appropriate contextual and semantic cues increased the general knowledge of vocabulary words as shown in a writing exercise. In sum, an increase in words known at a deeper level is indicated. The study concluded that students using virtual field trips learned words more deeply when this learning was embedded in contextually appropriate semantic information.

The research of Qing Ma and Peter Kelly (2006) focused on the infrastructure and assessment of the computer-assisted vocabulary learning (CAVL) software WUFUN. The study derived modern research data on vocabulary acquisition and CALL, endeavouring to help Chinese students at the university level to enhance their learning of English vocabulary, especially in those areas where they experience most difficulty. In this research, a design model of CALL efficacy was manufactured to protect the quality of vocabulary learning in CALL programmes. The model was employed in the design of the WUFUN software.

Lastly, the pilot results of the software appraisal were announced and debated. When the prototypical CALL unit was ready, Ma and Peter Kelly (2006) performed a trial study in a Chinese university to gauge the new unit. The study was administered as a pre-test and

post-test design in conjunction with questionnaires and an interview. Their research questions were as follows:

1. What is the learning goal of WUFUN? With specifics to what extent will WUFUN help Chinese students learn vocabulary recognised as complicated at the receptive and the productive level in two different settings: individual use and classroom use?

2. Are learners likely to develop vocabulary learning strategies that will facilitate vocabulary learning in the long run in the two different settings?

The participants of the research comprised of first year students at Three Gorges University in Yichang, China. Every single student came from various specialisations that did not include language, and were low intermediate learners who possessed a vocabulary of 2,000 − 3,000 words. At first, researchers wanted to bring in additional subjects, however, due to unforeseen practical setbacks, only thirty-five subjects were entered and split into two groups and studied. Group 1 (G1) consisted of seventeen students who volunteered to participate after a brief introduction to WUFUN. Group 2 (G2) consisted of eighteen students who participated in the experiment in a computer room as a self-learning class. This group was required to participate in the study by the teacher. The researchers chose two test formats for the receptive knowledge test: the receptive recognition test (lowest strength) and the vocabulary level test of Laufer and Nation (1995).

In the productive knowledge portion of the test, researchers utilised the controlled active vocabulary test of Laufer (1998), closely mirroring the equivalent of the receptive recall test for the second highest strength of word knowledge. A pre-questionnaire was administered prior to students using computer software to collect data regarding the subjects' vocabulary learning strategies and their outlook of the software (WUFUN). Multiple-choice questions were used for the most part. A post-questionnaire was

administered after software use. The goal of this was to ascertain to what degree the students felt fulfilled after experiencing the WUFUN software, and to collect their feedback and recommendations. The experience process was linear and included eight stages: pre-receptive test, pre-productive test, pre-questionnaire, software use, post-questionnaire, post-receptive test, post-productive test and an interview. Due to practical limitations, the interview portion was only open to Group 1 and was not used with Group 2. The pre-questionnaire served to provide transparency when it came to the student profiles.

Additionally, a comprehensive analysis of the quantified results disclosed aspects of the students' learning habits and attitudes toward CALL programme learning. When dealing with vocabulary learning, the most typically used rote techniques were complemented by routine audits. The mode involving mainly listening was used by the fewest number of students. The conclusions with regards to the previously mentioned question on the learning outcome of WUFUN was, using the software; students were able to learn vocabulary favourably and effectively, even words regarded as challenging. What's more, the rate of useful learning is greater for both groups. On the contrary, the outcomes for the second research question were that learner interpretations in both cases were generally acceptable even with the constraints that were hard wired into the software. The majority of students stated that they would use the software if more units were developed.

In light of the studies mentioned, again, I propose there is a great deal in the research literature to suggest that CALL will have a positive effect on vocabulary acquisition and on motivation for the Turkish learners. Student's motivation is always a major goal and also a challenge for educators essentially so that they will enjoy learning language. Copious past studies that examined how Computer Assisted Language Learning has been integrated into

classrooms was detailed in this segment. Coming up, I will summarise past relevant literatures on the topic of vocabulary acquisition, which is the  feature of language pedagogy in which my main interest lies.

## 2.10. Literatures on Vocabulary Acquisition and CALL

As discussed above in chapter 2.2, vocabulary instruction and knowledge plays a significant part in language learning. According to Stern (1983), as cited by Laufer (1997), though vocabulary acquisition had been unjustifiably neglected for years, now it is firmly rooted in belief as integral to the second or foreign language acquisition process. For the last thirty years, vocabulary acquisition has evolved into a major aspect of second or foreign language teaching and learning.

Furthermore, a large body of research on almost every aspect of vocabulary acquisition has been carried out over the past two decades resulting in the generation of many books and papers.  Among them are the studies of Nunan (1989) on task, Hatch and Brown (1995), Oxford (1990), and Nation (1990) on examinations and approaches of vocabulary acquisition, Gu and Johnson (1996) on vocabulary acquisition via reading activities, Joe (1995) on acquisition conditions of vocabulary, and Krashen and Cho (1994) on methods and strategies of vocabulary learning. However, it is my observation that there is a gap in research in the area of technological support, such as CALL. Since such research remains inadequate, I wished to explore this area further through the present work.

This section of the literature review, I have indicated that there is a lack of analysis and literature on the explicit topic of vocabulary acquisition and Computer Assisted

Language Learning. In the coming portion I will briefly focus on Computer Assisted Language Learning (CALL) and Motivation

## 2.11. Computer Assisted Language Learning (CALL) and Motivation

Maslow (1943) presented the case that humans feel motivated to attain particular needs. Once one need is satisfied, the inclination is strong to satisfy the next, and so forth. Maslow's model of motivation indicates five levels of needs; physical needs at the bottom, then safety needs, social needs, esteem needs (the need for success) and self-actualization needs (to better oneself) at the top. Kelly (2006, cited in Kremenska, 2007) deliberates on this model, putting ELT as a self-actualization need and thus at the top, and defines motivation as 'motion towards goal' as shown in figure 2.1 1 below.

**Figure 2. 2: Motion towards goal**
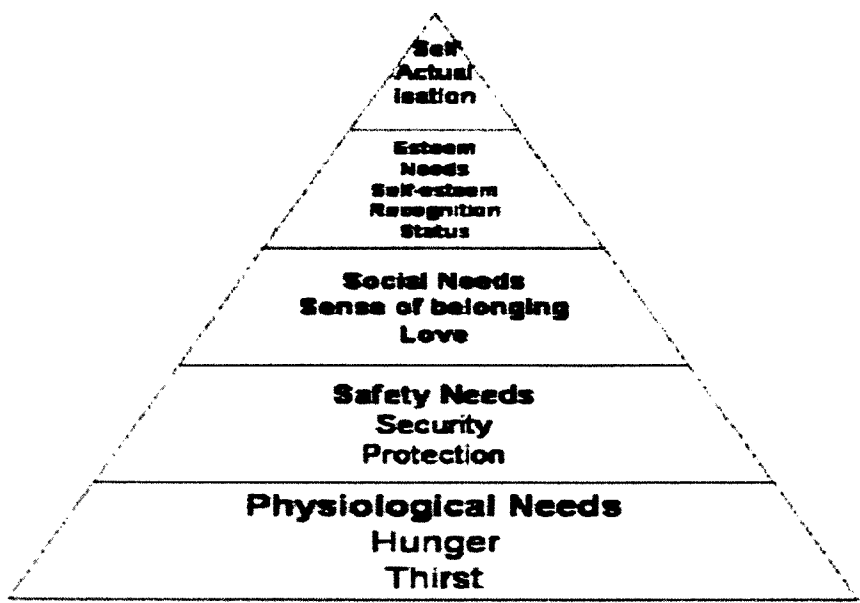


Mark Warschauer (1996b) worked on the motivational advantages of a student using computers for writing and communication of second language. There are two

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specific facets of computer-assisted language learning: using a computer for writing and communication purposes and Computer-mediated communication (CMC), such as word processing software which harnesses the computer like a tool instead of merely a vessel for educational material. He indicated in his study that students thought that computers can assist in learning better and more independently. He also found out that by using computers, students felt that they can learn faster, exhibited higher levels of creativity, and wrote quality essays. Additionally, they experienced greater authority over their studies and more opportunities to practice English. He pointed out in his study that the language student, regardless of their gender, their level of skill at typing, their personal experience with computer technology, exuded a positive demeanour with regards to writing and communication via computers in a language classroom. This holds true in both second and foreign language classes.

On the other hand, Maslow (1943) claims that teachers may have a hand in improving student motivation by helping them increase their understanding and skill on computer use, providing sufficient opportunity to use electronic communication, and delicately incorporating computer activities into the normal format and objectives of the course.

Moreover, Keller (1983) proposed that the four conditions: attention, relevance, confidence and satisfaction (ARCS) must be met for a learner to be motivated. Keller (1983) suggested that the ARCS conditions happen as a consecutive process. Teachers should foremost capture the learner's attention, and then relate the subject material to the learner's personal goals and needs (Kremenska, 2007). The learner receives a confidence boost as the learning process is made clear to them. The gratification of having new knwoledge encourages the learner to carry on with their training (Driscoll, 1994). Because

each component of Keller's ARCS model builds upon the next model, the teachers should keep all four components in mind when designing instruction (Mark Warschauer, 1996b).

There is a bevy of research that has been accomplished in the field of motivation when it comes to learning a language. Many researchers agree that motivation is believed to be one of the prime determinants in forecasting the success of learning a language (Oxford & Shearin, 1994). Motivation can be defined in one way as the willingness to expend effort with the purpose of achieving a goal (Johnson, 1979, p.11; cited in Schmidt, Boraie, & Kassabgy, 1996). Many researchers initially regarded motivation as a single construct, but when they delved deeper, it was discovered that it is actually a multi-factor trait. There are four types that I will be explored: instrumental, integrative, intrinsic and extrinsic.

Instrumental motivation is a result of the inherent desire of students to learn the target language. The will behind this is the straightforward motive of successfully passing examinations or progression in a social or economic sense. Integrative motivation, conversely, builds off of a want to partake in language learning because the learner is actually intrigued by the target language. This does not limit itself to just an interest in the language, however, as learners can also be inspired to learn based on the target language's culture or peoples. Extrinsic motivation is a style of motivation that comes from a desire for an external reward that is offered. This reward is usually material goods or cash, but could also possibly be self-actualisation rewards like recognition amongst peers. Intrinsic motivation is when one finds a reward in doing the activity itself, such as a sense of accomplishment or fulfilment. Both intrinsic and extrinsic motivations models are well known in the world of psychology (Schmidt et al., 1996).

The level of engagement in a learner's intrinsic motivational processes plays a pivotal functional role in cultivating their own autonomy (Ushioda, 2000, p. 121). This type of motivation is the default type that is brought to the learning process by students. It is heavily associated with the individual's own goals, and differs from person to person. The learner's personal interests, the subjects and activities they tend to enjoy, the knowledge they want to elaborate on, challenges they want to overcome and the specific skills they want to excel at are all vital parts of intrinsic motivation. This style of motivated learning is theorised to be contextualized learning. In this case, it is implied that skills are improved in a more natural context with regular practise (Ushioda, 2000).

The hypothesised positive effects of CALL on student motivation have been reported from a variety of sources. An extensive study has been done on the effect of computer assisted classroom discussion (CACD) on numerous factors, compared to face-to-face class discussion, amongst university-level L2 students. These factors included the available opportunities to participate in discussions, levels of motivation and anxiety, patterns in turn taking, and many others. These studies discovered that CACD motivated discussions that were student-initiated, more so than teacher-initiated discussion. Regardless of the personality differences in the students, there were also increased numbers of opportunities for greater output (Chun & Plass, 1996a; Kern, 2006; Mark Warschauer, 1996a).

Similarly, Warschauer (1996) observed students in technology-mediated L2 writing classes and hypothesised that their perceived notions of the possible benefits of Computer-mediated Communication (CMC) had an effect on their motivation in a positive way. These benefits ranged from a sense of achievement to enhanced future learning

opportunities. French learners at an intermediate levels showed extremely positive results when they perceived benefits in the linguistic, affective and interpersonal branches when using CACD (Beauvois & Eledge, 1995; Beauvois, 1994). An e-mail exchange done by college students studying the other country's language in the United States and Chile aimed to inform the students about the target culture. These student-driven dialogues seemed to motivate the L2 learners to write and share about the other's culture, but more importantly, to enjoy the interaction and correspondence on a personal level (Jogan, Ana, & Gladys, 2001). E-mail also has a way of lowering one's inhibitions, so students may have felt more inclined to write what they wanted in a more casual fashion than in customary L2 writing assignments. Sometimes it is possible to be immersed in a language and a culture simultaneously.

'Vroma' is a MOO environment consisting of a virtual Rome experience for the purpose of learning Latin. The participating students revealed their affinity for the programme. As a resource for learning the Latin language and culture, they found it to be a useful, satisfying and motivating resource (Gruber-Miller & Benton, 2001). Another study observed six college-level learners learning Japanese. Using a CALL programme, its goal was to examine the resulting role of motivation and attitudes while the students learned Japanese kanji. The results indicated several important points to note. First, that the students' motivation may have been affected by the contents of CALL. More significantly, one of the most influential factors in determining how successfully kanji was mastered was the students' attitude toward CALL programme, which was largely positive. While it is true that the sample size is startlingly small compared to other similar studies involving hundreds of participants, these findings support the argument in favour of the importance

of a student's positive perception for CALL to have increased effectiveness (Aacken, 1999).

There have been attempts on the part of L2 teachers to use diverse CALL activities to create technology-enhanced language learning (TELL) environments. One instance exhibited a TELL learning environment which lowered student anxiety level. The TELL environment effectively allowed students to enjoy the learning process in a more relaxed atmosphere without the usual stressors of peers and a traditional classroom. It is debated that the results clearly show that the TELL components motivated the treatment-group students to actively learn on their own, and also encouraged collaboration when outside of the classroom. It is speculated that this is one of the reasons the TELL group produced better quality writing assignments, in terms of longer and more complex writing, than the control group (Adair-Hauck, Willingham-McLain, & Youngs, 2000).

Research done on motivation presents us with the fact that it has a direct influence on how often students use language learning strategies. This, in turn, has a big effect on developing autonomy (Oxford & Shearin, 1994). A study done by Okado, Oxford and Abo (1996) in language learning measured the extent of the relationship between motivation and the usage of learning approaches. It showed that overall strategy use was significantly linked to intrinsic motivation, level of effort, and an inclination to use the language. Hence, it can be concluded that overall strategy use is directly associated with motivation and vice-versa. A supporting study involving over a thousand university students had the same results. This sample of American-based students immersed themselves in learning a diverse range of foreign languages. When examining the study methods used in language learning, the predominant factor that had the greatest effect was motivation level (Wharton, 2000).

In both of these studies, it is important to recognise that the higher the student's sense of motivation, the more they reportedly used learning strategies. Particularly with regards to intrinsic motivation, it is clear that the development of learner autonomy is strongly tied to motivation. It should be noted, though, that intrinsic motivation is not the sole component. Other external factors potentially influence learner motivation, such as the learning environment, the teacher itself, the tasks, materials used and the evaluation procedures (Raby, 2007). These external factors are important and work in harmony with intrinsic motivation, as they determine to what degree a learner improves their intrinsic motivation, if at all.

English language teaching can be markedly enhanced and become more effective with the use of modern technology. The key is to provide students with a high level of satisfaction through intrinsic motivation. This can be done by keenly recognising the ways to attract and hold students attention – whether through the use of humour, variety, sense of novelty and mystery. New technology is also a great option. By matching the student's interests to the lesson objectives, it has the power to make lessons relevant to students' experience, and more engaging. When technology is readily available, students will be driven to develop their own competence and feel inclined to wrest a personal control over their own learning.

The appropriate environment is needed before one can become an autonomous language learner. One where opportunities are possible to enhance language learning skills, increase motivation, the necessary materials and activities are present, and power over one's own education is viable in other settings besides the classroom (C. Lee et al., 2005).

One important facet of using CALL in language learning is driving learners towards independent learning out of the classroom. When learners pursue independent learning, their learning process continues even when they are not in classes, and they will take growing responsibility for their own learning (Field, 2007). Learning a new language is definitely not strictly limited to attending classes. To master a language, language learners must engage in non-classroom activities in their spare time, such as reading texts, listening and communicating in the target language.

Students should ideally be aware, both cognitively and metacognitively, of their role in their learning process. Making earnest attempts to be in charge of their in-class and outside of class education, students should search for opportunities – or create their own – to learn. It has been seen the effects that a relaxed atmosphere has on the quality of learning, so students should seek out an environment where they feel completely at ease to express their thoughts, speak with and challenge their peers on differing opinions, and feel like an equal and valued part of the group. In a classic teacher-focused classroom environment, these elements are not present (Holden & Usuki, 1999). Technology advancements have made it easy and beneficial for educators to cultivate learner autonomy in their students. They can do this by providing the tools that learners need in order to make informed decisions and take the appropriate action that works in parallel with their own personal identity (Garold, 1999, p. 306). Learner autonomy has not yet been referenced at length so far, so I will now explore the deeper meaning of the term, as I propose that CALL plays an important role in giving learners autonomy.

## 2.11.1. Learner Autonomy

When the definition of learner autonomy attracted large attention from researchers, a step back was taken to observe the big picture and a broader perspective. Wenden (1991, p. 15) formulated a more general definition that states 'In effect, successful or expert or intelligent learners have learned how to learn. They have acquired the learning strategies, the knowledge about learning, and the attitudes that enable them to use these skills and knowledge confidently, flexibly, appropriately and independently of a teacher. Therefore, they are autonomous.'

Autonomy has remained in educational, psychological and philosophical thought for a long period of time. Specifically speaking, research done within the psychology of learning has yielded strong evidence that autonomy is pivotal for effective learning. This finding has obviously driven researchers in the pursuit of more learner autonomy. A breakthrough was made by Benson (2001), who declared that three claims stand out when referring to autonomy. The first being that autonomy is defined as taking control over one's, usually own, learning. All learners are capable of possessing autonomy, but the level of autonomy that is actually exhibited in a learner depends on their own unique characteristics as well as the learning situation itself. Secondly, some learners are just naturally more autonomous than others. These less-inclined learners are not doomed, however. Less autonomous learners can still boost their autonomy levels if the proper conditions were met, these conditions mostly consisting of opportunities to practise control over learning. Lastly, it is speculated that developing autonomy in education results in better language learning. In a broader sense, autonomous learning is speculated to have a superlative outcome over non-autonomous learning.

The Council of Europe's Modern Languages Project began laying the groundwork for language learning autonomy in 1971. In direct correlation to this event, there was the founding of the 'Centre de Recherches et d' Applications en Langues' (CRAPEL) at the University of Nancy, France. This institution promptly became the heart of related research and its ensuing ventures and applications. The founder of CRAPEL, Yves Chalon, is regarded to be the creator of autonomy in language learning.

The notion of assisting learners to become more autonomous in their learning is certainly a meaningful issue in language education. Yet, the definition of autonomy has created dissent among educators and researchers in terms of its conceptual meaning. The actual definition of autonomy is difficult and too complex to sum up in one sentence (Littlewood, 1999). As it follows, there have been several terms created that are linked to autonomy since the word was first introduced. Before straightforwardly defining the broad term autonomy, I must first clearly distinguish all the terms that fall under the umbrella of autonomy that have been associated. These terms are self-instruction, self-direction, self-directed learning, self-regulated learning and individualization

There have been many definitions on what an autonomous learner is that has been presented by a wealth of scholars. Hedge (2001) classifies good learners as confident persons. They are sure of their ability to learn, aware of the reasons behind their learning, and have an instinctively affirmative demeanour to the target language and culture. They are enthusiastic, motivated persons who are unafraid to take risks and are prepared to actively seek out opportunities to expose themselves to the target language (p. 82).

Another defines autonomous learners as those who have a high awareness of what is going on in the classroom. In terms of their learning, they are able to set their own goals, make decisions on the direction, and apply strategies to improve their overall knowledge. They also possess the ability to track and appraise their own progress (L. Dickinson, 1995).

Sharp, Pocklington and Weindling (2002) take a different perspective on autonomous learners. They believe that autonomous learners are drawn to factors that are personally important to them and will be motivated by them. Conversely, they will be less motivated by rewards imposed externally, or flat out threats. The importance of intrinsic motivation is highly stressed as a fundamental to autonomous learning, as it endures beyond immediate repercussions and circumstances, and empowers the learner to be genuinely self-motivated (p. 40).

Ushioda (1996) stresses that autonomous learners are, in essence, motivated learners. In a language learning setting, learners who can take negative affective experiences and turn them into a self-motivational tool have a significant advantage over those who get discouraged at such events. A study by Spratt, Humphreys and Chan (2002) probed learner's readiness for learner autonomy, and found that the results advocate that motivation chiefly influences the extent of learner readiness.

Finally, Mutlu (2013) set out to determine whether CALL environments do in fact contribute to the enhancement of learner autonomy. To do this, a study was prepared that focused on the four aspects of learner autonomy within a CALL framework. The participants were 48 intermediate level preparatory students from a private Ankara university. As a whole, she observed all of the students' language learning strategies. One

group was split off from the control, and this group was enrolled in a five-week CALL-centred learning strategy. During this testing phase, the students' motivation level, involvement in out-of-class activities and personal responsibility towards their own learning were noted. This was achieved through collection methods capable of receiving qualitative and quantitative data. These included one-on-one interviews with the students, e-learning diaries, general observations and questionnaires. Both the control and test group were subjected to pre-test and post-test investigation, and were supervised by instructors to gauge the previously mentioned motivation criteria. When the study was over, it was exposed that those in the five-week CALL group saw an improvement in their motivation levels, personal learning responsibility and involvement in extra-curricular activities. Their overall use of language learning strategies was augmented also. The control group, who did not have the added benefit of any extra practise with CALL or other methods, showed much lower levels of achievement in all areas where the CALL group excelled.

There exists a considerable amount of literature on learner autonomy, and one such example declares that autonomous learners become the way they are because they are well motivated (Hedge, 2001). After considering this wealth of information, I believe that CALL applications will be a useful tool in shaping an autonomous learner.

This section concerned Computer Assisted Language Learning (CALL) and its influence on motivation. Research studies supported these findings, as well as investigating their consequences when combined with vocabulary learning and learner autonomy. Next, I will look at critiqued studies and literature, and how they relate to the present study.

## 2.12. The Specific Literature on the Development of the CALL

Many of the sources that were researched featured Computer-Assisted Language Learning (CALL) as a mechanism to cultivate learners' concentration, which go above and beyond traditional learning strategies by offering learners a greater sense of autonomy. In its short history, it has had a tremendous part in second or foreign language learning and instruction. Language learning and teaching utilizes authentic learning environments to promote language acquisition, so CALL can be integrated into any language teaching syllabus. With new advances in technology, CALL can bring real-life language learning to the EFL field, whereas in the past it only played a limited role in the target language environment. Furthermore, the reviewed studies showed that Computer-Assisted Language Learning has many advantages over traditional vocabulary strategies, which are not as fast or as interactive and which do not engage learners' attention and interest effectively. CALL can repeat exercises such as finding pictures, sorting and matching, and true or false assessment for the beginning level students when needed. In addition, CALL students can get immediate feedback during exercises, unlike in the traditional classroom, in which the students may have to wait until everybody else is ready and finally the teacher discusses answers with students. The present undertaking is also about employing CALL on Turkish learners. Specifically, the study will focus exclusively on vocabulary acquisition among college-age EFL students in Turkey.

As technology becomes more easily accessible, the recent years have shown a boom in computers being used in language teaching and learning (Mark Warschauer & Healey, 1998). GLOSSER is a noteworthy early system that makes extensive use of a morphological analyser for the French language learning (Nerbonne & Dokter, 1999). Warschauer and Healey (1998) predict that how CALL evolves in the future will be

determined by how well students and instructors are able to seek out, perceive and critique Internet-based data.

A synopsis of ICALL practises showed that the leading systems were weighed and categorised across five dimensions: supported languages, Artificial Intelligence techniques, language skills, language elements and level of accessibility. Despite their status as top-tier systems, there were still outstanding problems hindering the intelligent technologies from reaching their maximum potential and being installed into current language learning (Katushemererwe & Nerbonne, 2015).

In 2011, Amaral and Meurers (2011) outlined the preconditions for a successful assimilation of ICALL devices into modern foreign language teaching and learning (FLTL). Firstly, a clear relationship needed to exist between intended activity plan and its constraints to make NLP reliable. Secondly, the instructional concerns had to make sense in combination with construction options for the activities and adding ICALL systems into FLTL practice in general. Their 2006 TAGARELA framework inspired many others to develop ICALL systems and exercises in a variety of foreign languages (Shaalan, 2005; M. Dickinson & Herring, 2008).

As this study is exploring the effectiveness of computer assisted learning for vocabulary acquisition, computer assisted vocabulary instruction (CAVI) deserves to be mentioned. Recent CAVI research has used its collected data on the various factors of computer-assisted vocabulary instruction to potentially find ways to improve upon software and its results on students. One example is that the software should maximize the interaction between learner and the CAVI programme itself, and this interaction (as well

the user's progress in vocabulary acquisition) should be tracked by the software as a means of feedback (Goodfellow, 1994).

A similar study suggests that the software should make targeted words obvious. Target words would comprise of explicit instruction on its proper usage, and numerous opportunities to produce the learned item through exercises to greater facilitate retention (Poel & Swanepoel, 2003). CAVI design principles can also be viewed from a psycholinguistic angle. Ellis (1995) proposes that programmes should have both intentional and incidental vocabulary learning opportunities. He argues that certain aspects of a word would benefit from implicit learning, while others from explicit learning. The implicit learning of basic principles like pronunciation, spelling and production of a word can be done through computerized texts. Explicit learning, conversely, can be developed by online dictionaries, explanatory annotations and sample uses of target words.

Although guiding CAVI software design principles have been emerging, it is still unclear whether software programmes for computer assisted vocabulary instruction are effective. In the forthcoming section, empirical studies exploring the effectiveness of CAVI against more traditional vocabulary acquisition strategies are investigated.

Groot performed a study in Chinese universities in 2000 whereby traditional list learning and computerized vocabulary learning results were compared. Learners who trained via lists achieved more exceptional results over the cohort that used the computer on vocabulary recognition assessments where the task was to match target works with L1 definitions. However, when the target vocabulary was in a cloze test, the computer batch surpassed the list learning batch. Further outcomes proved that the list learning set exemplified a decrease in scores on immediate and delayed post-tests. Based on these

findings, Groot concluded that list learning does not lead to deep processing and successful retention.

A one year study by Cobb in 1999 saw the experimental group use concordance software to learn vocabulary from course readings, and the control group used dictionary and word lists to learn the required vocabulary items. After examining the vocabulary gains of both groups, the experimental group saw faster progress and an increase in their functional reading within an exercise. Without relying on physical instructors, concordance involves exploratory vocabulary learning. Thus, it is believed to promote a deep level of lexical processing, and in turn, successful vocabulary retention

A study by Ayse Tokaç (2005) sought to measure the effectiveness of CAVI against teacher-led vocabulary instruction. This study also examined the feedback received from the students regarding the CAVI classes, their effectiveness and its overall strengths and weaknesses. Three groups were involved: a control, a teacher-led group, and a computer-assisted group. The teacher-led and computer-assisted group revised target words using spaced repetition, while the control learned the target words via teacher instruction in masse. In this case, neither the computer-assisted group nor the teacher-led group showed significantly more vocabulary gains than the other did. In matters of time, however, the computer group learned the vocabulary presentation material in half the time than that of the teacher-led instruction group. The level of vocabulary gain and the effect of spaced repetition were not at a significant level between the two groups.

This chapter gave an overview of former studies and literature and how they connect to the present study. The coming section will probe the theoretical background and the very core of CALL

## 2.13. Theoretical Background and Framework of CALL

At this stage, the goal is to investigate the theory, research and application, specifically their linkages to each other and the process of their evolution, in the field of CALL. It aims to scrutinise in what method CALL analyses have been performed, and offer recommendations to how testing and procedures in the field can be instituted to be of maximum benefit. This benefit will extend to instructors of a foreign language with a desire to seamlessly and productively introduce technology into their own language learning environments.

### 2.13.1 Theory in Computer Assisted Language Learning (CALL)

Mitchell, Myles and Marsden have defined theory as '...a more or less abstract set of claims about the entities which are significant within the phenomenon under study, the relationships which exist between them, and the processes which bring about change' (2013, p. 2). It is feasible to view theory as a vessel to draw certain components to the foreground, or making others retreat to the background (M Levy & Stockwell, 2006). The role of theory will constantly exist in dialogues regarding research or practice, and, for that matter, technology. Hence, theory and CALL have been permanently intertwined. It may be fairly bizarre to mention that, every so often, its status has been markedly precarious. Specialists of CALL almost universally acknowledge the value of theory, and multiple theories have been noted in CALL literature over the past three decades. Before beginning to discuss general theory in CALL, it is important to first look at the existing theories more deeply.

### 2.13.1.1 Constructivism and Social Constructivism

Theories of childhood development and education, from the minds of Jean Piaget and John Dewey, have evolved to what we now know as Progressive Education, which paved the way for the evolution of constructivism (Jia, Q, 2010)

It was Piaget's understanding that humans learn through the formation of one logical structure after another. He also concluded that the logic of children and their modes of thinking are vastly dissimilar than those of adults, at least initially. The application and implications of this theory have had an impact on the foundation for constructivist education (Jia, Q, 2010).

Dewey (1998) demanded that education have roots in real life experience, writing, 'If you have doubts about how learning happens, engage in sustained inquiry: study, ponder, consider alternative possibilities and arrive at your belief grounded in evidence.' A critical part of constructivist learning is, in fact, inquiry.

There have been many philosophers, sociologists, educators and psychologists who have contributed new perspectives to constructivist learning theory and its practise. Two notable individuals are Lev Vygotsky and Jerome Bruner.

Vygotsky ideas differ from Piaget's (1978) claim that it is necessary for the development in a child to precede their learning, arguing 'learning is a necessary and universal aspect of the process of developing culturally organized, specifically human psychological function' (p. 90).

Vygotsky's theories place great emphasis on the important role of social interaction in the development of cognition (Vygotsky, 1978), since he was a firm believer that a community massively aids in the process of 'making meaning.'

My analysis of the 2 theories, as laid out indicates that the theory of Vygotsky has several key points whereby it differs from Piaget's:

- Vygotsky assumes cognitive development varies across cultures, instead of universal.

- Vygotsky states cognitive development stems from social interactions from guided learning within the zone of proximal development as children and their partners co-construct knowledge. In contrast Piaget maintains that cognitive development stems largely from independent explorations in which children construct knowledge of their own.

- Vygotsky believes the environment in which the child develops in has an impact on the way they think and what they think about.

- Vygotsky places greater (and different) emphasis on the role of language in cognitive development, theorising that cognitive development results from an internalization of language.

- In Vygotsky's view, thought and language begin as separate individual systems at the start of life, and only merge around three years of age, producing verbal thought (inner speech).

- According to Vygotsky, adults are an essential source of cognitive development. Adults transmit their culture's tools of intellectual adaptation that children internalize.

The notion of blending a social aspect when it comes to learning into constructivism was due to Vygotsky. He outlined the 'zone of proximal learning' - a guideline to which students solve problems that exceeds their current developmental level (yet still within their range of potential development) with the mentoring of an adult or in collaboration with more competent peers.

Lev Vygotsky (1934) has produced a lot of work of which that has inspired a sizeable amount of research and theory in cognitive development over the last several

decades. In particular, the idea which has evolved into what is known as Social Development Theory.

There are overlapping ideas between Piaget and Bruner, however a critical difference is that Bruner's modes are not a strict linear hierarchy. At times, one mode will be the predominate mode, but others will coexist around it.

Bruner's claim is the degree to which the child has received adequate instruction combined with practical applications or experience is the factor in determining the level of intellectual development. Thus, the proper mode of presentation, in tandem with the correct explanation, will allow a child to understand a complex concept usually reserved for adults only. Bruner's theory places extensive weight on the role of education and the adult instructor.

While it is clear that Bruner proposes stages of cognitive development, he views them differently from Piaget. Piaget believes they are separate, individual modes of at different points of development. Bruner, on the other hand, has the mindset that they are a gradual development of cognitive skills and techniques into more integrated "adult" cognitive techniques.

Bruner and Vygotsky stress the importance of the environment surrounding the child, particularly the social environment, to a greater degree than Piaget. Both of the former theorists agree that adults should play an active role in assisting the child's learning

Similar to Vygotsky, Bruner emphasised the social nature of learning, claiming that other participants should assist a child develop skills through a process called scaffolding. The term's first appearance was Wood, Bruner and Ross's summary of the way tutors interacted with a child of preschool age to help them solve a block reconstruction exercise (Wood et al., 1976).

'Scaffolding refers to the steps taken to reduce the degrees of freedom in carrying out some task so that the child can concentrate on the difficult skill she is in the process of acquiring' (Bruner, 1978, p. 19).

Bruner instituted a change in the curriculum based on the notion that learning is an active, social process in which students construct new ideas or concepts based on their current knowledge.

Bruner (1961) believes that education's sole function is not just to impart knowledge, but rather to develop a child's thinking and problem solving skills, which can then be utilised in a variety of real world situations.

Learners build their own knowledge base by organizing and categorizing information using a coding system, according to Bruner (1961). It was his understanding that the most prudent method of developing a coding system was to discover it naturally as opposed to it being imparted from an instructor. The concept of discovery learning implies that students construct their own knowledge for themselves, which is also known as a constructivist approach.

A teacher's role should be to assist the learning process, not be a one-way conduit of information transfer. Therefore, a competent teacher will formulate lessons that will guide students to create links among the pieces of information. To implement this effectively, an instructor must present the required information, but not organise it for the student. Discovery learning can be bolstered through the use of the spiral curriculum.

Constructivism is described as the knowledge that cannot be taught by the instructor, but must be constructed by the learner (Tapscott, Allan, Edward, & Stacey, 2007). A summarized view is that constructivist methodologies to the psychology of learning lend compelling justification for the debate that effective learning has roots in the

learner's enthusiastic participation in the processes of learning. Moreover, the notion that learning will be most fruitful when students are actively engaged in choosing the direction of the content and course of their learning, since knowledge is a unique construct within each individual moulded by social interaction (Benson, 2001, p. 36).

Constructivists claim that people learn best by doing rather than by simply listening. Just as observed in children, when they are excited about a newly discovered fact or a concept, they will better retain the information and use it creatively and meaningfully (Tapscott et al., 2007). Johnson (2001) explained the roots of constructivism with five additional principles in the following;

a. Constructivist learning contexts aim to reproduce a situation with an authentic obstacle, with the intent of learners building talent in intricate and complicated problem-solving.

b. Learning should be carried out in the social and physical conditions of natural world issues, including group activities, collaboration, and teamwork.

c. Aspiring to share goals, which are discussed and settled between instructors and learners, and also amidst learners' peers.

d. Using cognitive tools which assist learners to manage information, such as methods of categorization, organization, and planning (Knowles, 2004) are crucial.

e. An instructor's position as facilitator or coach. The instructor's role acclimatises itself to one that is appropriate to manoeuvre learners to reach the standards they have set for themselves by aiding them in developing cognitive and metacognitive learning strategies (C. Johnson, 2001, p. 47).

Constructivism playing a significant role in many aspects of education is an undeniable fact. However, constructivist theories of learning have also started to attract attention in many different recent inquiries in the field of autonomy in language learning, in which the

works of Kelly, Barnes, Kolb and Vygotsky have been especially influential. George Kelly's personal construct theory was an important early influence on the theory of autonomy, who describes personal construct theory as in the following;

'People look at their world through transparent templets which they create and then attempt to fit over the realities of which the world is composed. The fit is not always very good. Yet without such patterns, the world appears to be such an undifferentiated homogeneity that people are unable to make any sense out of it. Even a poor fit is more helpful than nothing at all' (Kelly, 1955, p. 8–9). According to Kelly, personal constructs come from shared values, but systems of constructs are unique to the individual as they are formed through attempts to make sense of experiences that are uniquely one's own. Douglas Barnes (1976, cited in Benson, 2001, p. 37) put forward the distinction between 'school knowledge' and 'action knowledge'. According to him, school knowledge remains in someone's knowledge but is easily forgotten. Action knowledge is implanted in the realm of the learner, persists in the learner's knowledge and forms the basis of the learner's actions and way of living. It is clearly emphasized in Barnes' model that teaching and learning is a matter of communication rather than of instruction.

It does not come as a shock that CALL should have ties to second language acquisition (SLA) theory. The acronym of CALL encompasses two dominant elements – 'computer' and 'language learning.' It quickly becomes clear that these two fragments will definitely play a part in the manner that CALL is operated and of course the theories that govern CALL research and practice. The reasoning in support of using SLA theories is persuasive from many angles, and there exists individuals who infer that CALL is essentially an addendum of common second language teaching and learning.

It can be debated, nonetheless, that this opinion suppresses the position of technology in the language learning process.

The question arises of whether technology can be reasonably interpreted in a similar fashion to other common language learning materials, such as a textbook, a cassette, or even pen and paper. While it is certainly conceivable that technology can usurp at least one of these equipment's roles, the debate is that technology's role reaches over and above them into a broader capacity inside our day to day lives. Technology has come to be affixed to a lot of tasks that humans do on a routine basis. Whereas in the past an individual would have personally memorized telephone numbers, addresses, important dates and other events in life, nowadays most of this information is left in the custody of the assorted technological devices that one chooses to own. Similar to how it was in days of old with textbooks, it would not be wrong to declare that even in modern times technology has assumed more than a facilitator role. In language learning contexts, technology is, at times, wielded to undertake particular roles that possibly at one time would have been considered within the territory of the learners themselves, and consequently, alters the procedure through which languages are learnt. Based on this view, it becomes obvious that any theory of CALL must observe the agenda of learning the language, and at the same time, the response the technology has on this agenda. Extensive scrutiny would need to focus on the manner in which the learner makes contact with the technology, and the repercussions that the technology has during the SLA process. Several theories prevail that recount the nature in which humans interact with technologies, but two theories emerge as seemingly instantly relevant to the way in which technology may be used in language learning. These are distributed cognition and situated learning.

First conceived by Hutchins (1995), the concept of distributed cognition was a way to examine the real-world course of accounts in teamwork-based work environments. After

that point, the notion has swelled to incorporate the steps in which cognition unfolds, which is an action that blends both internal and external memory and processing behaviours. With regards to CALL, it is apparent that this learning process differs in multiple ways from education via traditional means not utilising technology.

The fundamental concept of situated action believes that humans react differently based on the situation and the choices that are usable to them (Suchman, 2006). Imagine a hypothetical situation in huge room comprising of a sole green button marked with, 'Push the green button.' There would be a mix of subjects who happily and without thinking push the button and others who would experience a reluctance to unquestioningly obey. This variance can be justified by the logic that a number of people have a slim chance of taking risks if they are unsure of the outcomes. People arrive at their own conclusions, depending on not only what the outcome actually is, but also what the perceived outcome might be. This is true even when faced with the same circumstances. Therefore, going back to what I have called attention to during this paper, technology will influence a change, and a requirement from researchers in CALL has arisen to contemplate the full spectrum of intricacies.

Research by Hubbard (2008) examined theories cited in the CALICO Journal between the years of 1983 through to 2007. Of the articles that mentioned a theory, he found that the papers that were relevant to second language acquisition or linguistic theory totalled 38 of the 90 articles, and an additional 27 were focused on educational, pedagogical or learning theory. When current research and practise in the field is reviewed, as this study suggests, an abundant amount of researchers in CALL seem to be attempting theories without coordinated efforts at seriously probing how they may or may not be

suitable to the field. Arriving at such a conclusion can only be accomplished by revisiting prior research, which could involve revisiting some daring, tentative pathways that prior specialists in CALL have left behind, seeking out the direction of their logic to check if they were chasing anything worthwhile in the field.

A lack of groundwork in theory complicates matters for researchers to measure and evaluate data from CALL studies. This in turn results in a lack of any widely accepted theoretical support to offer guidance for future development and application of CALL materials for practitioners (McCarthy, 1999). This makes CALL items such as feedback be neglected, or tasks such as testing become dubious (Myles, 1998). It is speculated that the area which currently suffers the most is research. Some language teachers claim that the use of technology and CALL is inevitable, and therefore research is not required. Another issue is that CALL research makes grand attempts to prove that CALL is effective, which is usually an arduous task (and should not be the sole focus of research). The issue with more institutional angles is the fact that CALL research is often not a high priority for the institutional powers, as it is not seen as promoting in the academic world. CALL workers are typically a minority in university academic environments and there is sometimes meagre acknowledgement for their work. To reconcile this, CALL demands a research plan, not just to win greater respect for CALL workers but also to rationalise current systems and herald new techniques. Technology's role in language teaching is only going to grow and until now there is scant firm confirmation of the positive and negative reasons for its use (Bell & Garrett, 1998).

In actuality, there has been a considerable wealth of research in CALL that does not cite any theoretical framework at all, especially in the early years. Even in cases where no

citation is given, an opinion will form of how languages are learned in the background, secondary to how technology has been implemented in the language learning context.

Kolb (1984) has developed experiential learning, which in turn has influenced the theory of autonomy. In experiential learning, learning Kolb describes learning as a cyclical mechanism that blends prompt experience, reflection, abstract conceptualization and action. In this cycle, reflection bridges the gap between experience and theoretical conceptualization. Therefore, this model of learning helps learners to integrate knowledge into their own definition and take responsibility for their own learning.

In recent years, it is true that education has shifted from behaviourism to constructivist modes of pedagogy. Constructivist theorists emphasize learner-centred instruction occurs in the individual, as a result of experience and social interaction with others. The teachers are expected to understand how the student thinks, so they may design the appropriate environment and experiences to further enhance the student's individual meaning (Dawley, 2007b, p. 3). One more imperative concern in constructivist language learning theories is that most of the researchers hypothesised that computers and the Internet promote learner autonomy through helping the learners construct their own meanings by interacting socially. Constructivist theory includes various attributes that are easily adjusted for Web-based activities. Some of these traits consolidate learner construction of understanding, social interaction to help students to learn and student problem-solving in 'real world' contexts (Leflore, 2000, in Abbey).

There has been a deviation towards social constructivism in language learning. Social constructivists believe that learning, especially language learning, is a social practise that does not only occur inside an individual, nor is it a passive development of

behaviours that are formed by external forces. Practical learning occurs when individuals are engaged in social activities, and there is interaction among people. Hacking (2000) argues that social constructivism is a philosophy of learning which places great significance of culture and context in discerning what transpires in society, and building knowledge based on this understanding.

Considering this framework, it can be argued that information technology education has had an especially big impact on our lives. Therefore, it is important to make effective use of available technologies to increase subject knowledge, the growth of understanding and development of skills through information and communication technology (ICT). Furthermore, this information and communication technology encourages the learners to come together in order to share their learning experiences and build upon their previous knowledge. Constructivism, especially social constructivism, is an appropriate framework to better understand how learner autonomy in language learning occurs in information and communication.

It is clearly understood that in constructivist paradigm, knowledge is constructed with the help of real world tools, authentic data, relevant resources, engaging experiences and meaningful contexts. The Internet offers opportunities for learners to make use of raw data critically evaluate information and function hardware and software products in the context of a wide range of situations (Heide & Stilborne, 2004). Language learning is an ongoing social process - besides working on the learners' grammar and vocabulary of the target language, the pupil should strive to seek out situations whereby they can use the target language for communicative purposes. This is required to develop their communicative competence or their skill in using the target language accurately and

suitably to achieve communication goals. The overall objective of the language learning process is the capacity to communicate coherently and effectively, not necessarily the skill to communicate in the language precisely as a native speaker does (Littlewood, 1981).

It is universally recognised that CALL refers to the use of technology to facilitate the language learning process, but exactly how technology can be employed to attain this has cycled through multiple points of view. One circumstance that has complicated matters in CALL is that its key component, technology, continues to evolve at an outstanding pace. The consequences of which are not contained within the classroom, but instead in nearly all facets of our daily lives. Technologies have become more accessible, more compact, more portable, and exponentially more powerful. At the same time, the teaching context has undergone a monumental transitional as well, with a transfer of focus from the teacher to the students - from centralized to distributed.

Technologies that are fixed, such as desktop computers, signifies that their operation and use are restricted to the time and location that they are available. In the real world, this may necessitate reserving a portion of time in a computer laboratory because one does not have a computer at home. Technologies that are portable, such as MP3 players, mobile phones, tablet computers or laptops, have meant that there is a far greater amount of freedom with regards to time and place. However, their use is still highly bound by the capacities of the actual technology (e.g., the high portability of mobile phones but their miniscule screen size for output) and, of course, the nature of the assignments or activities that students must use the technology for. Therefore, practice in CALL—the collective term that might be used for how technologies are used to teach languages—is very much reliant on the technologies, but at the same time, one could challenge whether

the technology itself is the leading peripheral, which influences the language learning functions that it is applied to. The demeanour in which learners operate technologies in their everyday lives will, for example, reflect similarly on how they handle these technologies in different contexts and usages as well (M Levy & Stockwell, 2006). It is the same for institutions and their technological preferences (e.g., institution-wide learning management systems like Blackboard and Moodle). It should be kept in mind that technology on its own does not have the power to advance the process of learning a language. Healy (1999) states this notion with on-point accuracy through her metaphor that, '...technology alone does not create language learning any more than dropping a learner into the middle of a large library does' (p. 136).

Throughout CALL's history, a great number of its advocates have condemned the field as being overly 'technology driven' at the expense of theory, research and pedagogy ( e.g J. Egbert & Hanson-Smith, 1999; Salaberry, 2001). Likewise, others have disapproved of CALL for having too strong a link to general education rather than concentrating on the unique qualities of language learning (Hubbard, 1987). As a reaction to this, a variety of conceptualizations or frameworks have been put forth in a bid to illustrate the fundamentals of CALL sufficiently or point the field into what is a more coherent direction (Bax, 2003; C. Chapelle, 2001; Michael Levy, 1997; Mark Warschauer & Healey, 1998 and many others). Two of the more influential views are those of Chapelle (2001) and  Bax (2003), which unites the design and evaluation of CALL tasks to a set of principles derived primarily from the research base of the interactionist perspective of second language acquisition (SLA).  Bax (2003) opines 'normalisation' as the predominant course for the field, a phase in which technology is completely assimilated into language teaching, and

desists in being distinctive or abnormal - much like the ordinary textbook, pen and blackboard of the traditional classroom.

Although these CALL-focused frameworks have cognizant use in some aspects, notably courseware and task design and evaluation, most of the research and development of the field has been steered by external theories. Whether or not emerging theories surfacing from a CALL standpoint would be of any benefit continues to be an ambiguous question, it is absolutely plausible to debate that it is because of this scarcity of citations to theory that the objections aimed towards the field of CALL are staggering (C A Chapelle, Interactionist, In, & Mahwah, 2005; Carol A Chapelle, 2005). However, noteworthy investigation of theory and CALL in the field has been performed by Levy and Stockwell (2006) and Hubbard (2008) which I firmly agree with as a teacher. Levy and Stockwell (2006) propose that theory can be employed for outlier intentions in CALL, including theory for design, theory for teaching, and theory for research. It is reasonable that practitioners in CALL can implement numerous theories at the same time, depending on their needs in a given teaching and learning situation.

The framework of CALL and its theoretical background were presented in this section of the literature review. The theories of constructivism and social constructivism have significance in this study, and will be examined in more detail in a forthcoming section.

## 2.14. Conclusion

This chapter scrutinised relevant literatures and issues surrounding the theoretical framework. Through literature, it is concluded that the process of proper vocabulary acquisition is incremental, or occurs gradually over time. From what has been seen from CALL programmes, they offer an interactive environment that can be visited at any of hour

the day and as often as desired. Vocabulary topics are presented in a kaleidoscope of mediums like verbal, aural, or visual (Chun & Plass, 1996a)(Cobb, 1999;; Lyman-Hager, Davis, 1996; Roby, 1999). This greatly helps students to continually review target words and tasks, and has a positive effect on vocabulary acquisition. CALL software should have substance as well, and requires sound theoretical principles to assist suitably in the vocabulary acquisition process (Rod Ellis, 1997; Goodfellow, 1994; Poel & Swanepoel, 2003). When it comes to current theories surrounding L2 vocabulary acquisition, both intentional and incidental practices should be implemented in foreign language programmes. Both are equally important and contribute, in their own way, to language learners' vocabulary acquisition.

# Chapter 3: Research Methodology

The overall goal of my study is to determine the extent to which CALL assists vocabulary acquisition. Learning vocabulary is defined as the acquisition of the definitions of different English terms or words. This can be achieved through the use of texts, dictionaries, instructional materials and many others. However, since my study involved the aid of computers, learning vocabulary was proposed to be faster, broader, and more enjoyable. It is necessary here to clarify exactly what is meant by improvement in vocabulary. When I state an improvement in vocabulary I am referring to not only learned meanings but also those students can understand and are able to use target vocabulary in a conversation.

This chapter presents the research paradigm, research design, data gathering techniques and treatment of data. Furthermore, in as much as the study employed the pre-test and post-test to the control and intervention groups, considerations on dependability and legitimacy of quantitative and qualitative research and testing validity and reliability are also presented in this chapter.

## 3.1. Research Paradigm

Generally speaking, a paradigm is a model. Thomas Kuhn (Kuhn, 1962) used the term to mean the conceptual framework. Thus, in his opinion, paradigm is 'an integrated cluster of substantive concepts, variables, and problems attached with corresponding methodological approaches and tools.' A paradigm indicates a research culture with a set of standpoints, ethics, and conjectures that a community of researchers shares in common regarding the essence and conduct of research as well as a custom of research-based and

scholastic perceptions, rules of conduct and supposition pattern, structure and framework (Kuhn & Bernstein, 1977).

The paradigm of this present study is composed of the methodological philosophy, the methodological approaches, and the research tools and techniques.

### 3.1.1. Methodological philosophies

This study employs the philosophies of post-positivism and interpretivism in research. Post-positivism emphasized deductive logic. It exposes documented experience (for example, surveys), sociological or psychological examinations (instances in which the details must be ascertained from other phenomena) and surveyed human behaviour as data. Post-positivism is a path of research where generous volumes qualitative data are catalogued to achieve quantitative data that will be examined through the use of statistical means. This is very common in the social sciences for both practical and conceptual reasons (Robson, 2002). The present undertaking employs this philosophy in as much as the researcher aspires to find out the exclusive source of authoritative knowledge coming from information derived from logical and mathematical reports of sensory experience. This research adheres to the idea that verified data from the senses are useful foundations in the language learning and teaching process. Specifically, the philosophy is employed in finding out the extent of effectiveness of CALL in acquiring and learning vocabulary in the classroom.

Upon the other hand, interpretivism embraces the presumption and suppositions that truth and its veracity are built upon social entities those human beings embrace. What human beings truly know is directly and indirectly collaborated within the bounds of individual cultures, social situations, and relationship to one another. From this mindset,

credibility or truth cannot be based in an objective reality. What is considered to be correct or authentic is contested and it is possible there can be several accurate declarations to knowledge (Angen, 2000). The present investigation will follow a procedure, a scientific process, not just to find out something, but to create meaning on a different light as far as language learning and teaching is concerned, perceiving that all interpretations are planted in a specific point, situated in a particular context, situation, or time. Furthermore, this research will follow the suggestions of Angen (2000) in evaluating research from the interpretivist perspective, namely:

1. The research will carefully consider and convey the research questions;

2. The research will carry out inquiry in a modest and respectful manner;

3. The researcher will be conscious in articulating his choices and interpretations during the inquiry process;

4. The researcher will present persuasive claims in writing;

5. The researcher will take responsibility over his choices and interpretations noting that the recipient of the study is no less than his students in the university; and,

6. The researcher will also try to evaluate the substance or content of an interpretive work through self-reflection.


### 3.1.2. Research Methodology

Every individual learns and acquires a foreign language in different ways. Dornyei (2009) said that 'motivation provides the primary impetus to initiate learning a second language and high motivation can make up for considerable deficiencies both in one's language aptitude and learning conditions.'(p.117). Therefore, while transitioning to the research phase from my initial questions, I allowed myself to be guided by my intuition as an experienced language educator. I am aware that students are better motivated and respond better to vocabulary learning tasks when the said tasks are represented digitally.

I started with a positivist view, being under the impression that the vocabulary acquisition of the students could be measured in a straightforward way. It became clear to me while the study was being conducted that this was not the case. As a language educator, I already understood that students are individuals, and not machines. Though, I still had to learn that exploring the possible causes and processes of progress could not be done in a simple, quantitative way. In addition to evaluating student progress through a number of correct lexical items, to compensate I also needed to explore the nature of the activities and pedagogical materials that seem to be sources of motivation for students to learn a second language.

Ultimately, to seek the solutions to my questions, I applied mixed methods through both quantitative and qualitative methods to collect and analyse data. I was inspired by Johnson & Onwuegbuzie (2004) who believed that using both quantitative and qualitative methods in research can be very important and beneficial, compounded with the fact that these two methods can be used separately in different phases in a study (Tashakkori & Teddlie, 1998). My intention was to develop an "overall composite" view and gaining a better understanding of the research problem (Creswell, 2009). Thus, primary emphasis was placed on the qualitative data, while the quantitative data played a supportive role in the overall design. By using a mixed methods approach, this study utilized the strengths of both inquiry methods in order to develop a deeper understanding of student engagement and effective technology integration, as demonstrated by Creswell & Plano-Clark (2007).
I found that by employing a mixed method, I was able to achieve a more expansive outlook on data collection and analysis. More so than if I had only used my quantitative data, and so the depth of my research improved by the use of two processes (Creswell, 2009).
Similarly, while it's true that using only my qualitative data would have provided insights into the views of the participants, I would be lacking any objective measure of improvement. It is my hope that the outcomes of my study have more validity and reliability through using the strengths of mixed methods, and offsetting the weaknesses of using only one of them (Johnson & Turner, 2002).

The present study uses the quantitative-qualitative-quasi-experimental methods of research in examining and investigating crucial occurrences happening in the classroom

when using CALL in teaching and learning English as a foreign language. The present study employs the quantitative method of research suggested by Babbie (2010). According to Babbie (2010), the quantitative method of research emphasizes impartial calculations and the statistical, mathematical, or numerical analysis of data gathered via polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. The technique fixates on accumulating numerical data and generalizing it across a wide collection of people or to clarify a certain phenomenon and employs a lifelike procedure that aims to realise phenomena in context-specific settings. The present study employs this method, for it utilizes numerical data from the experiment conducted to explain the primary research question as well as from the survey on the competence or the knowledge and skills of the students in using computers, the benefits of CALL in English language learning in general, and the advantages of CALL in English vocabulary acquisition. The data is gathered and treated statistically to provide more objective understanding of the phenomenon.

On the other hand, according to Strauss and Corbin (1990) qualitative research is any research in general those results in data that are not achieved by statistical methods or alternate mediums of quantification. Where quantitative researchers follow causal determination, prediction, and generalization of findings, qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations. Qualitative analysis produces a separate kind of expertise over quantitative inquiry. The present study employs this method inasmuch as the respondents of the study are directly asked through an interview about their opinions and reactions after using CALL in the classroom. The responses that are gathered as well as the classroom observation conducted by me in a CALL classroom validates and/or provides proof on the pedagogical effectiveness of using CALL as a strategy in vocabulary acquisition and learning.

Lastly, the present study employs the quasi-experimental method of research. This method appears to have a slight experimental infrastructure yet a major fragment is absent - random assignment. Alternatively, it makes use of purposive sampling which serves as a collection of different non-probability sampling techniques. It is also recognised as judgmental-selective-subjective sampling and, commonly, the sample being inspected is rather mediocre in size, notably when measured with probability sampling techniques (Patton, 2005)(Patton, 1990, 2002; Kuzel, 1999). This study utilizes the said method for the study requires testing differences between group means for two independent variables and the very nature of the research question is confirmatory and predictive. More so, in gathering data, sampling will be employed.

A natural classroom environment is not conducive to suitable experiment conditions. Without access to a proper lab, it is not possible to have complete control over all of the variables that may occur within the two groups of classes. The work I have done cannot be wholly classified an 'experiment' but rather an 'intervention.' For this reason, the group exposed to the CALL application will be named the 'intervention group' as opposed to the 'experimental group.' This segment reviewed selected befitting literatures and their bearings on research methodology and methodological philosophies. A layout of the research plan is presented below.

## 3.2. Research Design

The study was conducted in the Department of Foreign Languages at a private University in Samsun. At the start of the semester, 24 students underwent a placement test to determine their skill level and which class they were to be placed. The entire programme spanned eight weeks in duration, for all level groups of students. Classes were equipped

with at least two instructors of appropriate skill, with A2 usually having three local instructors with an English Language Teaching degree or completing their MAs in the field. To measure achievement levels, exams were administered at the end of each quarter. Assistance from a colleague was required for this study. After speaking with several and explaining my research procedure, I selected a particular colleague who had used similar activities, both traditional and digital, in her own personal teaching methods in the past. Her credentials included three years in the university's Foreign Languages Department, during which she taught reading, writing, listening and speaking at varying levels (A1, A2, B1, B2). Her experience led her to feel confident in the overall undertaking, and competent with the activities I created via Moodle and smart board.

In the conduct of the study, respondents will be grouped into two, namely, the control group and the intervention group. These two groups shall be subjected to a pre-test and a post-test which are written tests. A written test was used to see at once the differences in the performances of the two groups. Moreover, written tests are the once used in the university in which my research was carried out in the university Canik Basari University in determining the extent of knowledge or skill acquired by the students as well as in determining their performances. In the intervention group, CALL shall be implemented but not in the control group. Table 3.1 below shows the procedures in the experiment. Thereafter, the differences in the performances of these two groups in the pre-test and the post-test shall be tested using the T-test.

Table 3.1. Procedure of Research

| | THESE PROCEDURES ARE ADMINISTERED IN CANIK BASARI UNIVERSITY PREP. COLLEGE | |
|---|---|---|
| 1 | Entrance exam for all students | |
| 2 | Announcement for potential A2 level students | |
| 3 | Selecting students (35) for pilot test ( pre-test / post-test) and conducting pilot test | |
| 4 | Random selection for the groups with the help of computer programme | |
| 5 | Divided into two groups ( Control group – Intervention group) | |
| | CONTROL GROUP (35 STUDENTS) | INTERVENTION GROUP(35 STUDENTS) |
| 6 | Pre-test (knowledge of word test) | Pre-test (knowledge of word test) |
| 7 | Independent sample t-test | Independent sample t-test |
| 8 | Teaching period for 8 weeks | Teaching period for 8 weeks |
| 9 | Observation during class | Observation during class |
| 10 | Post test | Post test |
| 11 | Match pair t-test | Match pair t-test |
| 12 | Independent sample t-test | Independent sample t-test |
| 13 | Conducting a questionnaire with the open-ended question part. | |

The t-test was utilised largely as the study aspired to observe the presence of any vital disparities in the achievements of the intervention group and the control group in the pre-test and the post-test (See Appendix A/B for Pre-test / Post-test) in relation to the effectiveness of CALL.

Pre and post vocabulary test scores acted as my dependent variable when testing. Both the pre-test and post-test took the form of multiple choice and fill-in-the-blank questions done on the computer. Questions were randomly generated on screen for participants during the tests.

As test scores were my dependent variable, my independent variable was the intervention. Under the computer assisted language learning condition, students were randomly assigned into groups. As a group, their ultimate goal was to work together to complete a computer simulation and all of its tasks. Through this process, students innately

helped one another when needed. Additionally, students were informed they were also to complete daily tasks, which were to be completed individually.

Multiple variables exist that could possibly affect test outcomes – many of which may be invisible to researchers employing traditional experimental designs which take into account all possible variables.

In an effort to control all other variables, I followed the principles of quantitative and qualitative researches (i.e. either specify here, or give examples).

Most important to note is that the core ethical value in my study was trust. To attempt to control extra variables such as additional hours, private lessons, and academic courses in which computers are used, I applied concrete procedures before and during the study, which are mentioned below.

- I used random assignment - study groups had the same chance of being assigned to a given treatment condition. As such, random assignment ensured that both the experimental and control groups were equivalent.
- I used the 'pre-post testing,' that is, I carried out tests before any data was collected to check if there were any student confounds or if any participants had certain tendencies.
- I chose the materials from textbooks that I could be certain participants had not seen before. The textbook that I used for this study was given by the university's book store, which students could not buy from other bookstores in the region.
- Before beginning my research, I organised an orientation meeting that took place in a university conference room. During the orientation, I spoke with the students who volunteered for this study, and explained the importance of trusting each other during the study. I informed them that the teacher would provide plenty of materials about target vocabulary so they did not have to seek out other materials. I also outlined to them

prohibited actions of my study, such as accumulating extra English hours, using other resources, and asking other teachers for assistance. These stipulations were agreed upon by the students in this orientation meeting.

• I spoke with other teachers in the department and asked them not to answer questions about target vocabulary after research began.

• I blocked all other webpages on the Internet during the computer lab time. Students were only able to access Moodle materials during the intervention phase.

• To minimise teacher influence on the students, I chose to collaborate with the same teacher for both of the groups.

### 3.2.1. The Respondent-Participants.

Many universities in Turkey require their students to meet the minimum requirement of English language competency before department-specific teachings can ensue. The participants who took part in this study were students in an English preparatory class. At the school year's onset, students must pass a three-stage exam procedure, unless they are able to provide an English language test score that is internationally recognized such as TOEFL to bypass it. The first step is a standard proficiency placement overseen by the Foreign Language Department. Those who successfully pass this progress to the next stage, a series of speaking and writing exams. Students who fail at any stage of this exam process are assigned to a specific level based on the sections of the tests they were able to complete successfully. Canik Basari University's placement scheme are A1, A2, B1 or B2 levels, but my choice for this study were students at the A2 level (pre-intermediate). These students possessed the necessary level of base English proficiency to understand and follow self-guided web-based instructions. Those at an elementary level would not be able

to interpret the activity, and students at the upper intermediate level may not have felt challenged or motivated enough by the tasks.

In conducting the study, I strictly followed the ethical standards of Canik Basari University and Keele University. I applied for the permission to the Canik Basari University's ethical panel (See Appendix F for Consent form ethical committee) and the members of the panel looked at the risk involved in this study. The commission decided that there was no risk involved in taking part in this research project (see Appendix E for Ethical Review Panel) because of the following:

a. This study focused on classes in Canik Basari University's campus region;

b. Students have the usual normal classroom atmosphere;

c. Records of the study are not shared with anyone else;

d. Participants' names are not disclosed to anyone and all data would be anonymous before submission for publication;

e. Participants were permitted to disengage from this study at any time and without reason;

f. All information gathered would be used in my thesis alone and not where else;

g. Students' confidentiality would be safeguarded during and after this study;

h. The data would be stored securely on a password-protected computer. It would be coded. I would retain the data for at least five years. The longer term arrangement for handling the data is that they would be securely disposed of according to Canik Basari University protocol.

After securing permission, I went to the subjects of the study and oriented them to detail of the study. Thereafter, I asked them if they are willing to undergo the research procedures. (See Appendix G for letter of invitation) Here, the students were free to decide

whether they wished to take part in the research or not. Specifically, the students were asked to click on a uniform resource locator (URL) or web page link that contained the research consent form. (See Appendix H for Students' consent form) If subjects did not agree to the terms stated in the consent form, they were asked to click on a URL that allows them to leave Moodle. Once students accepted the terms stated in the consent form, they were asked to sign two consent forms; one was for them to keep and the other was for my records. Initially, approximately ninety-six students were targeted to take part in my study, however, only seventy students signed and participated in the course of this research project.

Moreover, these seventy respondent-students have ages ranging from seventeen to twenty-one who are recruited from the Preparatory College of Canik Basari University. Most of them belong to the middle to high socio-economic status, which enabled them to afford to be enrolled in this university. All the sample-students were enrolled in English courses for a semester. Twenty of the sample-students speak only English in every class and activity for six hours a day throughout an eight-week quarter.

Thereafter, they were divided into two groups randomly with each group having thirty-five students. Thereafter, all the sample-students from the two-groups were asked to take a pre-test. The scores of the sample-students were subjected to T-test to see if there was a significant difference in the performance of the two groups in English vocabulary level. It has to be noted here that the sample-students are native Turkish speakers and received instructions in English as a foreign language for an average of two years through traditional EFL classes and that all of them were taught by the same teacher.

### 3.2.1.1. The Control Group

There are thirty-five sample-students in the control group. The control group's classroom is a traditional classroom with a blackboard, table and chairs. Table and chairs

could move easily for group work. The teacher is the one in authority and rules over the affairs of the classroom. Moments exist when the instructor is the authoritative supply of education. Students follow what the teacher says. The learners are passive recipients and spectators of knowledge given by the teacher.

Moreover, in terms of classroom procedure, the teacher simply followed the path of the book being used in teaching English word vocabulary in the Canik Basari University and exhausted avenues to reach optimal results using the tradition approach. Here, the teacher read the text first. (See Appendix I The reading Text)

After the teacher went through the story, students were given a chance to go over the story by themselves and use dictionaries when they wanted as teacher's guidance showed. Instead of online dictionaries, students accessed traditional monolingual and bilingual dictionaries. Then the teacher asked warm up questions. (See Illustration 1 for Sample of the Traditional Group Warm up Activity) to explain the pictures on the page in her book. In this way students could follow through using their own copies. Students looked at the picture and they talked about it. They tried to guess what they were going to read. The teacher gave them information about Captain Samuel Bellamy in the picture, as he was a lover who turned into a pirate because he failed on his first career as an ordinary treasure hunter, looking for shipwrecks. Then the teacher asked them some questions about famous movies, stories or books about the sea or sailors. Here, everything done by the teacher is traditional in conformity with the traditional lesson plan. (See Appendix J for the Traditional Lesson Plan)

After the teacher finished the activities, she moved to the traditional paper-based vocabulary exercises and games. (See illustration 2 for Sample of Traditional Vocabulary Exercises)    When students came across new vocabulary they had not learned in the text content, the teacher showed picture-cued flashcards.  The visuals were copied and posted on the walls but these materials did not always attract the attention of the students. The warm up activities were mostly oral. During the teaching process, the teacher tried to have them take active part in the process with the help of some vocabulary games. Half of the games were kind of boring to the students but the rest were just fine and they participated. They always had to take notes of the target vocabulary. They mostly focused on different paragraphs about the topic and did some written exercises to learn the target vocabulary.

To examine target vocabulary within the control group, the students received a grammatical category of words and one sample sentence for each. In addition, the instructor displayed several images, which visually demonstrated the meaning of the words. The intervention group were exposed to the same visual images and sample sentences, but were delivered through CALL. Feedback is an important aspect, and it was the teacher's responsibility to provide this and subtly direct students to their own errors in the control group. Upon the existence of an error – if the student even noticed one in the first place – students in the control were forced to wait until the correct answer was provided by another student. Intervention group students, on the other hand, saw a quicker turnaround. If a mistake was made during the vocabulary exercises, the computer would instantly notify the student of the error and provide an opportunity to try again. In situations where the student was utterly at a loss, they could click a button on the screen, which would reveal what the correct answer was.

As a result, the students did not really pay much attention to the lesson - in other words, they were not fully motivated to engage. Sometimes they got bored because of the written parts. The teacher had limited physical activities, which were suitable for their age. During the whole process, the use of authentic materials was the most important pedagogical device in this class.

### 3.2.1.2. Intervention Group

In contrast to the control group, the intervention group acquired vocabulary by receiving story content through CALL, including two stories called "Pirates" from the Reading Explorer, a reading skill book that was published by the Heinle Company for the A2 English level students. This book was published especially for university language courses and most Turkish universities, which have language courses, use these kinds of materials for their learners. The Canik Basari University Materials Development Unit chose this book for reading. The book provided not only high-frequency vocabulary but also helped build reading and vocabulary skills for all learners. The intervention material incorporated many sources and activities. Fifty words were used from the aforementioned "Pirates" book, along with pictures, sample sentences, and definitions of the selected words. Activities to assist in the revision of the target words included word-to-definition matching, crosswords and cloze exercises. In order to be able to compare accurately the control group and intervention group results, the same book topics were used for both groups. The advantage of this book is that it has CALL materials but also a guidebook for teachers who are willing to use traditional approach in teaching. The book included a guidebook for teachers, which was very important for the control group. Additionally, it provided an interactive CD to students with all the contexts from the DVD and additional vocabulary exercises which was used for the intervention group.

Additionally, as this study's aim is to relate the success of computer-assisted language learning with teacher instruction, computer technology was used whenever possible. Traditional reading texts were converted via software to smart board texts with multimedia annotations for the intervention group. These annotations took the form of text, graphics and sound pulled from various Internet sites, including The Heinle Learning Centre website.

The intervention group's classroom was different from the traditional classroom because the teacher had an electronic interactive whiteboard (See Illustration 3 for a sample of Interactive Board) a device that offers a communal learning setting for groups of any size and distance learning. It acts as a presentation tool that collaborates with a computer. Images from the computer monitor were displayed on the board by a digital projector where they could be viewed and interacted with. Control software could be used by learners from both from the computer and from the board. Participants had the ability to append memos and add emphasis by using a pen and/or highlighter tool. With a finger being used as a mouse, the teacher or student could execute programmes straight from the board. An additional use that the computer could provide is that it had an input. Any annotations or sketches could then be saved or printed out and shared to peer members. This device included a programme called Smart Board with which students could create CALL activities. In this way, Internet Web 2.0 activities could be accessed and used in their class.

The electronic whiteboard is part of CALL materials that is attractive to the students. Bell (1998) focuses on the effectiveness of interactive whiteboards. Her research proved that the interactive electronic whiteboard is a great and colourful tool for

demonstrations and all ages of students respond favourably to its use. Another important feature was that students could work jointly with others contributing at the board, other participants at the computer, and the group as a whole conversing about the project. These findings were all important for the students' motivation, which is one of the key elements of the study. Here, interactive materials utilized in the intervention group garnered optimal vocabulary language learning and acquisition. This is executed along with versatile classroom instructions, which increase interest and more engagement. With respect to classroom instruction, the teacher followed the instruction from the teacher guidebook. The teacher opened the SMART Board software to teach "Pirates" to the whole class. Referencing the 'Before Reading' activities included in Reading Explorer, I created an active board game with the help of the Smart Board application. (See Illustration 4 for Before Reading Activities).

Later, students listened to the whole topic from the Smart Board activity chart which was again prepared for this study. Students had a chance to hear pronunciation of the words with the help of the Smart Board application. After listening to the text, the teacher clicked on a link to the target words and listened again. (See Illustration 5 for Sample of Reading Text). Additionally, students were given a chance to go over the story and click on the words to listen again by themselves. At this point, the instructor started to teach the definitions of the target vocabulary. Students were given time to use their online dictionary. The teacher next showed students the meaning of the words by clicking on them with the help of Smart Board. Students had a chance to see the meaning and listen to the correct pronunciation of the target vocabulary at the same time. The teacher continued with the vocabulary games. Instead of traditional vocabulary games, the teacher used smart board vocabulary games, which I created for this study. Students were given time to match target

vocabulary and the definitions on the board. (See Illustration 6 for 'drag the text' match the words with the meaning). With the active board apparatus providing support, the complete student body had a chance get involved in the activity and get quick feedback.

With these activities, they had a chance to utilize the meaning of the target vocabulary activities on the board. (See Illustration 7 for Match the words with the meaning). Upon completing the target vocabulary exercises, students were asked to complete crosswords with the target vocabulary. They were asked to write the correct answer on the board. (See Illustration 8 for Crosswords with the meaning). The next activity involved watching a movie clip and using target vocabulary to fill in gaps in the dialogue as displayed on the smart board. (See Illustration 9 for Fill in gaps)

The next vocabulary required students to drag target vocabulary from the bottom of the screen and place them under the correct heading, according to respective part of speech. Focusing on which part of speech each word belongs to reinforced both meaning and usage of the target vocabulary. (See Illustration 10 for Put the words in the right column). The classroom instruction was engaging because it was done in the computer laboratory. It made the instruction more appealing to the students because the atmosphere is conducive to vocabulary learning and acquisition using CALL.

As regards the Computer laboratory, students had classes at the computer laboratory for individual vocabulary practice with the help of CALL. Each participant had one desktop computer to use for this study. After having weekly class with the teacher they had 2 hours every two weeks to use this computer lab to practice what the learned by using the book's CD-ROM, DVDs and Moodle activities as mentioned below.

Table 3.2. Details of the Computer Lab. Classes

| Group | Place | Minutes(hours) per Session | Number of the Weeks | Session per Week | Total Session | Number of Students |
|-------|-------|----------------------------|---------------------|------------------|---------------|--------------------|
| Intervantion Group | Computer Lab. | 60 | 4 | 2 | 8 | 35 |

This was important for the students because they had the chance to ask questions one by one and got immediate answers. Asking questions and getting feedback quickly is one the advantages of CALL.

The intervention group was given a thirty-minute orientation session in the computer lab to ensure flexibility of use in the beginning of the classes. The instructional component began by instructing students to type their usernames, passwords and click 'enter' on Moodle. By clicking 'enter', the screen showed the activity page to choose from, including online activity links. In this study, students only needed to choose vocabulary activities to learn. After students double clicked the link, they were asked to finish games, match tests, etc. (See Illustration 11 for Moodle activity page 1) the instructor asked students to choose activities one by one. The teacher asked the whole class to choose the same activity that they would be engaged in for that section.

After the students finished reading individually, they moved to the exercises created for the stories by using CALL to learn more vocabulary. Even though the students were assigned to the same novice-medium level according to the entrance exam, certain variables might have affected students' performance during the exam such as physical and psychological factors. Furthermore, students had different learning paces and motivations which also could have affected their performance in the class. Therefore, the teacher monitored students' performances by walking around the classroom and observing their

levels of engagement. The teacher was ready to answer questions and assist when students were unable to perform computer work properly. More time was spent assisting low-achieving students. High-achieving students received positive feedback. The intention here was to create a free atmosphere for students who needed help but were too shy to ask questions. In this way, they could receive help without hesitating.

Additionally, students had laptops and Internet access to practice vocabulary from their online class on Moodle at home, enabling them to have fun with the vocabulary at home and without any pressure. To practice vocabulary words with some CALL applications through Moodle is another advantage of CALL. A variety of real voices and sound effects were built into the programme. Learners could also play games, including word puzzles and crossword matches. The Moodle (See Illustration 12 Moodle activity page 2) user could click on different icons to have the computer read the story, explained words in English, or gave several similar sentences used in a variety of situations.

The process of the research scheme, including information on the respondent-participants, was the subject of this chapter. Now that the design and participants of the study are clear, data gathering techniques and the treatment of data will be covered next.

## 3.3. Data Gathering Techniques and Treatment of Data

' The purpose of data analysis is to translate the evidence into a form which allows the researcher to make clear and concise statements of description  and / or association' (Anderson & Burns cited in Simpson & Tuson, 2003, p68).

To gather the data to be subjected to T-test, the sample-students were asked to take a 50-item self-developed multiple choice pre-test and a post-test in the Moodle course

management system. The Moodle course management system was used to facilitate data collection for this study. (See illustration 12) To achieve higher validity, the test included clear test instructions, consistent and objective scoring methods, and only the items that were taught to students during treatment were asked in the test. It is worth mentioning here that all the vocabulary test items included in the tests were culled from a list of 3, 000 words hypothesized to be familiar to students as suggested by Chall and Dale (1995, pp. 16–29). Prior to the treatment, a fifty-minute pre-test was administered to all participants.

After this, the intervention group was given a forty-minute orientation session to CALL to ensure flexibility of use. The control group had twenty-four hours in conventional instruction in eight successive weeks (three hours a week), and the intervention group had twenty-four hours CALL classes.

Table 3.3. Details of the classes

| Group | Place | Minutes (hours) per Session | Number of the Weeks | Session per Week | Total Session | Number of Students |
|---|---|---|---|---|---|---|
| Control Group | Traditional classroom | 60 | 8 | 3 | 24 | 35 |
| Intervention Group | CALL Class | 60 | 8 | 3 | 24 | 35 |

The students were taught the vocabulary through the same story content, including two stories called "Pirates" from Reading Explorer, a reading skill book published by the Heinle Company for the A2 English level students. However, the control group used the storybook copies and dictionaries to learn vocabulary, and the teacher used traditional method during the exercise period in class while the intervention group used the interactive software with translation function to access stories, check difficult vocabulary, and CALL activities.

The teacher in the traditional teaching classes taught and guided the whole class. Conversely, the teacher in CALL classes guided students to go through the story content once, and then students read again and performed activities by themselves. The teacher walked around to simply respond to procedural inquiries and provide aid when subjects were not capable to perform well during class time. After eight weeks treatment (twenty four hours of instruction), all participants took a fifty-minute post-test. Thereafter, a retention test was disbursed to the control and intervention groups.

The second phase of my study was a questionnaire, and my rationale for utilising this was because I needed to gather data directly from the students. Two types of questionnaires were composed: Likert-scale items and open-ended. The Likert-scale has been branded as a useful and effective means of gauging the opinions and attitudes of participants (Turner, 1993), hence why I chose to harness it for my own uses. My intention with the open-ended questions of the questionnaire were to reveal the students' general impressions of the lexis, and to determine whether they agreed that the CALL materials were useful for teaching vocabulary. (see Appendix L) The use of mixed questionnaires were designed so that I could learn the students' attitudes towards CALL. The questionnaire was arranged in the form of 34 Likert-type questions with the goal of discovering their perceptions about vocabulary learning through computer assisted language learning (CALL). (see Appendix L)  Participants had the option of answering each question with 'strongly disagree', 'disagree', 'undecided', 'agree', and 'strongly agree'. Interpretations of the means of responses were made according to the scale below:

4.21-5.00 (Strongly Agree)

3.41-4.20 (Agree)

2.61-3.40 (Neither Agree nor Disagree)

1.81-2.60 (Disagree)

1.00-1.80 (Strongly Disagree)

Also included in my questionnaire were 8 open-ended questions whereby the students were free to write their general impressions towards computer assisted language learning (CALL). (see Appendix L)

In addition, a survey-questionnaire was also administered to qualify the behaviour or attitude of the participants about computer assisted language learning in teaching vocabulary to increase the level of English language proficiency among my students. Furthermore, the survey-questionnaire was also employed to ratify and validate the entire research. The first section of the questionnaire had the goal of collecting background data on the contributors: their names, gender, and experience in learning English, training/seminar/workshops attended, Internet access, and others. The second section of the questionnaire refers to the competence or the knowledge and skills of the students in using computers. The third portion of the questionnaire is designed to expose the benefits of CALL in English language learning in general. Lastly, the fourth segment of the questionnaire is devised to explore the advantages of CALL in English vocabulary acquisition. The data gathered through the questionnaire were converted into numerical representations or coding system as suggested by Dörnyei (2003) and were interpreted and analysed.

Lastly, observation was also employed to see what was happening inside the classroom. This is not just to gather data but also to see the motivation and behaviour of students in detail in relation to the use of CALL. The observation in their motivation and behaviour is very important to me in the research because I want to see if CALL made

them more enthusiastic or not in learning vocabulary or that learning vocabulary was more enjoyable or not through CALL which is beyond the scope of the written test.

'The purpose of observation is to create a dynamic picture (Burns,200); to explain patterns, review complex and subtle interaction and see relations' (Burns,200; Robson,2002; and Simpson and Tuson,2003)

According to Chapelle (2003), 'one approach to understanding technology use is to carefully observe learners at work.' Denscombe (1998) says further that examination 'draws on the direct evidence of the eye to witness events first hands. It is based on the premise that, for certain purposes, it is best to observe what actually happens.' Specifically, I observed to capture something of the level of motivation and attention of both groups of students. Additionally, the prompt questions that I used to guide my reflection and note taking were as follows.

1. What happened in the classroom when students used computers for developing their vocabulary in English?

2. What computer-based tasks students completed and how teachers set up activities for the students

3. How did students complete the computer-based tasks to practice vocabulary learning?

4. What kinds of support teachers provided for students' learning English vocabulary?

5. What is the students' general impression of the using computer to learn vocabulary?

6. What is the students' attitude toward immediate feedback and error correction during the Moodle activities?

7. What is the students' motivation and attention level?


Observation was the third stage of my data-gathering technique. While it is true that questionnaires, Pre-tests and Post-tests offer insights into the perceptions of the

participants, they do not reveal data about what actually takes place in the classroom. I was

reminded of Chapelle (2003) who insists that 'One approach to understanding technology

use is to carefully observe learners at work.'(p.97). P. Denscombe (1998) adds to this,

stating that observation 'draws on the direct evidence of the eye to witness events

firsthand. It is based on the premise that, for certain purposes, it is best to observe what

actually happens.'(p.139). Based on the fact that my research was classroom based,

observations were crucial.

My aim was to have a deeper understanding about the use of CALL in the

classroom and computer lab, which affected the types of observation used. I did not intend

to involve myself or participate in activities at the university's language center (e.g. Burns,

1999), so I employed non-participant observations. My objective was to simply watch and

log field notes on the process of activities involved in using CALL. My reasoning behind

this had two explanations. Firstly, it was impossible for me to be involved in the students'

activities in class because my involvement could effect the teacher's attitude towards the

students, as well as the students' attitude in general.

Moreover, I thought it would add an element of objectivity if I were able to be an

observer, rather than the reseach lead. This is why I did not get involved or participate in

activities, and instead assumed a non-participant role to observe. My target purpose in this

study was to use my own perspectives to witness evidence and to provide information on

my classroom observation questions.(see Appendix C/D for Observation sheets)

My initial thought was to use the three main techniques according to Denscombe

(1998), which are  video camera recording, tape-recording and written recording. However,

I decided on note taking as my main form of personal observation due to certain base

concepts. Foster (1996) and Wragg (1999) claim that using a camera in the classroom will

affect student behaviours. Students may not have worked naturally if I recorded one-off

sessions in the classroom. Due to the limited visual range of a camera, some events might not have been captured at all since they were out of camera view. Acquiring permission from teachers and students to film them is a typical obstacle as well. To solidify my point, Canik Basari University prohibits recording classes as per their policy. Even if I could have obtained permission from teachers and students, their 'reactivity will increase' (Foster, 1996, p.87) which would have had a negative impact on my study.

Taking all of this into account, I watched and recorded field notes on the process of activities of students involved in using CALL. It is worth mentioning the observational tool I used, which consisted of a series of headings under which I took notes. (see Appendix C/D for Observation sheets). The use of written notes over other mediums allowed me to provide descriptions of the situations that unfolded, such as what happened, what tasks they did, the time they spent on the computer and what discussions they had with their peers. From these descriptions I was able to create detailed reports and further analyse the data. I did have a desire to use a digital tape-recorder to obtain the true discussions of the teachers and students whilst they were in the computer room. I requested permission to have audio recorded data for this purpose, however, after a discussion with my students and the teacher it was clear that no consensus could be reached so I resigned to not use voice recordings.

I intended to observe four lessons each in the classroom (see Table .17) and CALL classroom of the group. During the observation, I focused on what computer-based tasks students completed and how teachers set up activities for the students. I monitored what students were asked to do in order to complete their task, such as listening to a lecture or a conversation, and making comments. I took note on whether a student worked individually, in pairs, or groups for collaboration, as well as any motivational acts they exhibited during classroom activities.

To present my analysis of observations, I recounted what I observed in each classroom. I expressed in detail what transpired among the teachers and students in both classrooms when CALL was used for supporting vocabulary acquisition, and when it was not.

The descriptive analysis technique that I employed aimed to provide an overview of the interaction among teachers and students while using computers within the context of the CALL. I was reminded of Scott (2001, 2005) who suggested that descriptions can offer an overview of the nature of the communication in its context, enrich the report of activities in the class and provide additional information related to perceptions of teachers and students in language teaching and learning.

My analysis of observation data adhered to the analysis categories of open-ended question data. These focused on the kinds of computer-based tasks that were used, the nature of the activities that teachers set for developing vocabulary, how the teacher and students used computer-based tasks to support students' vocabulary and the manner in which students interacted with each other as they worked on tasks in the CALL classes. This information was supplemented with my findings from the questionnaire in order to discover the answers to my research questions.

Moreover, for collaboration of the ideas gathered. Here the data gathering techniques and how the data was to be evaluated were presented. Reliability and validity is of great imperativeness, and will be examined in the coming segments.

## 3.4. Reliability and Validity

Reliability and validity are the most important aspects of research. The studies on reliability and validity are explained in greater detail in a separate section as their scope

this present study is too large to contain in this section. What follows is a discussion on reliability and validity and triangulation.

### 3.4.1. Reliability and Validity in Quantitative Research

Reliability and validity are paramount concepts in quantitative research. A discussion on these two concepts are then in order.

#### 3.4.1.1. Reliability

According to Joppe (2000, p. 1), 'the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.' Succeeding this sentiment, the assumption of replicability or repeatability of outcomes or examinations is paramount in reliability.

Upon the other hand, Charles (1995) argues that crucial to reliability is stability. He believes that the 'consistency with which questionnaire [test] items are answered or of individual's scores remain relatively the same can be determined through the test-retest method at two different times. This attribute of the instrument is actually referred to as stability' (Charles 1995, p.179-197). A strong measure of stability indicates a strong measure of reliability, that is, in so far as results can be shown to be repeatable. Conversely, Joppe (2000) finds a glitch in this test-retest method of Charles (1995) which can make the process, to a certain extent, unreliable. According to her, the test-retest method may acquaint the participant to the topic matter, and as a consequence, influence the response.

Crocker and Algina (1986) also observe that with respect to responses to a grouping of test particulars, the ensuing scores reveal an isolated, narrow behaviour participant sample. Therefore, the scores may be irregular on the grounds of certain characteristics of the participant, potentially resulting in flawed assessment. Such mistakes will weaken the correctness and regularity of the tool and the test scores. Thus, Crocker and Algina (1986, p. 106) maintain that 'test developers have a responsibility of demonstrating the reliability of scores from their tests.'

### 3.4.1.2. Validity

The conventional precedents for validity bear their origins in a positivist custom. Conformably, Joppe (2000, p. 1) offers a definition of what validity is in quantitative research. It is her belief that, 'validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit 'the bull's eye' of your research object? Researchers generally determine validity by asking a series of questions, and will often look for the answers in the research of others.'

Wainer and Braun (1988) explain validity in quantitative research as 'construct validity'. The original hypothesis, inclination, query or interpretation is the foundation that dictates which details are to be omitted and by what means. Reliability and validity in quantitative research have two branches: First, whether the result is replicable. Second, the methods of measurement are accurate.

### 3.4.2. Reliability and Validity in Qualitative Research

The opinions of reliability and validity are viewed incompatibly among qualitative researchers. These concepts as presumed in quantitative research do not conform to the

qualitative research model. For qualitative researchers, the complication of replicability in the results is not the concern (Glesne & Peshkin, 1992), but 'precision' (Winter, 2000), 'credibility, and transferability' (Hoepfl, 1997) of the results.

### 3.4.2.1. Reliability

According to Eisner, (1991, p. 58) 'sound qualitative research helps us understand a situation that would otherwise be enigmatic or confusing.' Testing can be understood as a way of information gathering, and naturally quality is most essential in a test of qualitative study. The idea of sound quality research where reliability is concerned implies an assessment of quality with a 'purpose of explaining' in a quantitative study. On the contrary, the idea of quality in a qualitative study is for 'generating understanding' (Stenbacka, 2001, p. 551). This variant is one of the rationales of why reliability is a trivial consideration in qualitative examinations. Stenbacka (2001, p. 552) alleges that 'the concept of reliability is even misleading in qualitative research. If a qualitative study is discussed with reliability as a criterion, the consequence is rather that the study is no good.'

In conformity with the preceding, Patton (2002) insists that validity and reliability are two conditions which qualitative researchers should be fastidious about when coordinating a study, inspecting data, and gauging the value of the study. Thus, according to Lincoln and Guba (1985, p. 290), one important question that should be asked is: 'How can an inquirer persuade his or her audiences that the research findings of an inquiry are worth paying attention to?" As a reaction to the question, Healy and Perry (2000) insist that, for every situation, it is required that the quality of a study be weighed by the standards of its own paradigm. Reliability and validity are decisive measures for quality in quantitative paradigms. For example, while the pivotal scales for quality in qualitative

paradigms, the terms credibility, neutrality or confirmability, consistency or dependability and applicability or transferability are used (Lincoln & Guba, 1985).

Understanding reliability, (Lincoln & Guba, 1985, p. 300) employ the term 'dependability' in qualitative research and utilize 'inquiry audit' (1985, p. 317) as one tactic which could greatly improve the dependability of qualitative research. According to Hoepfl (1997), 'inquiry audit' can be employed to assess consistency in the process and the product of the research. In the same vein, Clont (1992) and Seale (1999) claim that, in qualitative research dependability is paramount with consistency or reliability.

Moreover, an appraisal of credibility is indispensable to safeguard reliability in qualitative research. Seale (1999, p. 266) asserts that the 'trustworthiness of a research report lies at the heart of issues conventionally discussed as validity and reliability.' Lincoln and Guba (1985, p. 316) assert that 'since there can be no validity without reliability, a demonstration of the former (validity) is sufficient to establish the latter (reliability).' Patton (2002) agrees by saying that 'reliability is a consequence of the validity in a study.'(p. 344–347)

### 3.4.2.2. Validity

A great variety of terms in qualitative studies illustrate the idea of validity. Validity is not a singular, static idea but 'rather a contingent construct, inescapably grounded in the processes and intentions of particular research methodologies and projects' (Winter, 2000, p. 1). Several qualitative researchers have disputed that validity does not have relevance to qualitative research; however, they also understand that qualifying checks or measures for research are needed. As a case in point, Creswell and Miller (2000) put forth that definitions of validity are swayed by the researcher's opinion of validity in the analysis and

by his/her specific paradigm inference. This has led to a number of researchers advancing their personal beliefs of validity and in addition adapting what is seen as more suitable words, for example, quality, rigour and trustworthiness (Davies & Dodd, 2002; Lincoln & Guba, 1985; Seale, 1999; Stenbacka, 2001). Mishler, 2000; If such issues are important to these researchers, then testing for them will be meaningful to the research in any paradigm.

### 3.4.3. Testing Validity and Reliability

In due consideration of the significance of validity and reliability, one important question arises on the table: 'How to test or maximize the validity and as a result the reliability of a qualitative study?' This is so because, a more 'credible and defensible result' (Johnson, 1997: 283) may lead to generalizability. Generalisability is the system for both accomplishing and chronicling high quality qualitative research to strengthen or verify its validity or trustworthiness (Stenbacka, 2001). Hence, the quality of a research is correlated to the generalizability of the conclusion, and inevitably to proving and boosting the validity or trustworthiness of the research. Validity in quantitative research is highly precise, in that event, to the test to which it is enforced - where triangulation is utilised in qualitative research. Triangulation is test for heightening the validity and reliability of research or evaluation of results.

### 3.4.4. Triangulation

As stated by Mathison (1988, p. 13), 'triangulation has raised an important methodological issue in naturalistic and qualitative approaches to evaluation in order to control bias and establishing valid propositions because traditional scientific techniques are incompatible with this alternate epistemology.'

Patton (2001, p. 247) favours triangulation asserting that 'triangulation strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches.' Yet the concept of commingling methods has been questioned by Barbour (1998). She challenges that connecting paradigms are viable but fusing techniques within one paradigm, as in qualitative research, is problematic since each procedure within the qualitative paradigm includes a specialised expectation in 'terms of theoretical frameworks we bring to bear on our research' (1998, p. 353). In spite of triangulation being harnessed in quantitative paradigm for validation and generalization of research, Barbour (1998) cannot ignore the concept of triangulation in qualitative paradigms and expresses the need to understand triangulation from the perspective of a qualitative research in each paradigm. Furthermore, triangulation is very much effective in a constructivist paradigm in qualitative research. Constructivism heeds knowledge as socially constructed and, as a consequence, has the chance of transforming with fluctuating phenomena.

Crotty (1998, p. 42) characterizes constructivism as "the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context."

According to Johnson (1995, p. 4), the goal of any qualitative research is to participate in research that delves for more profound insight rather than scrutinising apparent characteristics and constructivism may accelerate the attainment of that objective. The constructivist idea that reality is modifiable regardless of the observer's intent (Hipps, 1993) respects the varied realities that people entertain in their minds. Thus, to confront valid and reliable varied and diverse realities, it is compulsory to implement several procedures of information collecting. Triangulation is consistent with constructivism by

permitting research participants to support the researcher with the research question and with data gathering.

## 3.5. Reliability, Validity, and the Present Study

Based on the preceding considerations, the connection of the quantitative paradigm with the qualitative research through validity and reliability resulted in a shift in the researcher's perceptions of the conventional definition of reliability and validity from the qualitative researchers' standpoints. Explained as 'a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study' (Creswell & Miller, 2000, p. 126), triangulation in research refers to the practice of using multiple sources of data or multiple approaches to analyse data to enhance the credibility of research. Triangulation is very much appropriate to use in the present study because the researcher collected both quantitative and qualitative data. The methods that were used in this research to determine reliability and validate the quantitative set of data are the following:

a. Reliability tests: internal consistency (Cronbach's alpha)

b. Translational validity: content validity and face validity.

Reliability and validity, and how it pertains to the present study were the focal point of this specific portion of the literature review. A summary of the different types of validity and a discussion of test and questionnaire reliability will follow.

## 3.5.1. Reliability Tests

Reliability alludes to the potential of a test and a questionnaire to routinely measure an aspect and the degree that the items fit together conceptually (Haladyna, 1999; DeVon et

al., 2007). Two estimators of reliability are commonly used, specifically, internal consistency reliability and test-retest reliability.

Internal consistency reliability was employed in this present study to examine the reliability of study's statistical data. Internal consistency reviews the inter-item relationship within an apparatus and specifies how well relate to each other in theory (Nunnally and Bernstein 1994; DeVon et al. 2007). The easiest approach to measure the internal consistency of statistical data is by segregating the scores a participant achieved on a questionnaire in two sets with an equal amount of scores and calculating the correlation between these two sets (Field, 2009). A great connection implies a high internal consistency.

Cronbach's alpha is equivalent to the average of all possible split-half estimates and is the most commonly used reliability statistic to confirm internal consistency reliability (Trochim, 2001; DeVon, et al., 2007). Hence, Cronbach alpha is frequently the proper reliability measurement for language test improvement strategies and language testing research. In this study, Cronbach's alpha was surmised to analyse the internal consistency of the statistical data.

Cronbach's alpha reliability coefficient usually ranges between 0 and 1. Though, no lower limit to the coefficient actually exists (Trochim, 2001). The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. George and Mallery (2003, p. 231) provide the following rules of thumb: '_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable.'

### 3.5.2. Translational Validity

Aside from the reliability test, translational validity was also employed in this study. Translational validity is composed of content validity and face validity.

### 3.5.2.1. Content Validity

Content validity was deployed to certify whether the content of the questionnaire and the content of the test questions were properly matched to the study. According to Pilot and Hunger (1999) and DeVon, et al. (2007), 'content validity indicates the content reflects a complete range of the attributes under study and is usually undertaken by two or more experts.' (p. 155-164).

### 3.5.2.2. Face Validity

Face validity suggests the questionnaire and the test seem to be pertinent to the intent of the study and subject scope. This concept is the most uncomplicated of the validation proceedings. It appraises the presentation of the questionnaire and the test with regards to workability, the ease of reading it, regularity of design and formatting, and the coherence of the language used (Haladyna 1999; Trochim 2001; DeVon et al. 2007). Face validity was made use of in this analysis in relation to the questionnaire that prepared by the researcher which were answered by the respondents.

### 3.5.3. Test Reliability and Validity

To be able to gauge how reliable the use of pre-tests and post-tests were prior to undertaking the current study, the internal consistency reliability was computed based on a initial test which was performed with a batch of students at a similar level. The group consisted of 35 students. This pilot test's Cronbach's alpha result was .893. The reliability of the test is thus acceptable. The minimal acceptable alpha value is 0.70 based on Bobko

(2001), Litwin's (1995) and George and Mallery (2003) criterion. Thus, the test is a reliable instrument to estimate students' vocabulary level. Two professionals in English teaching were brought in to examine the content validity. As a first step, they confirmed if the entirety of the test content paralleled the textbook material. Secondly, the experts ensured that topics in the pre-test and post-test were determining students' vocabulary knowledge.

### 3.5.4. Questionnaire Reliability and Validity

A questionnaire's reliability refers to a requirement that participant scores should be identical, and entirely dissimilar participants should receive an entirely different score (Field, 2009). However, based on the researcher's experience, finding two individuals who are completely alike or vastly opposite is almost impossible and time-consuming and this was validated too in the conduct of his study. Conformably, in statistics, it is generally understood that when a singular component or a collection of parts depicts an invariable product as the entire questionnaire, the questionnaire may be assumed reliable.

Because the correlation coefficient often differs depending on where one splits the dataset, unfortunately one must split the dataset as often as variables occur. One must also determine a correlation coefficient for the diverse sequences of sets and lastly discover the questionnaire's reliability based on the mean of all coefficients involved. Cronbach's alpha is a quicker and similar method to calculate a questionnaire's reliability. Generally, it is considered that a questionnaire is reliable when the result is over 0.8 (Field, 2009). The questionnaire that crafted and employed in this study has three sections, namely:

a. The reliability of Section B: competence of students (Cronbach's alfa) was calculated as .866;

b. The reliability of Section C: general attitude items (Cronbach's alfa) was calculated as .908; and,

c. The reliability of Section D: vocabulary (Cronbach's alfa) was calculated as .890. The reliability of all sections together (Cronbach's alfa) was calculated as .918. Since the $\alpha$ of this questionnaire is far higher than 0.8, it can be assumed that it is reliable (Field, 2009).

For the content validity of the questionnaire employed in this study, the practitioner requested authorisation from proper authorities to use a questionnaire which was used before in the same area, employed changes in the questionnaire, and then sought expert opinion as regards the changes. When the changes were made on the questionnaire, three carefully chosen experts in the areas of education and questionnaire layout were invited to inspect the questionnaire to ensure whether its content and the test questions were suitable and congruent to the study. Furthermore, to learn the face validity of the questionnaire, an orientation session was organized to help participants assess each question in terms of the clarity of the wording and the layout and style. Moreover, at the end of the orientation, a Turkish version of the questionnaire was given to participants to ensure that all participants understood each question clearly.

## 3.6. Conclusion

The reliability and validity in quantitative and qualitative research was the focus of this chapter. Qualitative researchers, specifically, have a different concept of these terms. Reliability and validity, as seen from a quantitative perspective, do not comply with a qualitative research archetype. Researchers of this type believe that results should be precise (Winter, 2000), credible and transferable (Hoepfl, 1997).

# CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

The effective teaching-learning of a second language, particularly the English language, has been the concern of many educators in this rapidly globalising world for teachers to teach effectively the second language and for students to effectively learn the same. In Turkey, the need to effectively teach and learn the English language has been put at the centre due to the findings of the Turkey National Needs Assessment (TNNA) mentioned in the report on The State of English in Higher Education in Turkey was formulated by the British Council and TEPAV in 2015. The TNNA declares that 'Turkey is underperforming in the area of English language teaching and that this 'deficit' is the result of inadequate teaching in primary and secondary schools.' Moreover, the statement of the British Council and TEPAV expresses that 'Turkey's 'English deficit' is a major factor affecting the quality of higher education, restricting access to academic resources, international research publication and the mobility of staff and students.' Anent to this, different methodologies and techniques are employed by different educators and researchers to really improve the teaching and learning of the English language

The present study endeavoured to show that computer-assisted learning of the English language is an effective way for the effective teaching-learning of the said language. In conformity with the insight of Aktas (2005) mentioned in 1.2, this research aimed to show that by getting the interest of and motivating the students, by using appropriate instructional methods, and by having learning materials through the employment of new technology, particularly of the computer, students would be able to have the basic level in English. With this in mind, the researcher argued in affirmation of the findings of Bush (1997) mentioned also in 1.2 that 'using technology to teach language is effective for

delivering instruction' as well as on the findings of Lee (2000), Warschauer and Healey (1998), Galavis (1998), Kremenska (2007), and Lai and Kritsonis (2006) mentioned in 1.2.

Moreover, to be able to formally affirm the above-mentioned insights, the researcher employed the philosophy of post-positivism in research mentioned in 3.1.1. understanding that the experiences of students in the learning of the English language should be considered and given much weight in as much as the students are the recipients of learning. Moreover, the researcher also employed interpretivism in research also mentioned in 3.1.1. noting that the cultural and social contexts of the students need to be considered for they greatly impact in the learning of the English language.

## 4.1 Recap of methodology and its justification

The current goal was to determine the effect of computer-assisted language learning among Turkish students and their capabilities in English vocabulary learning. A pre-test and post-test were administered to both the control and the intervention groups to help with analysis. While the study was underway, I was guided by my hypotheses that were first mentioned in Chapter 3 but reiterated below:

1. Students using CALL perform better compared to students not in CALL which can be evidenced by high post-test scores; and,

2. Students using CALL have a higher motivational level compared to students who did not use CALL, again suggested by high in scores in the post-test.

These intuitions culminated to the main research question: 'To what extent do CALL applications affect vocabulary acquisition of tertiary level students in Turkey, specifically in the Samsun Region?'

As explained in Chapter 3, I wanted to test the legitimacy of my hypotheses and thus discover the solution to the primary research question. Seventy participants were split into two proportionate groups – the control group and the intervention group - with thirty-five sample-students each. A multiple choice pre-test and a post-test were administered to the sample-students of both groups to measure their performance on vocabulary acquisition.

## 4.2. Pre-test and Post-test Analysis

The results of the pre-test and post-test of the sample-students in the two groups were tabulated, analysed and interpreted. Table 2 below provides a summary of the procedure undertaken in this part of the study.

Table 4. 1. Data Analysing Procedure

|   | Action | Annotation and Explanation |
|---|--------|----------------------------|
| 1 | Entrance exam | Students were placed according their result such as A1,A2,B1,B2 |
| 2 | Pre-test results | The results of the pre-test of the Control Group and Intervention Group were compared using the T-test . |
| 3 | Post-test result | The results of the post-test of the Control Group and the Intervention Group were compared using the T-test. |
| 4 | Group comparing | Comparison of the results of the two groups in the pre-test and post-test. |
| 5 | Questionnaire | The questionnaire the pre-test and the post-test employed the Likert scale questionnaire. |
| 6 | Observation | Ratify, affirm, and validate the results of the pre-test, post-test, and their comparison through the T-test, class observation was done by the researcher by recording the proceedings or instructions in the two groups. |

## 4.2.1. Explanation of Entrance and Pre-test Scores

As stated in 3.2.1 of the study, most of the students in the English course in the Canik Basari University were at the A2 English level, in accordance with their Oxford online

placement test entrance exam scores. The entrance exam included listening comprehension, grammar and reading skills. However, it was necessary to include a vocabulary pre-test to determine whether the intervention and the control groups were equivalent at the beginning of the experiment, since the study aimed at testing the students' vocabulary recognition ability. The result of the T-test upon comparing the results of the pre-test of the two groups showed that the two groups have no substantial variance in English vocabulary level (t = .512, df = 68, p = .611) at .05 level of significance. The mean pre-test scores for both groups are shown in Table 4.2 below.        Moreover,        the descriptive method of statistics in as much as this aspect aimed to show the difference between the pre-test and the post-test scores.

Table 4. 2. Descriptive Statistics of Pre- Test

| | GROUP | N (number of Students) | Mean (Out of 100) | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| CONTROL GROUP | 1,00 | **35,000** | **15,371** | **12,544** | 2,120 |
| INTERVENTION GROUP | 2,00 | **35,000** | **13,886** | **11,742** | 1,985 |

| | Levene's Test for Equality of Variances | | T-test for Equality of Means | | | | | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Differenc e | Std. Error Differen ce | Lower | Upper |
| Equal variances assumed | 0,056 | 0,813 | 0,512 | 68,000 | 0,611 | 1,486 | 2,904 | - 4,310 | 7,281 |
| Equal variances not assumed | | | 0,512 | 67,705 | 0,611 | 1,486 | 2,904 | - 4,310 | 7,282 |

### 4.2.3. Explanation of Post-test Scores

100 points was the maximum score on the researcher-developed post-test. An independent t- test conducted on the raw scores of the post-test revealed a significant difference (t = 3.592, df = 68, p = .000) at .05 level of significance. Though both groups displayed improvements, the intervention group scores were considerably above those of the control group. These conclusions highlight that students enrolled in CALL scored exceedingly better on the post-test over those students not under CALL. Table 4.3 below displays the mean results of the two groups on the post-test conducted. The results will be discussed in 4.2.4.

Table 4. 3. Descriptive Statistic of Post-Test

**Group Statistics**

|  | Group | N (number of Students) | Mean (Out of 100) | Std. Deviation |
|---|---|---|---|---|
| CONTROL GROUP | 1,00 | 35 | 35,257 | 11,663 |

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | T-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
|  |  |  |  |  |  |  |  |  | Lower | Upper |
| PostTest | Equal variances assumed | ,132 | ,717 | -3,946 | 68,000 | 0,000 | -10,629 | 2,693 | 16,003 | -5,254 |
|  | Equal variances not assumed |  |  | -3,946 | 67,654 | 0,000 | -10,629 | 2,693 | -16,004 | -5,254 |

## 4.2.4. Discussion of Scores in the Pre-test and the Post-test of the Two Groups

On the difference between the pre-test and the post-test scores of the two groups, Table 4.4 shows the results.

Table 4. 4. The Mean Scores in the Pre-Test and Post-Test of the Control and Intervention Groups

| GROUP | | | Mean (Out of 100) | N (number of Students) | Std. Deviation |
|---|---|---|---|---|---|
| CONTROL GROUP | Pair 1 | PRETEST | 15,3714 | 35 | 12,54424 |
| | | POSTTEST | 35,2571 | 35 | 11,66277 |
| INTERVENTIO N GROUP | Pair 1 | PRETEST | 13,8857 | 35 | 11,74176 |
| | | POSTTEST | 45,8857 | 35 | 10,85674 |

| Paired Samples Correlations[a] | | | | | |
|---|---|---|---|---|---|
| GROUP | | | N | Correlation | Sig. |
| CONTROL GROUP | Pair 1 | PRETEST & POSTTEST | 35 | ,763 | ,000 |
| INTERVENTIO N GROUP | Pair 1 | PRETEST & POSTTEST | 35 | ,873 | ,000 |

| Paired Samples Test[a] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Paired Differences | | | | | | | |
| | | | Mean | Std. Devi ation | Std. Error Mean | 95% Confidence Interval of the Difference | | t | df | Sig. (2-tailed) |
| GROUP | | | | | | Lower | Upper | | | |
| CONTROL GROUP | Pair 1 | PRETEST - POSTTEST | -19,886 | 8,373 | 1,415 | -22,762 | -17,010 | -14,051 | 34,000 | 0,000 |
| INTERVENTIO N GROUP | Pair 1 | PRETEST - POSTTEST | -32,000 | 5,760 | 0,974 | -33,979 | -30,021 | -32,868 | 34,000 | 0,000 |

As shown by Table 4.4, in the intervention group, the mean score gained an increase of 32 points on the post-test as compared to the pre-test. This can be taken to indicate that there is a meaningful progress from pre-test (M=13,8857; SD=11,74176) to post-test (M=45,8857; SD=10,85674).

In contrast, the control group showed an increase of 19.88 in the results from pre-test to post-test. Indeed, there is an increase but it was not substantially higher as compared to the results in the intervention group.

## 4.2.5. Difference in the Scores in the Pre-test and the Post-test of the Two Groups

As shown by Figure 4.1 on the next page, there existed no significant difference between the two groups in the results of the pre-test on their vocabulary levels. This implies that at the start, both groups had equal performance in the command of English vocabulary.

Figure 4. 1. The Pre-Test Scores of the Control and Intervention Groups
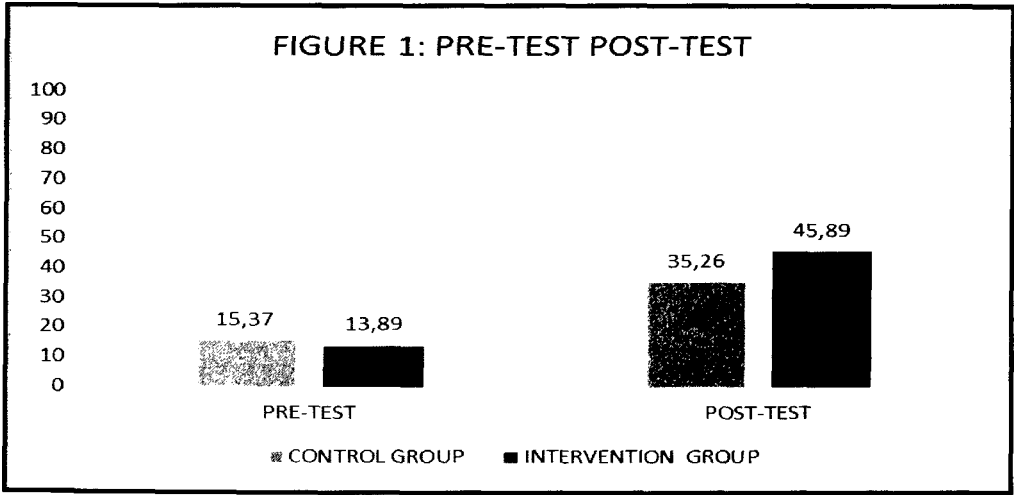


On the other hand, as shown by the same figure, with respect of the control group from pre-test to post-test, there was an increase of 19.89, that is, from 15.37 to 35.26. In contrast, with respect to the performance of the intervention group, the scores were 13.89 in the pre-test and 45.89 in the post-test. The net gain was 32 points on the post-test in vocabulary learning for this group.

Comparing the learning processes of group E and group C, the former group is fundamentally more successful, as displayed in Figure 4.2 below. The intervention group's vocabulary learning rose from pre-test to post-test by 22 points. It is indicated by the quantitative results in this study that both groups performed better after instruction.

However, the intervention group completed the post-test at vastly higher levels than the control group. I surmise that an improvement in the participants' ability to learn and retain English vocabulary through CALL is indicated by this progress. This result appears to affirm the findings of Bush (1997). Bush (1997) provides helpful readings on the instructional use of technologies. Means gives a general overview of the instructional use of technologies, whereas Bush specifically refers to technology use in FL instruction.

Figure 4. 2. Group Compares of Vocabulary Tests (Pre-Test/ Post-Test) Results
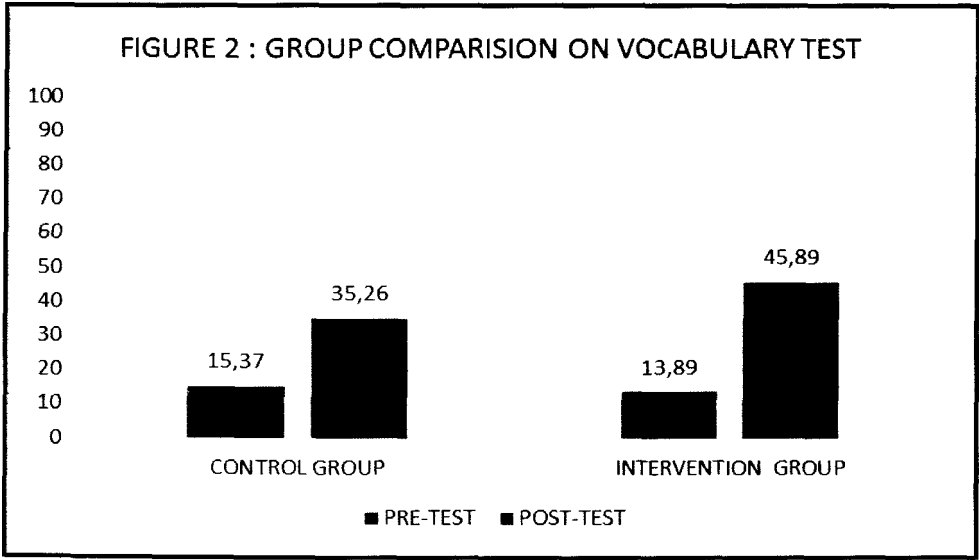


## 4.3. Questionnaire Results

Recapping from Chapter 3, the questionnaire for this study comprised of four portions. The objective of the introduction was to accumulate background information on the subjects: their names, gender, English learning experience, past training/seminar/workshops they may have participated in, Internet access, and additional miscellaneous details. The second section of the questionnaire concentrated on the computational ability or the familiarity and proficiency of the students. The tertiary module of the questionnaire was fixated on an overview of the positive aspects of CALL in English

language learning. Lastly, the fourth section of the questionnaire was modelled to investigate the benefits of CALL in English vocabulary acquisition. Table 4.5 shows the results.

### 4.3.1. The Results of the Survey-Questionnaire

Table 4.5 shows the competence level or the knowledge and skills of the students in using computers. It indicates that this particular generation is starting to use software and online sources before coming to university. Moreover, as shown by Table 4.5, the students' thoughts on using computers seem positive. All students selected the choices above 'three' on the Likert scale for items 10 and 11 which related to the competence in using Office documents. Similarly all students gave above 'three' as their choices on items 12 and 13.This indicates competence in using online sources. On item 18, thirty-four students gave above 'three' as responses and just one student gave 'two' as score. This new generation has considerable skill in using online sources. Since this is the case, then educators should learn how to use this tool during and after the class.

Table 4. 5. The Results of the Survey-Questionnaire

| B: COMPETENCE OF STUDENTS: I can… | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Name | Q09>Install new software on a computer. | Q10>Operate a word processing program. (e.g. Word) | Q11>Operate a presentation programme. (e.g. PowerPoint) | Q12>Use the Internet for communication. (e.g. e-mail, chat-room) | Q13>Use the World Wide Web to Access different types of information. | Q14>Solve simple problems in operating computers. | Q15>Select and evaluate educational software | Q16>Create or develop your own webpage. | Q17> Find materials on the Internet that you need. | Q18>Use a face account. (e.g Putting picture, sending messages) |
| 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 3 | 4 | 5 |
| 7 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 9 | 3 | 4 | 4 | 5 | 4 | 4 | 3 | 1 | 4 | 5 |
| 11 | 4 | 5 | 4 | 5 | 5 | 3 | 3 | 1 | 3 | 5 |
| 13 | 5 | 5 | 5 | 5 | 5 | 4 | 3 | 2 | 4 | 5 |
| 15 | 3 | 5 | 5 | 5 | 4 | 3 | 2 | 1 | 4 | 5 |
| 17 | 4 | 5 | 4 | 5 | 4 | 4 | 3 | 1 | 4 | 5 |
| 19 | 4 | 5 | 5 | 5 | 5 | | 4 | 2 | 5 | 5 |
| 21 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 2 | 4 | 5 |
| 23 | 2 | 4 | 4 | 4 | 5 | 1 | 3 | 1 | 4 | 5 |

| 25 | 3 | 4 | 4 | 5 | 5 | 3 | 3 | 1 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 1 | 4 | 5 |
| 29 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | 4 | 4 |
| 31 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 4 | 2 |
| 33 | 4 | 5 | 5 | 5 | 5 | 4 | 4 | 2 | 4 | 4 |
| 35 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 1 | 4 | 4 |
| 37 | 3 | 5 | 5 | 5 | 5 | 5 | 4 | 1 | 4 | 4 |
| 39 | 2 | 5 | 5 | 5 | 5 | 4 | 3 | 1 | 4 | 4 |
| 41 | 3 | 4 | 4 | 4 |   | 3 | 3 | 1 | 4 | 4 |
| 43 | 2 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 4 | 4 |
| 45 | 2 | 4 | 4 | 4 | 4 | 2 | 3 | 1 |   | 5 |
| 47 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 5 |
| 49 | 1 | 4 | 4 | 4 | 4 | 2 | 2 | 1 | 3 | 4 |
| 51 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 1 | 4 | 4 |
| 53 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 |
| 55 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 4 | 4 |
| 57 | 3 | 5 | 5 | 5 | 5 | 3 | 3 | 1 | 4 | 4 |
| 59 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 |
| 61 | 2 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | 4 | 5 |
| 63 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 5 |
| 65 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 3 | 4 | 5 |
| 67 | 5 | 5 | 5 | 5 | 5 |   | 5 | 3 | 5 | 5 |
| 69 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 4 | 5 |
| POINTS | 126 | 158 | 157 | 160 | 154 | 122 | 126 | 59 | 139 | 159 |
| QUESTION BY QUESTION Average | 3,6 | 4,5 | 4,5 | 4,6 | 4,4 | 3,5 | 3,6 | 1,7 | 4,6 | 4,5 |
| SCALE 5 | 9 | 18 | 17 | 20 | 18 | 6 | 5 | 3 | 5 | 21 |
| SCALE 4 | 12 | 17 | 18 | 15 | 16 | 15 | 13 | 0 | 27 | 13 |
| SCALE 3 | 7 | 0 | 0 | 0 | 0 | 9 | 15 | 4 | 2 | 0 |
| SCALE 2 | 5 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 0 | 1 |
| SCALE 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 24 | 0 | 0 |
| EMPTY | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 |

Moreover, the raw scores presented by Table 4.5 were subjected to the statistical measure known as the weighted mean. Table 4.6 on the next section shows the results.

## 4.3.2 Level of Computer Competence and General Attitude of the Students

Table 4.6 above shows the mean scores in each of the items surveyed particularly on the competence level or the knowledge and skills of the students in using computers. As can be seen on the table, the students' level of competence is quite high in terms of knowledge and skills in using computers.

Table 4. 6. Level of Computer Competence of the Students

| LEVEL OF COMPUTER COMPETENCE OF THE STUDENTS ( Strongly Agree= 5 / Strongly Disagree = 1) | | | | | | | | | | | |
| 1 | | 2 | | 3 | | 4 | | 5 | | Mean | SD |
| Item (Questions) | Frequency | % | Freq | % | Freq | % | Freq | % | Freq | % | | |
| 1 | 2 | 5,7 | 5 | 14,3 | 7 | 20,0 | 12 | 34,3 | 9 | 25,7 | 3,6 | 1,2 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 48,6 | 18 | 51,4 | 4,5 | 0,5 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 51,4 | 17 | 48,6 | 4,5 | 0,5 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 42,9 | 20 | 57,1 | 4,6 | 0,5 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 45,7 | 18 | 51,4 | 4,5 | 0,5 |
| 6 | 1 | 2,9 | 2 | 5,7 | 9 | 25,7 | 15 | 42,9 | 6 | 17,1 | 3,7 | 1,0 |
| 7 | | | 2 | 5,7 | 15 | 42,9 | 13 | 37,1 | 5 | 14,3 | 3,6 | 0,8 |
| 8 | 24 | 68,6 | 4 | 11,4 | 4 | 11,4 | 0 | 0 | 3 | 8,6 | 1,7 | 1,2 |
| 9 | | | | | 2 | 5,7 | 27 | 77,1 | 5 | 14,3 | 4,1 | 0,5 |
| 10 | 0 | 0 | 1 | 2,9 | 0 | 0 | 13 | 37,1 | 21 | 60,0 | 4,5 | 0,7 |

Overall Mean score: 3.9

Legend:  4.21-5.00 (Strongly Agree)
          3.41-4.20 (Agree)
          2.61-3.40 (Neither Agree nor Disagree)
          1.81-2.60 (Disagree)
          1.00-1.80 (Strongly Disagree)

The overall mean for all the items included in this section was 3.9 on a five-point

Likert scale. However, certain items had lower and higher means when compared with the

general students' competence mean. For example, item 8 – 'Create or develop your own

webpage' - had the lowest mean score of 1.7. For this item, only 8.6% of the students

strongly agreed. It has to be noted that this item is pointing to a very particular skill but

some of the sample-students claimed that they have it. Similarly, Items 1 and 7 - 'Install

new software on a computer' and 'Select and evaluate educational software' - had lower

mean score of 3.6 compared to other items on the questionnaire. There were also some

items which had noticeably higher means than the overall mean. Item 4 – 'Use the internet

for communication' - had the highest mean score of 4.6. As seen in Table 6, 35 students

gave between 4 and 5 points on this item. This was followed by items 2, 3, 10, and 5 where

the mean score was 4.5. Similarly, 35 students gave between 4 and 5 points on items 2 and 3. Only one student gave under 3 points on items 5 and 10.

The above preceding discussion and analysis represent as similar to what Prensky (2008) claimed. According to Prensky (2008), 'students of today represent the first generations to grow up with the new technology. They have spent their entire lives surrounded by and using computers, video games, digital music players, video cams, cell phones, and all the other toys and tools of the digital age.' (p.40). In modern society, the typical college graduate have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not including 20,000 hours watching television). Computer games, email, the Internet, mobile phones and instant messaging are essential ingredients of their daily life.

It might be said provisionally that as a consequence of this ever-present habitat and the staggering frequency of the younger generation's interaction with it, students of today think and refine digital information faster than their predecessors. For this reason, students of today are sometimes dubbed as the 'N-[for Net]-gen' or 'D-[for digital]-gen'. But the most useful designation for them is Digital Natives. (Marc Prensky, 2001). All students today in Sabari University appear to be 'native speakers' of the digital language of computers, video games and the Internet.

Conformably, students prefer to dual process and multi-task. They favour viewing images ahead of any text instead of the reverse. They prefer random access (like hypertext). Being networked causes them to reach peak levels of productivity. Immediate fulfilment and numerous rewards cause them to flourish. 'Serious' exertions are looked

Table 4. 7. General Attitude Items

C: GENERAL ATTITUDE ITEMS: Please select your agreement to these sentences:(1-5)

| Name | 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q19->I can access extra information more easily during a CALL class. | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 3 | 3 | 5 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 3 |
| Q20->After taking CALL courses, I know how to benefit from my PC to improve my English. | 5 | 5 | 4 | 5 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 4 | 5 | 4 | 4 | 4 | 4 | 3 | 3 |
| Q21-> CALL is a stress-free environment to learn English. | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 5 |
| Q22-> I can get more feedback in CALL classes. | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | | 4 | 5 | 5 | 4 | 5 |
| Q23-> CALL is a more casual way of learning. | 5 | 4 | 4 | 5 | 3 | 3 | 4 | 5 | 4 | 5 | 3 | 3 | 3 | 5 | 3 | 4 | 4 | 5 | 3 | 4 |
| Q24-> I benefit more from the group/pair work in a CALL class. | | 5 | 5 | 5 | | 4 | 2 | 4 | 5 | 5 | 4 | 3 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 |
| Q25->I feel comfortable enough to share my ideas in English during CALL classes. | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 4 | 5 |
| Q26->My achievement can be measured in different ways in a CALL class. | 5 | 5 | 5 | 4 | 5 | 3 | 3 | 5 | 3 | 4 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 5 | 3 | 4 |
| Q27->I can practice all language skills in a CALL environment. | 5 | 5 | 5 | 5 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| Q28->I know more about how to use computers after having taken CALL courses. | 5 | 5 | 5 | 4 | 5 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3 |
| Q29-> I can understand everything we do in CALL classes. | | 5 | 5 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 5 | 3 | 4 | 4 | 3 | 4 | 4 | 3 | 4 |
| Q30-> It takes less time to explain something during CALL classes. | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 5 |
| Q31-> I have become a better problem-solver after using the computer while learning English. | 4 | 4 | 4 | 5 | 2 | 2 | 3 | 2 | 3 | 5 | 4 | 3 | 3 | 4 | 4 | 4 | 5 | 4 | 3 | 4 |
| Q32-> CALL has helped me become an independent learner. | 5 | 5 | 4 | 5 | 4 | 3 | 4 | 4 | 4 | 5 | 4 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 3 |
| Q33->I do not have technical problems in using computers during CALL classes. | 4 | 4 | 4 | 5 | 2 | 2 | 4 | 3 | 4 | 5 | 4 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | | 5 | 4 | 4 | 4 |
| 43 | 3 | 4 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 |
| 45 | 4 | 4 | 5 | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 47 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 49 | 4 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 51 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 53 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 4 | 5 | 5 |
| 55 | 3 | | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 |
| 57 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 |
| 59 | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | | 4 | 5 | 4 | 5 | 4 |
| 61 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 4 |
| 63 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | | 5 | 4 | 5 | 4 | 5 |
| 65 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | | 5 | 4 | 4 | 4 |
| 67 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 4 |
| 69 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 5 |
| POINTS | 140 | 138 | 168 | 161 | 141 | 149 | 165 | 142 | 144 | 133 | 137 | 162 | 134 | 146 | 139 |
| QUESTION Average | 4,1 | 4,1 | 4,8 | 4,7 | 4,1 | 4,3 | 4,7 | 4,1 | 4,1 | 3,9 | 4,0 | 4,6 | 3,8 | 4,2 | 4,0 |
| SCALE 5 | 9 | 9 | 28 | 25 | 12 | 15 | 25 | 8 | 9 | 10 | 8 | 23 | 5 | 10 | 7 |
| SCALE 4 | 20 | 18 | 7 | 9 | 15 | 18 | 10 | 21 | 21 | 14 | 22 | 11 | 22 | 21 | 22 |
| SCALE 3 | 5 | 7 | 0 | 0 | 7 | 0 | 0 | 6 | 5 | 9 | 3 | 1 | 5 | 4 | 4 |
| SCALE 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 |
| SCALE 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EMPTY | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |

As manifested by Table 4.7, the general attitude of the students in using CALL in English is affirmative. Between 33 and 34 students gave over scale 2 which means that students' attitude towards CALL in English is quite positive. As can be seen in Table 4.7, some questions had comparatively more positive feedback than others. Only one student did not tick any scale on questions 19, 20, 22, 23, 24 which indicates that s/he has neither a negative nor positive opinion. However, 34 students answered these questions between scale 3 and 5. There were also some questions, i.e., questions 21, 25, 26, 27, 30 where all 35 students gave between 3 and 5 scales.

These raw scores were subjected to the statistical measure known as the weighted mean and Table 4.8 shows the results.

### 4.3.3. Benefits of Using Call in English Language Learning

As shown by Table 4.8, the students' general attitude towards CALL in learning English is apparently positive as shown by overall computed weighted mean 4.26 on a five-point Likert scale.

Table 4. 8. Benefits of Using Call in English Language Learning

| Benefits Of Using Call In English Language Learning ( Strongly Agree= 5  / Strongly Disagree = 1) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | | 2 | | 3 | | 4 | | 5 | | Mean | SD |
| Item( Question) | Freq | % | Freq | % | Freq | % | Freq | % | Freq | % | | |
| 1 | 0 | 0 | 0 | 0 | 5 | 14,3 | 20 | 57,1 | 9 | 25,7 | 4,1 | 0,64 |
| 2 | 0 | 0 | 0 | 0 | 7 | 20,0 | 18 | 51,4 | 9 | 25,7 | 4,1 | 0,69 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 20,0 | 28 | 80,0 | 4,8 | 0,41 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 25,7 | 25 | 71,4 | 4,7 | 0,45 |
| 5 | 0 | 0 | 0 | 0 | 7 | 20,0 | 15 | 42,9 | 12 | 34,3 | 4,1 | 0,74 |
| 6 | 0 | 0 | 1 | 2,9 | 0 | 0 | 18 | 51,4 | 15 | 42,9 | 4,4 | 0,65 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 28,6 | 25 | 71,4 | 4,7 | 0,46 |
| 8 | 0 | 0 | 0 | 0 | 6 | 17,1 | 21 | 60,0 | 8 | 22,9 | 4,1 | 0,64 |
| 9 | 0 | 0 | 0 | 0 | 5 | 14,3 | 21 | 60,0 | 9 | 25,7 | 4,1 | 0,63 |
| 10 | 0 | 0 | 0 | 0 | 9 | 25,7 | 14 | 40,0 | 10 | 28,6 | 4,0 | 0,77 |
| 11 | 0 | 0 | 0 | 0 | 3 | 8,6 | 22 | 62,9 | 8 | 22,9 | 4,2 | 0,57 |
| 12 | 0 | 0 | 0 | 0 | 1 | 2,9 | 11 | 31,4 | 23 | 65,7 | 4,6 | 0,55 |
| 13 | 0 | 0 | 3 | 8,6 | 5 | 14,3 | 22 | 62,9 | 5 | 14,3 | 3,8 | 0,79 |
| 14 | 0 | 0 | 0 | 0 | 4 | 11,4 | 21 | 60,0 | 10 | 28,6 | 4,2 | 0,62 |
| 15 | 0 | 0 | 2 | 5,7 | 4 | 11,4 | 22 | 62,9 | 7 | 20,0 | 4,0 | 0,75 |

Overall Mean: 4.26

Legend:  4.21-5.00 (Strongly Agree)

3.41-4.20  (Agree)

2.61-3.40  (Neither Agree nor Disagree)

1.81-2.60  (Disagree)

1.00-1.80  (Strongly Disagree)

It should be noted that specific items had lower and higher means when compared with the general students' competence mean. Taking an example, item 13 which is 'I have

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become a better problem solver after using the computer while learning English' was at the bottom of the list in terms of mean score of 3.8. For this item, only 14.3% of the students strongly agreed. Similarly, Items 10 and 15 which are 'I know more about how to use computers after having taken CALL courses' and 'I do not have technical problems in using computers in CALL classes' had both lower mean score of 4.0 compared to other items on the questionnaire. There were also some items which had noticeably higher means than the overall mean. Item 3 'CALL is a stress-free environment to learn English' had the highest mean score of 4.8. All students gave between 4 and 5 point on this item. This was followed by items 4 and 7 which are 'I can get more feedback in CALL classes' and 'I feel comfortable enough to share my ideas in English during CALL classes.' They have the same mean score of 4.7. Similarly students gave between 4 and 5 point on item 7. Only one student did not answer item 4 which mean she or he hasn't got negative or positive opinion.

The highest mean score that describes that CALL is a stress-free environment coincides with the Affective Filter hypothesis which embodies Stephen Krashen's (1993) view that a number of 'affective variables' play a facilitative, but non-causal, role in second language acquisition. These variables include: motivation, self-confidence and anxiety. Krashen (1993) postulates that learners possessing high motivation, self-confidence, a positive self-image, and a sparse level of anxiety are more thoroughly suited for success in second language acquisition. Paltry levels of motivation, self-esteem, and crippling anxiety can coalesce to 'elevate' the affective filter and create a 'mental block' that hinders intelligible input from being applied for acquisition. Strictly speaking, when the filter is 'active', language acquisition is deterred. Be that as it may, positive affect is required, but is singularly inadequate, for acquisition to occur.

From the preceding, it can be said that the Computer-Assisted Language Learning creates a language-learning environment that facilitates learning. The most productive techniques are thus the variants that grant 'comprehensible input' in low anxiety situations, incorporating notes that learners are keen to hear. Additionally, acquisition compels purposeful communication in the target language - authentic communication - through which speakers are indifferent to the articulation of their speech but rather to the content they are transmitting and recognising. This was confirmed by the reaction that students receive greater evaluation and feel more at ease to the point where they can participate in English during CALL classes.

Moreover, based on the results of the survey, it appears that CALL has great potential for L2 education. This concretised the statement of Pitler, Hubbell, Kuhn, and Malenoski (2007) when they said that 'technology allows teachers to differentiate instruction more efficiently by providing a wider variety of avenues for learning that reach students of divergent readiness levels, interests, and learning styles.'

This also affirmed the claim of: Golonka, Bowles, Frank, Richardson, and Freynik (2014); Schacter and Fagnano (1999); and, Snowman, McCown, and Biehler (2009). . According to Golonka, Bowles, Frank, Richardson, and Freynik (2012) 'technological innovations can increase learner interest and motivation; provide students with increased access to target language (TL) input, interaction opportunities, and feedback; and provide instructors with an efficient means for organizing course content and interacting with multiple students.' Upon the other hand, Schacter and Fagnano (1999) and Snowman,

McCown, and Biehler (2009) said that the appropriate use of technology raises not only students' motivation level, but also their academic performance.

## 4.3.4. Vocabulary Learning and Computer Assisted Language Learning (CALL) and the Advantages

With respect to the students' attitudes as regards the use of CALL in vocabulary class, Table 4.9 shows the results. As can be gleaned from Table 4.9, 34 students out of 35 gave between 4 and 5 point on all items. This implies that almost all the sample-respondents looked at CALL affirmatively.

Table 4.9. Vocabulary Learning and CALL

**D: VOCABULARY:**

**NAME**

**VOCABULARY: Please select your agreement to these sentences:**

| Name | Q34-> Computers help me identify the key words when listening is supported with visual activities. | Q35-> I have the options to hear different accents for the pronunciation of a word. | Q36-> I prefer CALL to traditional classrooms for vocabulary classes. | Q37-> I have the opportunity to interact/speak with everybody in pairs/groups in vocabulary courses via computers. | Q38-> I get immediate feedback with my vocabulary pronunciation. | Q39-> It is easy to access the meaning of words while reading in CALL classes. | Q40-> In reading courses, listening to the written text helps me comprehend better as I can hear the intonation, stress … | Q41-> I prefer to study reading via computers. | Q42-> Reading via computers is more interesting when supported with visual information. | Q43-> Computers help me self-correct my spelling, and my pronunciation errors. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| 3 | 5 | 4 | 5 | 4 | 5 | 5 | 5 | 5 | 4 | 4 |
| 5 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 4 |
| 7 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 4 | 4 | 5 | 5 | 5 | 5 | 3 | 4 | 5 | 4 |
| 11 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 5 | 5 | 4 |
| 13 | 4 | 4 | 5 | 4 | 5 | 5 | 5 | | 5 | 4 |
| 15 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 5 | 4 | 4 |
| 17 | 5 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 5 | 5 |
| 19 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 4 |
| 21 | 5 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 5 |
| 23 | 5 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 5 | 4 |
| 25 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 5 | 4 |
| 27 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 29 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 |
| 31 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 |
| 33 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 35 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 |
| 37 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 3 | 3 |
| 39 | 5 | 4 | 5 | 4 | 5 | 5 | 4 | 5 | 5 | 4 |
| 41 | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 43 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 |
| 45 | 5 | 5 | 5 | 5 | 5 | | 4 | 5 | 4 | 5 |
| 47 | 4 | 4 | 5 | 4 | 5 | 5 | 4 | 4 | 5 | 4 |
| 49 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 51 | 4 | 4 | 5 | 4 | 5 | 5 | 4 | 5 | 4 | 4 |
| 53 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 |
| 55 | 4 | 4 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| 57 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 59 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 |
| 61 | 5 | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 5 | 5 |
| 63 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 4 | 4 |
| 65 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 |
| 67 | 4 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 5 |
| 69 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| POINTS | 156 | 148 | 171 | 156 | 173 | 154 | 149 | 162 | 161 | 155 |
| QUESTION BY QUESTION average | 4,5 | 4,4 | 4,9 | 4,5 | 4,9 | 4,5 | 4,3 | 4,6 | 4,6 | 4,4 |
| SCALE 5 | 17 | 13 | 32 | 17 | 33 | 19 | 12 | 26 | 22 | 16 |
| SCALE 4 | 17 | 20 | 2 | 17 | 2 | 14 | 20 | 8 | 12 | 18 |
| SCALE 3 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 0 | 1 | 1 |
| SCALE 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SCALE 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EMPTY | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

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Meanwhile, the raw scores shown by Table 4.9 were subjected to the statistical measure known as the weighted mean and Table 4.10 shows the results. As evident in Table 4.10, the sample-students recognised positivity in the use of CALL. The overall computed weighted mean for the whole of the items included in this section was 4.58 on a five-point Likert scale.

Table 4. 10. The Advantages of Using Call in Vocabulary Acquisition

| THE ADVANTAGES OF USING CALL IN VOCABULARY ACQUISITION ( Strongly agree= 5 / Strongly disagree = 1) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | | 2 | | 3 | | 4 | | 5 | | Missing | | Mean | SD |
| Item (ques tion) | Freq | % | Freq | % | Freq | % | Freq | % | Freq | % | Fr eq | % | | |
| 1 | 0 | 0 | 0 | 0 | 1 | 2,9 | 17 | 48,6 | 17 | 48,6 | | | 4,5 | 0,6 |
| 2 | 0 | 0 | 0 | 0 | 1 | 2,9 | 20 | 57,1 | 13 | 37,1 | 1 | 2,9 | 4,4 | 0,5 |
| 3 | 0 | 0 | 0 | 0 | 1 | 2,9 | 2 | 5,7 | 32 | 91,4 | | | 4,9 | 0,4 |
| 4 | 0 | 0 | 0 | 0 | 1 | 2,9 | 17 | 48,6 | 17 | 48,6 | | | 4,5 | 0,6 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5,7 | 33 | 94,3 | | | 4,9 | 0,2 |
| 6 | 0 | 0 | 0 | 0 | 1 | 2,9 | 14 | 40,0 | 19 | 54,3 | 1 | 2,9 | 4,5 | 0,6 |
| 7 | 0 | 0 | 0 | 0 | 3 | 8,6 | 20 | 57,1 | 12 | 34,3 | | | 4,3 | 0,6 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 22,9 | 26 | 74,3 | 1 | 2,9 | 4,8 | 0,4 |
| 9 | 0 | 0 | 0 | 0 | 1 | 2,9 | 12 | 34,3 | 22 | 62,9 | | | 4,6 | 0,6 |
| 10 | 0 | 0 | 0 | 0 | 1 | 2,9 | 18 | 51,4 | 16 | 45,7 | | | 4,4 | 0,6 |

Overall Mean: 4.58

Legend:  4.21-5.00 (Strongly Agree)

3.41-4.20  (Agree)

2.61-3.40  (Neither Agree nor Disagree)

1.81-2.60  (Disagree)

1.00-1.80  (Strongly Disagree)

However, certain items had lower and higher means when compared with the computed general weighted mean. For example, item 7, which asked - 'In reading courses, listening to the written texts helps me comprehend better as I can hear the intonation and stress', had the lowest mean score of 4.3. For this item, only 34.3 % of the students strongly agreed. Similarly, Items 2 and 10, which are 'I have the options to hear different accents for the pronunciation of the words' and 'Computers help me self-correct my spelling and pronunciation errors', had both lower mean score of 4.4 compared to other

items on the questionnaire. There are also items which had noticeably higher mean score than the overall mean. Items 3 and 5 'I prefer CALL to traditional classrooms for vocabulary classes' and 'I get immediate feedback with my vocabulary pronunciation' had the highest mean score of 4.9. All students gave between 4 and 5 point on these items. This was followed by item 8 which is 'I prefer to study reading via computer' which has a mean score of 4.8.

These results in the perception of the student-respondents confirmed the versatility of the use of CALL in learning vocabulary as claimed by experts. It affirmed the study of Horst, Cobb, and Nicolae conducted in 2005. In this study, 'a set of on-line tools for vocabulary learning was created for an ongoing intervention project. Their on-line vocabulary learning tools, which contained several resources for learners such as concordance, dictionary, hypertext, and a database with interactive self-quizzing features, were designed to facilitate learners' deep processing.

The contributors were instructed to enter vocabulary pieces (e.g. sample sentences, phrases, and definitions) into a collective virtual word-bank unassisted, and the growth of their vocabulary knowledge was investigated in a post-test. The conclusions unveiled that the words logged in the word-bank were learned with greater frequency (almost twofold) over any words not logged. According to the crucial outcomes, it established that the online vocabulary education set conceived for the venture could allow for rich input and facilitate more acute processing. Jones (1999) also devised a computer programme called "Gertie" which was designed to encourage potent vocabulary learning. This software combined written texts, photographs, and sounds. Jones discovered that his innovation was fruitful for the learners and had the ability to contextualize and personalise learners' learning

processes on vocabulary. The data from this project displayed favourable feedback from the test subjects and the prospect of adopting computers for vocabulary learning.

Concurrently, CALL appears to have prodigious perks over alternative prevalent means, such as cassette recorder or TV programmes, with respect to vocabulary advancement. Jones and Fortescue (1987) maintain that: 'Since, its clarity and attractiveness of presentation, its games-manager role, its availability at all hours and its flexibility in supplying for the preferences of different users, are motivating force to enhance vocabulary acquisition.'

## 4.4. Results of the Open Ended Questions

According to Repass (1971, p. 391), 'open-ended responses provide a direct view into a respondent's own thinking.' Open-ended questions request that participants formulate answers by their own free will and permit the researcher to record the impressions of the respondent in his or her own words. Questions of this nature are helpful in securing detailed information on matters that are wholly unfamiliar to the the researcher, such as viewpoint, personal stance and recommendations. Entirely open-ended queries give an opportunity for the researcher to probe more deeply into matters, consequently producing fresh observations, pushing new examples or illustrations to the foreground, and supporting a variety of perceptions and a mixture of responses (Wadsworth, 2008). In this research, the open-ended questions gave the researcher a crucial chance to understand students' opinion and attitudes towards CALL. What follows are the responses of the sample-students to the open-ended questions.

Inquired on their general impressions on the vocabulary project, Table 4.11 below

shows that 7 of the respondents did not answer which the researcher took to mean that they

didn't want to share their ideas or that they were adamant or maybe not sure of the answer.

But 28 students wrote and shared their impressions which are really positive as shown by

their responses of: 'perfect,' 'that's great,' 'that is interesting,' and 'good I enjoyed.'

Table 4. 11. General Impression of Vocabulary Project

| Q44- What is your general impression of the vocabulary project? | | | |
|---|---|---|---|
| Name | STUDENTS' ANSWER (SIC) | Name | STUDENTS' ANSWER (SIC) |
| 1 | I like that idea | 35 | good |
| 3 | PERFECT | 37 | ok |
| 5 | it is differen | 39 | it is normal |
| 7 | that s great | 41 | that is really interesting |
| 9 | muhtesem ( perfect) | 43 | goood |
| 11 | that is good | 45 | normal |
| 13 | good | 47 | really good |
| 15 | I enjoyed | 49 | good |
| 17 | that is interesting and good | 51 | - |
| 19 | that is interesting | 53 | - |
| 21 | good | 55 | good |
| 23 | That is really good | 57 | good |
| 25 | that is great | 59 | like it |
| 27 | - | 61 | That is great |
| 29 | it is good | 63 | - |
| 31 | - | 65 | - |
| 33 | good | 67 | good |
| | | 69 | |

Secondly, when the sample-students were asked about their general impressions on

using computer, only 8 students did not answer this question as shown by Table 4.12 below

while 27 students answered. The responses of the 27 students showed how much students

love using computers. The noticeable answers were: 'it is fun,' 'easy and fun,' 'I love very

much,' 'I enjoyed very much.' This affirmed the fun factor of motivation as the most

crucial step in vocabulary mentioned in Chapter 2.

Table 4. 12. General Impression of Using Computer

| Q45- What is your general impression of the using computer to learn vocabulary? | | | |
|---|---|---|---|
| Name | STUDENTS' ANSWER (SIC) | Name | STUDENTS' ANSWER (SIC) |
| 1 | I like very much | 35 | good |
| 3 | it is exciting wonderful | 37 | - |
| 5 | it is stresst free | 39 | material are very usefull |
| 7 | I like it | 41 | that is really interesting |
| 9 | It is fun, | 43 | that is differernt |
| 11 | that is enjoyable. | 45 | good |
| 13 | ı enjoyed very much | 47 | easy to learn |
| 15 | easy and fun | 49 | perfect |
| 17 | Exciting and attractive | 51 | - |
| 19 | good. I like very much. | 53 | - |
| 21 | that is exciting | 55 | ı like the class |
| 23 | It was wonderfull | 57 | perfect |
| 25 | Great I like that. | 59 | perfect lesson |
| 27 | - | 61 | I love it very much |
| 29 | that is What I need | 63 | - |
| 31 | - | 65 | - |
| 33 | ıt is good | 67 | I like that |
|  |  | 69 | - |

On the question - 'Do you think the digital materials provided by your teacher were useful for learning vocabulary?'-, Table 4.13 on the next page shows the results. As shown by Table 4.13, 24 students answered question. Most of the answers were similarly positive. Some of them were significant for this study. For example students 9, 5, 13, 15, 19, 21, 23, 39 mentioned that digital materials are 'attractive,' 'interesting,' 'fun' and 'enjoyable.' Still, one straightforward answer was 'yes, because I was motivated with these materials' which was the answer of 17 sample-students.

Table 4.13. Digital Materials in Learning Vocabulary

| Name | STUDENTS' ANSWER (SIC) | Name | STUDENTS' ANSWER (SIC) |
|---|---|---|---|
| Q46- Do you think the digital materials provided by your teacher were useful for learning vocabulary? If so why? If not why? | | |
| 1 | yes, Because they are interactive. and you can see and listen easyly. | 35 | - |
| 3 | yes. I like the digital materials | 37 | - |
| 5 | yes, they were different and fun, | 39 | yes, because they are visual |
| 7 | yes. it is the futurre | 41 | yes |
| 9 | yes. because that is enjoyable | 43 | yes |
| 11 | yes. They are fun | 45 | yes |
| 13 | yes, because they have a lot of picture and active materials | 47 | yyes |
| 15 | yes, active board material are interesting | 49 | yes |
| 17 | Yes, because I was very motivated with these materials | 51 | - |
| 19 | yes, because they are interesting | 53 | - |
| 21 | yes, because they are atractive | 55 | yes |
| 23 | yes, I like them. Because they were attractive. | 57 | - |
| 25 | yes | 59 | yes |
| 27 | - | 61 | yes |
| 29 | yes | 63 | - |
| 31 | - | 65 | - |
| 33 | - | 67 | yes |
| | | 69 | - |

Inquired as to the most interesting part of learning of vocabulary through the use of computers, the sample-students answered differently identifying the parts that interested them as shown by Table 4.14. Some of the answers were: 'the interactive board and applications,' hearing words and playing games,' activities,' 'games,' 'board materials and Moodle games,' 'activities,' and others.

Table 4.14. The Most Interesting Part in Learning Vocabulary Through Computer

| Q47 - What was the most interesting part of learning vocabulary through computer? | | | |
|---|---|---|---|
| Name | STUDENTS' ANSWER (SIC) | Name | STUDENTS' ANSWER (SIC) |
| 1 | ineractive board and aplications | 35 | Moodle games |
| 3 | it was amazing hearing words and and playing games | 37 | - |
| 5 | we were motivated more | 39 | you can get feed back very easily and stresless |
| 7 | activities | 41 | board games and moodle games |
| 9 | games | 43 | classess and computer lab time |
| 11 | active board presentations. | 45 | stress free class |
| 13 | active board is very interesiting | 47 | classroom activities with computer and active board |
| 15 | active board materials | 49 | class activities |
| 17 | Active board's activities. and moodle activities at home | 51 | - |
| 19 | active board materials and moodle games | 53 | - |
| 21 | board games, and com.lab activities | 55 | activities |
| 23 | - | 57 | computer lab and games |
| 25 | board games | 59 | it is very funny |
| 27 | vocabulary game on moodle | 61 | amazing games with computer |
| 29 | games and activities. | 63 | class activities |
| 31 | - | 65 | moodle activities |
| 33 | - | 67 | - |
|  |  | 69 | - |

When queried as to whether they learned more vocabulary through digital material, 25 of the sample-students answered in the affirmative and 10 of them did not respond as shown by Table 4.15 below. This shows that the majority of the group who responded felt that they indeed learned more vocabulary through digital material.

Additionally, the responses of the 25 students' displays to what degree the students' believed the digital material contributed to their learning. The noteworthy examples were: 'yes, it helps very much immediately, (Sic)' 'yes. I was motivated, (Sic)' 'yep, they are entertaining, (Sic)' 'yes, because everything is very interesting, (Sic)' This affirms that the students' motivation is the most crucial step in vocabulary acquisition, as first introduced in Chapter 2.

Table 4.15.  Learning Vocabulary Through Digital Materials

| Q48- Do you think learning vocabulary through digital material contributed more to your learning? If so why?  If not why? | | | |
|---|---|---|---|
| Name | STUDENTS' ANSWER (SIC) | Name | STUDENTS' ANSWER (SIC) |
| 1 | yes, it helps very much immediately | 35 | - |
| 3 | yes. there is no limit with  with CALL | 37 | - |
| 5 | yes, I like materials that she used | 39 | yes, because everything is very interesting |
| 7 | yes.because  I was excited | 41 | yes, |
| 9 | yes, it was not boring | 43 | yes |
| 11 | yes. you can use it in your free time after class | 45 | yes |
| 13 | yes, it is motivating me | 47 | yes |
| 15 | yes, | 49 | yes |
| 17 | Yes. because you are free and you can easyly study at home via moodle. | 51 | - |
| 19 | yes, I like it very much. | 53 | - |
| 21 | yes. I was motivated | 55 | yes |
| 23 | yep, they are  entertaining | 57 | yes |
| 25 | yes | 59 | yes |
| 27 | - | 61 | yes, because they are lovely |
| 29 | yes | 63 | - |
| 31 | - | 65 | - |
| 33 | - | 67 | yes |
| | | 69 | - |

Table 4. 16. CALL's Greatest Potential Advantages/Benefits

| Nam e | STUDENTS' ANSWER (SIC) | Na me | STUDENTS' ANSWER (SIC) |
|---|---|---|---|
| Q50- What do you think CALL's greatest potential advantages/benefits are? | | | |
| 1 | - | 35 | I feel my self confortable. |
| 3 | you can study where every you want there is no place limitation | 37 | - |
| 5 | you don t waste time. and It is fun. no stresst. | 39 | everything is visual and interesting |
| 7 | time saver, funny, and easy | 41 | Call is very wide |
| 9 | you can use it at home and everywhere | 43 | everything is very easy and funny |
| 11 | you can use it everywhere | 45 | we can get very quick feedback. and we are very motivated |
| 13 | there is no presure | 47 | activities are very well designed |
| 15 | easy and fun and colourful | 49 | we can learn everywhere with moodle |
| 17 | There is no limit every where you can reach via moodle. and activeboard materials are attractive. | 51 | - |
| 19 | you feel confortable and you don't have to rush.allmaterials are ready for you. | 53 | - |
| 21 | you dont worry about your mistake. | 55 | there is no limit |
| 23 | you can do them everywhere. | 57 | very fun and amazing |
| 25 | that is very easy using | 59 | it is very interactive |
| 27 | - | 61 | It is every easy and amazing |
| 29 | everyhing is very interactive and atractive | 63 | that is stress free |
| 31 | - | 65 | - |
| 33 | - | 67 | we were very motivated because of CALL |
| | | 69 | - |

The students were polled to determine what CALL's greatest advantages were, in their personal opinion. Table 4.16 shows that the majority of the sample-respondents

seemed satisfied with their CALL experience and eagerly shared their positive feedback, despite the 9 students who refused this question. Sample of the answers were: 'you don t waste time. And It is fun. no stresst,(Sic)' 'time saver, funny, and easy, (Sic)' 'there is no pressure easy and fun and colourful, (Sic)' 'you dont worry about your mistake, (Sic)' 'there is no limit, (Sic)'. These answers confirm the general positive reactions from the learners.

## 4.5. OBSERVATION

### 4.5.1. Observations in CALL Classroom

My personal observations as a researcher and teacher provided an additional dimension to my methods. They also gave me the opportunity to validate, ratify, and confirm or disconfirm the findings in the survey and in the open-ended questions. I observed the sample students in the two groups, both control class and the intervention class, in the conduct of the class. My aim was to capture something of the level of motivation of both groups of students. I recorded my observations in a series of notes on lesson sequence and behaviour of students (see appendix C/D) I have explained my observation methods during the study, and as a teacher (see 3.2.1), agreed on the observation schedule. Constant, hourly observation could be potentially distressing for the students and affect results. I decided on a more reasonable time frame of once a week observation.

Table 4. 17. Detailed Observation Schedule.

| Group | Place | Minutes (hours) per Session | Number of the Weeks | Sessions per two Weeks | Total of observation Session | Number of Students |
|---|---|---|---|---|---|---|
| Control Group | Traditional classroom | 60 | 8 | 1 | 4 | 35 |
| Intervention Group | CALL Class | 60 | 8 | 1 (First two sections) | 2 | 35 |
| | Computer Lab. (CALL) | | | 1 (Last two Sections) | 2 | 35 |

For the sake of clarity, my observation of the CALL classroom can be divided into two parts. Firstly, the intervention group performed classroom activities with technology like smart board, while simultaneously doing group work or activities done in pairs. This environment allowed me to see how to digitise common EFL classroom activities.

Secondly, students were tasked with completing some activities on the Moodle system. This was mostly their own personal responsibility that had to be accomplished on their own tablets or university computers, but the intervention group as a whole was directed to the computer lab once a week right after class to do these tasks.

As I have mentioned previously, I utilised participant observation and it was used to monitor impressions and ruminations on the ways in which the students related to the CALL programme they were using. I used a form that was modeled after a similar Bogdan and Biklen (1992, 1998) and Holly (1997) design. This form consisted of a single page for me to write descriptive observations such as participant profiles, recollections of dialogue that took place, and depictions of the physical setting. I also included my own reflective notes that incorporated more introspective thoughts like emotions, ideas, hunches and impressions (cited in Creswell, 2003 p.189). An example of these recorded notes were in unstructured or semi-structured form, and can be found in (see appendix C/D for an example)

### 4.5.1.1. CALL Classroom Activities Examples of Apparent Increased Motivation

In order to gain a clear insight about the design of classes which focused on the language learning strategy training through computers and the Internet, it is necessary to give some examples:

In the classroom where CALL classroom activities were employed, the teacher taught reading text from the book. (see appendix I). The teacher introduced the topic called PIRATES: ROMANCE AND REALITY, which focused on the life of pirates. An introduction with several beginners warm up activities made up the first couple of pages. Students were asked to join in pairs, and complete the activity and warm up questions within 10 minutes. Following this, students listened to an audio version of the text. Smart board was used, so that students could view the text on the screen and in the book. At this point, I noticed that none of the students were following the text from the physical book, but rather the screen. After the listening portion, the instructor directed students to come to the board and touch those words in which the pronunciation was unknown. Upon touching a word, an aural cue would allow them to hear the proper pronunciation. Most students took an interest in this, and would sometimes touch a word several times and repeat the word back. (see Illustration 4-5). Their enthusiasm was visible, and I noted the smiles on their faces and that the learners seemed to be having fun and were very eager to follow further instructions. (Healey, 1998).

Generally speaking, one of the advantages of CALL is that it allows learners to hear native language speakers during the class. For my observation, the teacher utilised this in her CALL classroom, and gave the students the option to click on words in order to listen to the different pronunciation of the words. (Poel & Swanepoel, 2003) The students appeared to be very enthusiastic to hear the audio, and tried to imitate what they heard without being asked to by the teacher. I can say through my observation that the attitude exuded by the students was extraordinary – the energy and passion they seemed to have for learning. This is an obvious difference from what I saw in the control group, where the teacher attempted the same activity. She 'modelled the pronunciation' and would 'repeat

her modelling' of the pronunciation of a word, but had to ask the students several times to repeat her modelling pronunciation. I recorded that most of the students seemed indifferent, and did not get involved with activity.

Another classroom activity I devised was the crossword. For this, the teacher divided students into 4 groups and set them to complete a vocabulary and definition-focused crossword. Furthermore, students were requested to use smart board and write the intended word based on the given definition. It is very self-driven, with students doing most of the work and the teacher acting more as a guide to provide help whenever it was needed. Students also had the ability to see other group's crosswords, which allowed them to hear and read four different interpretations of a target vocabulary word.

It would not be wrong to declare that CALL's beneficial effect on student motivation is obvious, even from observing the very first activity. (Schacter and Fagnano, 1999; Snowman, McCown, and Biehler, 2009). These positive attitudes of students validate the findings shown in Tables 10, 11, and 12. All of the activities that were done with the intervention group were performed with the control group with the same instructions. Students in the control were given paper crosswords, but here I noticed that the teacher had to expend much more effort to get all groups involved in the activities, and no student was driven to answer any questions. Their attention and motivation level appeared to be very low. During this activity, students began to casually converse in Turkish, despite warnings from the teacher that students were not to speak to each other. Once the crosswords were finally complete, checking the answers of the crosswords was intended to only take five minutes. Though the teacher did her best to stick to the lesson

plan, this still proved to be not enough time. This only proved to me how useful a tool CALL is to conserve time and manage group activities.

### 4.5.1.2. Computer class and Moodle activities

It is worth emphasizing a very interesting situation that arose during my observations. A few of the students were not as active as the teacher expected in intervention class. Even when she prompted them with questions, they did not seem to want to answer her questions. Shortly after finishing classroom activities, she directed students to continue with Moodle activities using their tablets or computers, which were provided by university. The particular students who were not active during the classroom portion began to immediately play vocabulary games in the Moodle system, and even tried to complete all of the games available in the Moodle system. This intriguing attitude was quickly noted during my observation. After the data collection procedure, I realised that the students' answers on my questionnaire were correctly inferred according to my notes which I took during my observation. This incident led me to truly understand how CALL can be a useful tool for students who have confidence problems.

It is also seen on the open ended questions on table 4.13, question 46 being 'Do you think the digital materials provided by your teacher were useful for learning vocabulary?' I took note that student 27, 35, 57, and 65 did not answer this question. From this, I concluded that they did not want to share their opinions with me, or they did not the like digital materials provided by the teacher. However, I was surprised that the same students answered question 47 with interesting responses, the question being 'What was the most interesting part of learning vocabulary through computer?' Student 27 wrote that 'vocabulary game on moodle', student 35 agreed 'moodle games', and student 57 wrote 'computer lab and games', and student 65 answered 'moodle activities' This situation

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really shed light on the privacy of the learners, so one benefit of CALL programmes I have undoubtedly observed is the private environment it offers to self-conscious language learners (Brett, 1995). The majority of learners are self-conscious in a customary classroom backdrop, even those who wouldn't normally classify themselves as introverted. The concern of publicly making mistakes and becoming the subject of mockery is a powerful impetus against participating as often as many students would prefer. The computer, however, appears to offer a stage where learners can abandon their insecurities. This piece of technology will not decry a student if they commit an error. This empowers students to learn within the enclosed, guarded bubble of the CALL programme (Stephen Krashen, 1989). Hence, learners can put their knowledge through trials and learn from their faults in a discreet setting. It is essential that inaccuracies are rectified as soon as possible, so they are not indoctrinated into a fragment of the learner's 'language knowledge'. CALL programmes not only have the capabilities to fix wrong responses but additionally strengthen the understanding of correct answers.

### 4.5.1.2.1. Students' Attitude to Immediate Feedback and Error Correction During The Moodle Activities

During my observation, the students' attitude toward immediate feedback and error correction during the Moodle activities was unexpected. I was puzzled that they seemed to be happy to get immediate feedback or corrections on mistakes they have made. Despite their mistake, they did not hesitate to share this information with friends either. As a language teacher, I thought I could say that students generally never like to discuss their mistakes and corrections. Positive feedback they are, of course, overjoyed to show off to their friends, but rarely do they share negative feedback publicly. It is universally acknowledged that supplying instantaneous feedback is valuable to the learner (Neri,

Cucchiarini, & Strik, 2001). As mentioned before, it may not be feasible to offer prompt feedback to each individual learner due to the lack of time in the traditional classroom environment. The computer, however, can give feedback instantly at the touch of a button.

### 4.5.1.2.2. Control for Learner over Access to Information

One more advantage of CALL is its restriction over information access. A CALL programme can conceivably offer extra material to the learner, through the medium of links to electronic dictionaries, more thorough output and links to other sites (J. Egbert & Hanson-Smith, 1999). Coinciding with this, learners can circumvent being overburdened with information when they begin to experience strain. Individuals are free to exit the programme at any point in time and take some time to digest the new wisdom. In a standard classroom situation, it is expected that students are not permitted to leave if they feel overburdened without severe consequences. They must simply wait until the class has ended, running the chance of their attention wandering and completely missing out on the lesson being taught. Inside a CALL programme, the user is able to depart on their own accord and return where they left off and resume again, with no penalty. Therefore, users wield greater dominance over the cognitive weight they must sustain during a lesson.

Moreover, non-linear connection to the material is a possibility, meaning that the learner has the option to not 'follow the text exactly'. Links can be followed and searching for words in dictionaries are done within seconds. It is possible that a learner will be more predisposed to study supplementary material if it is an easy click away, rather than needing to consult another book.

Learners must interact with the computer and cannot hide behind their more active classmates, so in this manner, CALL encourages increased interactivity. If the learner does

nothing with the computer, then nothing occurs. The bare minimum is that learners must begin the CALL programme. Thereupon, the programme can only progress through the chapters with the 'consent' of the learner. This system is very learner-driven. Typically, students are required to utilise the target language during programme activities, so there are abundant events to practise the language in a one-on-one situation. Learners can rehearse the exercises as often as they wish, until they are content with their results.

### 4.5.1.2.3. Provision of Interactivity and Relation to Improved Language Pedagogy

CALL programmes stimulate interactivity using the many other senses, not just the visual. It does not end with displayed text - sound can be heard and videos watched. Videos that include sub-titles can be turned on or off depending on preference. Videos can be watched while muted, with the goal that learners can employ various techniques to ascertain the plot and content of the video. Images can be used to illustrate not only grammar concepts but also for spatial related language topics.

If a word sound does not exist in one's origin language, learners may experience complications in producing it. More so, learners cannot 'hear' the difference between their own pronunciation and that of a native speaker. For example, native Turkish speakers consider it highly challenging to identify the distinction between /th/ and /t/ (Illustration 13: th - t Sounds). To aid with this, learners can rehearse their pronunciation using visual models of the voice-producing region of the body indicating the required position of the tongue and lips to create the correct sound. Visual representations of their speech output compared with the ideal pronunciation can be observed, in the hopes that inconsistencies will come to light. This multi-sensory technique can enhance the learning process for the learner.

### 4.5.1.2.4. Non-Traditional Features Providing Enrichment

CALL programmes should not limit themselves to simply duplicating the occurrences of a classic learning atmosphere, but bolster the learning process with methods that are computer-specific and only available in this medium. (Felix, 2003). Modern lesson paradigms have surfaced which can not only put the learner's knowledge to the test, but also repels the typical ennui that is linked with the perpetual recurrence of similar types of exercises. The diversity of exercises at the ready serves to renew the student's engagement as there is always something new to try.

Audio and video are elements that are achievable in CALL that cannot be as effortlessly introduced into the more traditional learning courses. The ability to repeatedly review information is also a huge draw of CALL (Brett, 1996)

When it came time to examine the Moodle activities, my attention was drawn to how the students repeatedly clicked on vocabulary words to hear their pronunciation or check the definition. Students seemed to take great entertainment in this, joking with each other to listen to his/her word. According to my experience, someone asking a question in front of friends or peers once or twice is acceptable. Asking a third time is cause for ridicule. This is why student-induced repetition is close to zero in a traditional classroom setting. Teachers usually repeat words or definitions several times, but these repetitions can support reinforcement, a factor that is significant to learning and memory (Hebb, 1949). The mediums of text, audio or video in CALL classes are examples of such reiterations.

Learners can listen to audio excerpts within a CALL programme until they have reached a level whereby they feel satisfaction that they have completely grasped what was spoken and its meaning. Video segments have different modes in which they can be

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viewed, such as with or without audio and subtitles, and can be re-watched as often as the learner desires. This is a clear advantage to the learner and an unmistakable improvement over an old-fashioned classroom environment, whereby one cannot reasonably ask a teacher to repeat a concept multiple times until it is comprehended by that one individual.

The Moodle activities were accomplished on a flexible schedule for students. The teacher instructed them to move on to new activities only when they felt they were ready to. Some students proved to be very fast learners, while some were not. Since the CALL programme allows learners to work at a speed that is best suited to them, the user can allot extra time on certain portions that are deemed complex, and less time on those that are easily mastered. It is possible to review certain pieces of information numerous times and tasks to be repeated an unlimited number of times until the user feels confident enough to progress. The level of control a learner feels usually has a direct correlation to their satisfaction levels with the learning process. For this study, I witnessed some students redoing certain activities even though they had already successfully completed them. More noteworthy, they seemed pleased to it and happy to be in control of their own pacing.

### 4.5.2. Control Group Observation

For the control group, who used authentic materials, the teacher taught Reading Explorer 1 of Unit 11 of the same prescribed book. She introduced the topic as she did with the technology group. They were allowed to use pens and paper. The teacher consistently used the book and the extra materials that she prepared for the students. The visuals were copied and put on the walls but they didn't always attract the attention of the students because some times it is difficult to find big enough pictures.

The warm up activities were mostly oral. During the teaching process, the teacher tried to get them active with the help of some vocabulary games. During the conduct of the class, I observed that the students were bored as shown by the frown on their faces; they appeared to be forcing themselves to participate in the activities, and they seemed to be paying less attention. I noticed subtle visual cues that suggested the students' restlessness, such as constantly looking at their watches and phones to check how many minutes were left before they were dismissed. I did inform them of when they were allowed to leave, but I observed that most of students preferred to stay in the classroom. Since these students came from the same cultural background as me, I assume that the students just did not want to appear rude instead of having actual interest in the day's lesson. These manifested that they were not enjoying the class and that they were not properly motivated.

Based from these observations, I may say that the motivation level of the students was higher in the intervention class and that the teacher made less effort to prepare effective lessons for the students.

# CHAPTER 5: DISCUSSION ON THE FINDINGS, IMPLICATIONS AND RECOMMENDATIONS

When I started this study, I thought pre-test and post-test results could reveal the answers to my hunches. After a time, I realised that student test results would not be sufficient to understand exactly what was going on during the language learning procedure. As a language educator, I already understood that the possible causes and processes of progress could not be done in a simple, quantitative way. I needed to explore the nature of the activities and pedagogical tools or materials that seem to be sources of motivation for students to learn a second language. Thus, I allowed myself to be guided from my intuition to a hypothesis. My hypothesis is that CALL applications do in fact affect vocabulary acquisition of tertiary level students in Turkey. Based on my hypothesis, the questions of the study became:

- to what extent does CALL applications affect vocabulary acquisition of tertiary level students in Turkey, specifically in the Samsun region?'

- Does CALL instruction have an observable pedagogical effect in the vocabulary acquisition and learning of EFL learners?

- What appear to be the benefits of and issues around CALL in vocabulary learning and acquisition?

- In the light of the above, what pedagogical strategies for teaching vocabulary would seem to fit best with use of CALL?

- What are the implications for English language teachers in tertiary education in Turkey?

In order to seek the answer to the research questions in this study, four data collection instruments were utilized: pre-test, post-test, 35 questionnaires, 5 open-ended questions and observation. The data that was gathered were analysed in both a quantitative

and qualitative fashion. A T-test was conducted on the pre-test, post-test and to determine if there were any statistically significant differences between results of both control and intervention group. Following this, a questionnaire and general observation were conducted on the intervention group to again, determine the statistically significant differences between the pre-test and post-test results.

This study's findings proved that the use of CALL helped students in the intervention group to improve their vocabulary knowledge, which is crucial when learning a language.

The main contribution to knowledge that was made by my study is to highlight the integration of ready digital materials in classes with the other words the pedagogical effectiveness of CALL in language learning.

The second question, which supported the main research question, regarded whether CALL instruction has an observable pedagogical effect in the vocabulary acquisition and learning of EFL learners.

Analysis of the triangulated data in this study concluded that, during and after the study, students in the intervention group showed increasing motivation. This is even considering that the students were informed that their participation in this study would not be rewarded. Observing the intervention group whereby CALL was implemented revealed their higher motivation levels and willingness to participate in and outside of the classroom. This is supported by the T-test results of the pre-test and the post-test, which illustrated a statistical significant difference regarding acquisition of vocabulary through CALL. It is believed that the use of computers and the Internet, both inside and outside the classroom, encouraged learners to feel more involved in English language learning. The use of computers and the Internet brought variety, fun and a challenge to settings within the classroom and external from it.

In the light of the above, another point of question was what pedagogical strategies for teaching vocabulary would seem to fit best with use of CALL?

As I have already discussed in section 2.15, the key factors are instructors and the needs of learners. CALL can execute several theories simultaneously, the need based on the demand in a particular teaching and learning circumstance.

In this chapter, I went in depth about the certain implications of CALL programmes and the need for urgent integration for it to be successful. Another research question of the study concerns the implications for English language teachers in tertiary education in Turkey. I will deal with the implications first, then lead in to recommendations.

## 5.1. The Implications of Computer Assisted Language Learning (CALL)

The results of this study showed the effectiveness of using computer-assisted language learning programmes in learning vocabulary. The pre-test and post-test scores, students' answers questionnaire and classroom observation indicated that learning vocabulary based on CALL can be effective in learning vocabulary. Based on the findings of this study, some recommendations of CALL are made in the following sections.

### 5.1.1. Vocabulary Acquisition and Computer Assisted Language Learning (CALL)

Vocabulary is the broadest domain of linguistic knowledge with which the human brain engages (Elman, 2004, p. 5). In the past, it was understood that the mental lexicon is a static-dictionary-like framework existing independently of its use - that the human brain has a wide reservoir of words and their respective definitions like a dictionary independent from other representations. Elman (2004).claimed that the mental lexicon is comprised of highly context-sensitive, continuously varied and probabilistic word representations.

Rather than fixed constructions, such representations are seen as trajectories through mental space. In this serial perspective, word recognition, recall, and production are graded processes impacted by transactions that discern the speed of word retrieval in a specific context.

## 5.1.2. Computer Assisted Language Learning (CALL) and the Nature of Lexical Processing

Elman (2004, p. 25) added that the dynamic nature of lexical processing is known in other accounts for its complexity, componentiality and connectivity. This implies that, in the brain, words are complexly connected with and represented by different concepts and mental pictures or images and the speed of their retrieval for use in a particular context depends on the connection and representation – the more connections and representations a word has with different concepts and mental pictures or images, the fastest will be the retrieval of the word.

Applying the insight advanced by Elman (2004), in vocabulary acquisition, students must be exposed to different types of media to have different concepts and mental pictures or images of a word for a rich recall cues and a heightened retention. This exposure to different types of media affirms what Chun and Plass (1996b) mentioned about coding. According to Chun and Plass (1996b, p. 47), in vocabulary acquisition, exposure to different types of media implies that words are coded twofold in two modes and have a higher rate of retention over those singly coded only in one mode. Dual coding presents further recovery opportunities, and assists learners in developing two types of recall cues in memory.

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The relevance for language pedagogy and learning of these two conceptions, i.e. Elman's connection and representation, and the dual coding of Chun and Plass, seem to be confirmed, by my empirical study in the following way. When I introduced CALL to the intervention group of students, these students performed better as compared to the control group as presented in Chapter four. I am suggesting that this is the case because CALL exposes the students to different types of media which facilitated connections and representations of words with different concepts and mental pictures or images, which in turn, produced fast retrieval of words from their mind.

## 5.1.3. Lexical Processing and Multi-Media

I drew on the related works of many other researchers to arrive at my findings. Students who worked with a multimedia programme tended to display higher levels of vocabulary retention over students subjected to conventional print texts (Lyman-Hager, Davis, Burnett, & Chennault, 1993). Since multimedia mechanisms provide instant access to all annotated information, whether by audio, visual or textual means, learners can confirm or reject their initial hypotheses about a word (Martinez-Lage, 1997). A task that a multimedia programme is responsible for is to aid learners as they intensify the bond of verbal and visual mental representation systems, which will in turn improve retention. CALL programmes with a wealth of media that harnesses these two mental representation systems, like video, will be more useful for instructing vocabulary rather than an image in a textbook (Mayer & Sims, 1994). When a teaching style is multimodal, it tends to make a significant contribution to active vocabulary learning, since they encourage student engagement. One multimodal component can satisfy a range of diverse learning styles (Wood, 2001).

### 5.1.4. Appeal and Motivation in Call Application

Furthermore, Section 4.2.8 also manifested that students found CALL programme more appealing, entertaining, and engaging in vocabulary acquisition. This finding affirms and confirms what Halpert (1999), Lee (2000), Warschauer and Healey (1998), and Davis and Lyman-Hager (1997) mentioned in Chapter 2. Halpert (1999) said that students are more motivated in class when materials include computers.

Lee (2000) claims that within a CALL setting, students are motivated with entertainment and games. Warschauer and Healey (1998) claimed 'fun factor' is an advantage of computers in a language climate. This fun factor is the essential component of students' motivation. According to Davis and Lyman-Hager (1997), 'computerized presentation is more appealing.' Diverging from standard printed presentations of vocabularies, computerized presentations are more engaging for the study's participants. Davis and Lyman-Hager (1997) include that a computer's ability grants the user the chance to accumulate a wider array of glossing over a physical text format and unknown words are accessible by a simple click of a key. This is to say that the user is given the meaning at once without interrupting the reading process, a complication that arises in usual circumstances by the need to halt and look up words in a dictionary.

### 5.2. Recommendations for Further Research

Considering all of the revelations that have been made, I believe the following recommendations would be advantageous. My suggestions are necessarily limited to my own personal context, which is Turkish students' just beginning university and enrolled in English preparatory classes in Turkey.

Further research could profitably focus on the pedagogy of CALL. On the basis of the following, work could be done to explore the content of a programme for instruction of language teachers, i.e that CALL applications open a world of knowledge to learners. It is a more interactive, engaging medium for vocabulary acquisition outside of the classroom but provides a pretext for more demonstrative in-classroom activities. It seems, therefore a valuable and rewarding concept to incorporate CALL into language programmes.

Those thinking about either researching the issue further, or creating pedagogical programmes might consider that it appears that language teaching is equally important as language learning. My findings indicate that making the best use of CALL is better   done when competent teachers are able to harness all the features of CALL programmes properly. This may require bringing in outside professionals to train teachers, and sessions that blend a specific CALL programme with pedagogical concerns. Teachers should be encouraged to embrace CALL and view it as a potential assistant so that it can be used with the greatest benefit to both the teachers and learners.

The efficient use of CALL requires that students are given conditions to study without intervention, and are able to practise good time management. Some students seem to struggle with the latter,  so it is important that language programmes support an incremental advancement toward CALL usage for those students, who would ideally be identifiable. There is much less teacher supervision and control in CALL environments, so students must gain experience wanting to learn without prompting as well as the necessary study habits.

Language learners must know to use CALL software in the first place, so straightforward training must be provided. If there is confusion surrounding the usage of CALL materials, students may get frustrated and much less inclined to progress.

On the basis that every student is unique, a mix of media should be used. Every student learns differently, or benefits more from certain mode combinations. One technique is never universally flawless or guarantees that the same level of learning will be achieved by all students (Pusack and Otto, 1997).

The biggest challenge is not keeping items in memory, but rather the ability to access them. To make this difficult process easier on students, it is possible to offer multiple retrieval cues. Learners who are presented with several options for presentation modalities (video, images, sound or printed text) are getting a language learning environment which may possibly have a large impact on memorisation (Al-Seghayer, 2001). Organizing and rearranging information in such multi-modal conditions can establish a link between the visual and verbal mental system, and firmly implant it into long-term memory (Chun & Plass, 1996a, p. 517).

I have come across studies in my research that claim corrective feedback offers positive results when it comes to assisting in acquiring lexical items of a certain type. These specific items can be problematic to learn via simply input, thus, corrective feedback provides an alternate channel to learning (Sauro, 2009).

Corrective feedback being a mode of consciousness-raising, I have learned, is a conclusively proved concept (Lightbown & Spada 1990; White, Spada, Lightbown, & Ranta 1991). To build on this, Nagata and Swisher (1995) allege that personalised lexical consciousness-raising can be achieved with computers and intelligent corrective feedback.

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I observed a study whereby Rosselle, Sercu, and Vandepitte (2009) investigated the effectiveness of feedback in a computer-based online learning environment. Their findings suggested that a combination of more definitive feedback and adequate depth of processing resulted in higher quality learning outcomes and greater positive perceptions by students.

I have detailed how a CALL programme offers explicit and immediate corrective feedback to learners. To give an example, students working through online exercises have the option to click "check answer" as soon as they have inputted their answer to receive the actual correct response to the question – a form of the aforementioned explicit and immediate corrective feedback. This could be one of the reasons why CALL interaction was as effective as the teacher-to-student interaction in a conventional classroom setting, as I have already detailed more thoroughly in chapters 3.2.1.2 and 4.3.1.2.1.

During my classroom observation, I noticed that students in the CALL group did not show hesitation when clicking on a hypertext link to receive assistance with comprehension, or when seeking dictionary help even they had the wrong answers. The answers that students gave on the open-ended section support my classsroom observation (see Table 4.7, Table 4.8). I believe that further research on corrective feedback would be advantageous to implement in similar settings.

Another interesting finding I unearthed is that students in an intervention group worked in a more natural fashion, replete with mistakes at times, while working on a task with friends or in a group. Whilst I monitored the classroom, students appeared physically and mentally comfortable. At this point, it seems to me that CALL creates an environment that compels students to disregard their rift in natural human relationships. There is no sense of antagonism, therefore they are unburdened and free to make errors without consequence. This is another field that, in my opinion, deserves additional examination.

The present study explored how students perceive the use of computers and their integration into foreign language education. It specifically investigated what students' attitude toward CALL is by also investigating their attitude towards computers and foreign language learning. However, the term CALL may actually be too general for any further assumptions. As a next step, similar research may be carried out to a wider group of students to explore their attitude towards a specific CALL tool.

1. Multimedia CALL can be used to supplement or complement vocabulary instruction.

2. A replication of this study should be made to see if the results of this study will be repeated.

The results of this study have practical implications for L2 teaching and software developing.

The successful performance of the experiment group warrants wider application of CALL in our classrooms. Computers offer the advantage of giving appropriate instruction individually to each student; schools can use CALL to help low-achievement students in regular classroom and pull-out to reinforce learning. Teachers should pay special attention to these students and assist them to catch up with their peers.

## 5.2.1 Recommendation for Integration of Digital Materials in Classes

Initially, thinking from a positivist perspective, I thought that I would simply measure the level of learning of my students on English language acquisition through the pre-test and post-test results of the control group and the intervention group. While conducting the study, however, I realized that I could not just measure English language acquisition in such a straightforward way and that to do so would make the study wanting and inadequate. Despite my experiences as a language educator, and perhaps because of my inexperience in researching, I had a simplistic conception of how I could 'prove' my

hunch that CALL programmes were the best way for Turkish preparatory students. During the research process, I had to gradually come to truly understand that the level of learning on English language acquisition needs to consider the fact that students are different from each other and students are not machines. I have reflected much on this preconception, as I certainly believe I never considered my students to be in any way mechanical. As an experienced instructor, I believe there is a common notion among most teachers that once a subject has been explained, it is assumed that all of the students understood the concept completely.

At one time, I subscribed to this way of thinking, until I realised that it is never that simple. Students are never all at the same level as each other, or even at the level, I expect. I was impelled to seek an answer to my hunch. This study proved to me again that students are, of course, individuals. They learn and acquire a language differently. Moreover, activities and pedagogical tools or materials that are sources of motivation for students to learn a language must also be considered. Dornyei (2009, p. 117) said that 'motivation provides the primary impetus to initiate learning a second language and later the driving force to sustain the long and often tedious learning process. Without sufficient motivation, even individuals with the most remarkable abilities cannot accomplish long-term goals and neither are appropriate curricula and good teaching enough on their own to ensure student achievement.

High motivation can make up for considerable deficiencies both in one's language aptitude and learning conditions.' Thus, moving from my hypothesis to a hunch, the study was guided by my intuition as an experienced language educator that students are better motivated and they respond better to vocabulary learning tasks when the said tasks are

represented digitally. True indeed, the students were better motivated and they responded better to digital vocabulary learning tasks as shown by the results of the pre-test and the post-test of the control group and the intervention group.

At present, the Turkish government is planning to deliver ready digital material synchronized with Active Boards and tablets due to the findings of the Turkey National Needs Assessment mentioned in the report on The State of English in Higher Education in Turkey prepared by the British Council and TEPAV in 2015. The TNNA states that 'Turkey is underperforming in the area of English language teaching and that this 'deficit' is the result of inadequate teaching in primary and secondary schools.' But the plan of the Turkish government will not be successful if the findings of this study are disregarded. Regarding this, the Turkish government should conduct seminars, trainings, or workshops on integration of ready digital materials in classes to teachers.

## 5.3. Limitations and Challenges of the Study

It should be addressed that this study is not without its limitations. These need to be acknowledged regarding the present study, as they may influence the study findings.
This study will examine the effects of two computer-assisted language learning programmes on vocabulary acquisition. Programmes comprise of materials and mediums such as videos, computer games, online tasks, and active board activities. The test group includes EFL students at an A2 Level (pre-intermediate).

Although the findings of the study shed light on some important issues in using technology in the classroom, it also explores its relationship to the level of student motivation when learning a language.

The data for the study were gathered using several methods. These are a pre-test post-test, a questionnaire and classroom observation. For analysing the data, a SBSS programme was used in addition to conducted T-tests.

The number of participants is based on the voluntary cooperation of English language learners at the same level. The sample size is consequently small, and thus the results cannot fully represent all students who learn English in Turkey. The result of the study can be applied only to the institution of Canik Basari University which has A2 Level (pre-intermediate) EFL students. This study can, however, be a sample for subsequent further studies.  Therefore, the findings cannot be generalizable to all of the EFL institutions in Turkey

The main challenge that was faced during the research process was the volume of work placed on the students. Work overload was a limitation that was unavoidable. Throughout the duration of the study, students were tasked to complete all of their learning activities as well having the personal responsibility that their own assessment requirement was fulfilled. Often times, these items were due within a relatively short period of time in the class and outside the class. At the same time, students were obviously required to meet the prerequisites of the general curriculum in order to pass the course. Some days, the students complained that they were quite tired and overtaxed because of the immense volume of assignments that were administered. It is my inference that a substantial reason why the students performed so poorly on the post-test was due to the post-test date being in the middle of exam week.

This study can be regarded as not only a classroom, but a self-assessment learning programme too. This is because students can experience full control of their learning with after classroom activities.

Throughout the entire course of this study, several observations struck me. I was compelled to see how students interacted with the courseware, their peers and teachers, and trace any changes that occurred during the course. I was also guided to notice students' motivation levels, their willingness to take responsibility for their own learning and engage in out-of-class study. Some improvements and opportunities for deeper exploration should have been done.

Notably, further interviews and the e-learning diary documenting these issues would have been a worthwhile asset in order to support the qualitative data that had been gathered throughout observation. One possible way that this could've been effectively implemented would have been to interview students with the purpose to gather data about strategies in language learning, their motivation levels, to what degree they have taken responsibility for learning and their involvement in out-of-class activities.

Due to unavoidable time constraints and the imperceptible nature of motivational results, the students were not interviewed on these matters, unfortunately.

## 5.4. CONCLUSION

The findings of the study imply pedagogical and theoretical ramifications for language learning. The data shines a light on a few eminent conceptual foundations that must be remembered during the creation of instructional CALL materials. In this regard,

the pedagogical connotations can be made clear through three perspectives: teaching, learning, and material presentation.

At present, the Turkish government is planning to deliver ready digital material synchronized with Active Boards and tablets due to the findings of the Turkey National Needs Assessment mentioned in the report on The State of English in Higher Education in Turkey prepared by the British Council and TEPAV in 2015. The TNNA states that 'Turkey is underperforming in the area of English language teaching and that this 'deficit' is the result of inadequate teaching in primary and secondary schools.' But I suggest that the plan of the Turkish government will not be successful if the findings of this study do in fact represent the true state of conditions for learning, and are disregarded by the government. Regarding this, the main contribution to knowledge that was made by my study is to highlight the integration of ready digital materials in classes with the other words the pedagogical effectiveness of CALL in language learning. Turkish government should conduct seminars, trainings, or workshops on integration of ready digital materials in classes to teachers.

I can add a further reflection in my own practice to the formal finding. At the end of the term, when I conducted a survey, which I normally do in my classes to have an idea on my performance as a teacher, asking the following simple questions - What did you learn best? Which parts were interesting for you? What else could I do? – my students were very eager to answer. One of my students mentioned the time when I was absent for one week because I went to Canada. The student said that she could remember everything such as vocabularies, unit topics, games, and jokes about reading and vocabulary classes which I taught them with the materials that I prepared for my study for the intervention group. But she could not remember anything, even the title of the topic, when I missed the class for one week even when a colleague from the same department as my own substituted for me.

I inquired if the substitute teacher used the digital material which I provided and the student replied in the affirmative. At this juncture, I realized that, even though CALL programme was successful as shown by the test results, to simply follow instructions provided by digital materials would be potentially ineffective, or less effective, if the teacher does not know how to integrate this digital material into his/her classes. This is, I surmise, what happened to my class with the substitute teacher. Providing ready digital materials is not going to be enough to reach teaching of such high quality, which I know CALL provides.

Another main finding is that the teacher must know how to employ the materials. If this is in fact the case, then it is very important that teachers know and understand the pedagogical requirements and demands of using ready digital materials in teaching so as to be able to integrate these digital materials as part of their day-to-day practice. These pedagogical requirements and demands may be taught to the teachers through seminar, trainings or workshops.

It is necessary for instructors and programme developers to remember to incorporate stimulating visual ingredients in their programmes in order to heighten the drive within students to expend the required mental exertion to acquire new words. Furthermore, the software should be leading in completely interactive and flexible modes to reinforce communication for the benefit that users will have a variety of choice for the user to work with. Keeping information stored in memory should not to be a strenuous burden, however accessing it can be problematic. Al-Seghayer (2001) that to make the challenge easier for students, they can be given multiple retrieval cues by blending two different forms of mental representations. The above-stated deliberations exemplify that learners that have a

multitude of presentation styles (printed text, sound, picture, or video) at their disposal encourages a language-learning setting, which consequently can have a massive leverage on learning. One last pedagogical foreshadowing that can be attained from theses conclusions is that "organizing information in working memory seems to be aided by learners making connections between the verbal and visual system, and this helps in linking information to components of the mental model in long-term memory" (Chun & Plass, 1996a, p. 517).

In order to create valuable CALL instructional materials, two concepts need to be recognised: the initial concept is that instructional materials devised with the intent to placate individual contrasts, it would be wise to merge the use of integrated media. Pusack and Otto (1997) argued that it is imperative to keep in mind that students may have personal modes or combinations of modes that are ideally suited to them as individuals; hence, it must never be presumed that media will have the same effect on all learners. The second principle is that, as indicated by Chun and Plass (1997), the choice of the method of presentation should reflect how it enhances a specific cognitive process. Therefore, an instructional designer must exercise discrimination concerning which method of presentation is more efficient in each learning situation. It is fitting to close this chapter on significance and design principles by accentuating the importance of media combinations in language learning. Information is simple to conceptualise and the vivid learning atmosphere that multimedia instruction seizes the attention of the learners. Therefore, the review of multimedia presentations should, at the minimum and to a certain extent, offer curriculum designers, programme developers, and teachers with a greater perception of the rationales for students' success in acquiring target language vocabulary as advised by Albirini (2006).

Moreover, computer-assisted language learning is compatible with the parallel processing ability of the brain to synchronously handle incoming stimuli of deviating value. This ability is the most crucial for vision, since the brain captures what is seen and segregates it into four elements: colour, motion, shape, and depth. These are interpreted separately, then juxtaposed against stored memories, which assists the brain in determining what is being witnessed. The brain at that point blends all of these into a single image that one sees and understands. Parallel processing has been connected, by some experimental psychologists, to the Stroop effect (MacLeod, 1991). This transaction is ongoing and uninterrupted.

Though both groups displayed improvements, the intervention group scored exceedingly better over the control group. These results illustrated that students whose teachers use CALL in enhancing vocabulary in an EFL classroom scored significantly higher on the post-test than students whose teachers use the traditional activities. It is therefore concluded that the use of CALL in the teaching and learning of vocabulary is useful and efficient. The results of the study support the theory of Bush (1997) who said that using technology in teaching language is effective for delivering instruction. The results of the present study also attest to the claim of that use of educational technology makes learning considerably easier, quicker, and more interesting (Kremenska, 2007; C. Lai & Kritsonis, 2006; K. Lee, 2000; Mark Warschauer & Healey, 1998).

Indeed, vocabulary learning through (CALL) is an exceptional technological strategy or tool in language development that has pragmatically gained exemplary attestation of its efficacy and usefulness. Its versatility and viability gained a lot of recognition and approval

across borders and boundaries of the global community. This kind of strategy in language teaching and learning coincides with one of the laws of learning which articulates that 'the more senses involve, the more learning takes place.'

Moreover, the students' level of acceptability in the use of CALL in teaching vocabulary is tremendously high such that their level of motivation in learning English in an EFL context is equally high. According to the students, their triumphs can be weighed in distinctive ways within a CALL class. Bonus material can be more handily accessed even while class is in session. A CALL course allows for unlimited training in all language skills, and afterwards, a better proficiency with computers in general will be had. At the completion of the CALL courses, students have the knowledge of how to benefit from their computer to further English skills. Additionally, CALL is a stress-free environment to learn English. Learners receive much more constructive criticism and the setting itself is a more informal style of learning. Collaboration and teamwork provides its advantages to the learners and they feel a level of ease to be able to voice their thoughts in English. Concepts are faster and more easily illustrated in CALL classes. In turn, this enables students to become better problem-solvers as this technology assists them in recognising key words in instances where listening is accompanied with visual activities. The choice to listen to the various accents for the pronunciation of a word is available, as is the opportunity to connect or communicate with each person one-on-one or in groups during online vocabulary courses. Instant feedback is possible on their vocabulary pronunciation and the definitions can be effortlessly looked up whilst reading. Simultaneously, in reading courses, having the printed text converted to speech for students to hear supports a higher comprehension since the learner is able to hear the intonation and stress of a word.

It seems then that the EFL learners in my own context had the general impression of CALL is that it is 'enjoyable', 'fun', 'exciting', 'interesting', 'useful', 'attractive', 'wonderful', 'stress-free', 'unique, and great' (see Table 4.11, Table 4.12, Table 4.13, Table 4.14, Table 4.15, Table 4.16). This overall finding supports what can be found in the research literature. I suggest, then, that it can be concluded that the use of t CALL in the classroom expedites and deepens learning itself, as neuro-linguists said 'the neurons celebrate when learning is done with fun.' (Wenger, 2009) In other words, the brain cells or the neurons (which are the building blocks in learning) actively connect and interconnect which results to a more meaningful and effective learning not only in vocabulary acquisition but in any learning situation in general. In his hypothesis theory, Stephen Krashen (1997), the proponent of language acquisition and learning, claimed that the presence of motivation which lowers the affective filter in the language learning environment paves the way to a higher language input. On the other hand, a classroom, where there is boredom and anxiety, raises the affective filter which lowers the level of motivation and results to a lower language input.

Another interesting discovery that I found through this study is that the use of CALL facilitated the vocabulary development of learners by significantly improving their ability to recognise and accurately use different words in a variety of contexts. It is hypothesised that the effect of learning could be maximized through appropriate CALL classroom management and interaction. Of course, successful interaction requires proper materials for both teacher and student. The use of CALL can be the essence of focused learning, because it provides a more engaging learning experience with text, audio, video, and multiple computerized dictionaries, all of which are delivering information. The teacher's role as a facilitator is to ensure that all students have been adequately trained and possess the

necessary capabilities to utilise a computer appropriately in order for it to effectively assist in the individual's language learning.

Moreover, there exist simultaneous benefits from the feedback that learners receive from CALL activities. CALL activities not only lessen the learner's emotional filter (Krashen, 1981, 1982), but also serve to enhance inputs and activate the learners' mechanism to notice target vocabulary items through interaction and fine-tuning of the input. This information is particularly vital for the mounting evidence that exposing learners to vast quantities of input can instigate background comprehension of the input but not particular, implying that a degree of awareness is required for language acquisition to occur (see, Chapelle, 2001; Doughty & Williams,1998; Long, 1991,1996; Seiba,2001). In terms of learning theory, results of the study indicate to me that the use of CALL during instruction promotes language acquisition significantly, most notably when the software learning programme is built on sound theoretical constructs.

To summarise, Computer-Assisted language Learning (CALL) is a tool with certain limitations, but during its short history it has profoundly transformed the nature of second language learning and teaching. Just as experiential or natural-growth language learning and teaching aims at engaging learners in authentic learning environments to promote language acquisition, so too can CALL be integrated into any language teaching syllabus. The outcome of this brings real-life language learning to EFL settings, which in the past could only be achieved through immersion in the target language environment.

In conclusion, the research hypotheses found within this study: the outcomes I have presented in the previous chapter confirm that those who make use of CALL will recognize and accurately use lexical items over those students who receive conventional teaching, and furthermore, students who receive CALL will have a higher level of motivation than

students who receive conventional teaching. With respect to the learning conditions of conventional instruction compared to CALL, the results of the study indicated that the use of CALL during instruction facilitates vocabulary acquisition to a considerable extent.

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# APPENDICES

## Appendix A: Sample of Pre-test

| | |
|---|---|
| 1. Only the _____ made the ship's rules.<br>A) captain<br>B) boss<br>C) driver<br>D) crew<br>Ans: A | 25. When the ship slows to _____ hitting the boat in front, pirates in the back can easily get on the ship.<br>A) transfer<br>B) sail<br>C) fearless<br>D) avoid<br>ANS: D |
| 2. During the period 1660- 1730, there was a lot of _____ trade between Europe and Africa.<br>A) input<br>B) maritime<br>C) purchase<br>D) factor<br><br>ANS: B | 26. A _____ fighter, Black Sam led nearly 80,000 pirates both men and women.<br>A) fearless<br>B) fail<br>C) ship<br>D) region<br>ANS: A |
| 3. Some _____ commonly traded were cloth, spices and weapons.<br>A) pirate<br>B) goods<br>C) maritime<br>D) steal<br><br>ANS: B | 27. How do modern-day pirates work? Sometimes, pirates _____ to be ship in trouble.<br>A) pretend<br>B) escape<br>C) sell<br>D) respectes<br>ANS: A |
| 4. Most people earn a(n) _____ by going to work.<br>A) equality<br>B) average<br>C) purchase<br>D) income<br><br>ANS: D | 28. Every year, about 70,000 cargo ships _____ through this area.<br>A) fails<br>B) sail<br>C) pretend<br>D) respect<br>ANS: B |
| 5. Really must learn not to _____ things from unknown websites.<br>A) purchase<br>B) steal<br>C) invent<br>D) employee<br>ANS: A | 29. The pirates say they will _____ the people if they don't get money.<br>A) escape<br>B) pretend<br>C) shoot<br>D) disguise<br>ANS: C |
| 6. The ship's captain buy a number of slaves who had lost their _____.<br>A) factor<br>B) illegal<br>C) freedom<br>D) employee<br>ANS: C | 30. Pirates mostly _____ cargo ships for both goods and the money on board.<br>A) pretend<br>B) rescue<br>C) target<br>D) avoid<br>ANS: C |
| 7. It is far more common for pirates to _____ things like cloth, spices.<br>A) purchasing<br>B) steal<br>C) illegal<br>D) disease<br>ANS: B | 31. They _____ the goods from one ship to another ship.<br>A) targeted<br>B) disguised<br>C) transferred<br>D) discovered<br>ANS: C |
| 8. Pirates _____ the goods among themselves.<br>A) invent | 32. The owners and the players will lose a lot of money if they _____ to come to an |

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B) steal
C) treated
D) divided

ANS: D
9. From the pirates' clothes, scientists have learned that the _____ pirate was only about 1.6 meters tall.
A) average
B) factor
C) equality
D) income

ANS: A
10. But on a pirate ship, _____ was important. Men elected their captain.
A) disease
B) free
C) factor
D) equality
ANS: D

11. It is well known that musicians suffer greatly due to _____ downloading of their music
A) illegal
B) freedom
C) equality
D) purchasing
ANS: A

12. A _____ is a reason or cause of something.
A) goods
B) sailor
C) chest
D) factor

ANS: D
13. Regular exercise is the best and consistent remedy to cure _____.
A) diseases
B) treated
C) factor
D) goods
ANS: A

14. In popular culture, pirates are often shown with _____ full of gold.
A) goods
B) patches
C) chest
D) maritime

ANS: C
15. Movie _____ often wear eye patches and have wooden legs.
A) employee
B) pirates
C) ships
D) sailor
ANS: B

agreement soon.
A) fail
B) capture
C) retired
D) fleet
ANS: A
33. I mean most people try to impress the _____ in their first match, he did his best to upset him!
A) capture
B) discover
C) transfer
D) boss

ANS: D
34. He gained no such_____ from officialdom.
A) respect
B) discover
C) capture
D) avoid
ANS: A
35. If the men _____ her true identity, they might shoot and kill her.
A) retired
B) disguised
C) respected
D) discovered
ANS: D
36. Honeybees may not have much brain, but they have a _____.
A) secret
B) powerful
C) ship
D) terrorized
ANS: A
37. The police _____ the burglar
A) retired
B) absolutely
C) coast
D) captured
ANS: D
38. I can always have it to say that It is _____ delicious and unquestionably worth.
A) region
B) absolutely
C) majority
D) fearless
ANS:
39. Throughout the history, the _____ of pirates have been men.
A) majority
B) fearless
C) ship
D) secret
ANS: A
40. Ann was born in UK. She lived most of her life _____ as a man.
A) capture

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16. The average pirate was usually trying to _____ from a difficult life.
A) escape
B) income
C) steal
D) freedom
ANS: A
17. The_____ needs to be trained to use the photocopy machine.
A) employee
B) election
C) factor
D) common
ANS:A
18. We have the technology to_____ new ways of transportation and other sources of energy.
A) freedom
B) invent
C) chest
D) elected
ANS:B

19. She also serves as an _____ official in the regional parliament
A) equality
B) income
C) escape
D) elected
ANS: D
20. I still think the company _____ you very poorly
A) treated
B) income
C) elect
D) divided
ANS: A

21. they were _____ who were treated poorly.
A) patches
B) common
C) ships
D) sailors

ANS: D
22. In _____, on many pirate ships, men were like slaves.
A) capture
B) end
C) reality
D) disguised
ANS: C
23. Their captain always _____ the earnings fairly.
A) shares
B) capture
C) escapes
D) elected
ANS: A
24. I am going to _____ my scooter for 15$.
A) coast
B) secret

B) goods
C) pretends
D) disguised
ANS: D
41. Your employer will be allowed to force you to _____ at the normal age.
A) sell
B) steal
C) retire
D) chest
ANS: C
42. We must salute all who _____ for freedom everywhere
A) sell
B) fearless
C) fleet
D) fight
ANS: D
43. But the south-western _____ has a relatively mild climate
A) terrorized
B) wave
C) coast
D) discover
ANS: C
44. Click on a _____ for a temperature forecast
A) transfer
B) discover
C) capture
D) region
ANS: D
45. The _____ of the thief was found.
A) powerful
B) identity
C) fought
D) fearless
ANS: B
46. Blackbeard and his pirates _____ sailors on the Atlantic Ocean and Caribbean Sea
A) fleet
B) terrorized
C) fearless
D) pretend
ANS: B
47. He is a _____ man if he can lift that heavy machine.
A) shoot
B) share
C) powerful
D) respect
ANS: C
48. _____of warships right round the Indian Ocean
A) fleet
B) capture
C) factor
D) steal
ANS: A

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| | |
|---|---|
| C) respect<br>D) sell<br>ANS: D | 49. Outside Treasure Island a battle goes on between pirate _____<br>A) powerful<br>B) identity<br>C) sail<br>D) ships<br>ANS: D<br>50. When a song is played on a musical instrument, a sound _____ travels out into the air<br>A) freedom<br>B) wave<br>C) invent<br>D) escape<br>ANS: B |

## Appendix B: Sample of Post-test

| | |
|---|---|
| 1. Only the _____ made the ship's rules.<br>A) captain<br>B) boss<br>C) driver<br>D) crew<br>Ans: A | 25. When the ship slows to _____ hitting the boat in front, pirates in the back can easily get on the ship.<br>A) transfer<br>B) sail<br>C) fearless<br>D) avoid<br>ANS: D |
| 2. During the period 1660- 1730, there was a lot of _____ trade between Europe and Africa.<br>A) input<br>B) maritime<br>C) purchase<br>D) factor<br><br>ANS: B | 26. A _____ fighter, Black Sam led nearly 80,000 pirates both men and women.<br>A) fearless<br>B) fail<br>C) ship<br>D) region<br>ANS: A |
| 3. Some _____ commonly traded were cloth, spices and weapons.<br>A) pirate<br>B) goods<br>C) maritime<br>D) steal<br><br>ANS: B | 27. How do modern-day pirates work? Sometimes, pirates _____ to be ship in trouble.<br>A) pretend<br>B) escape<br>C) sell<br>D) respectes<br>ANS: A |
| 4. Most people earn a(n) _____ by going to work.<br>A) equality<br>B) average<br>C) purchase<br>D) income<br><br>ANS: D | 28. Every year, about 70,000 cargo ships _____ through this area.<br>A) fails<br>B) sail<br>C) pretend<br>D) respect<br>ANS: B |
| 5. Really must learn not to _____ things from unknown websites.<br>A) purchase<br>B) steal<br>C) invent<br>D) employee<br>ANS: A | 29. The pirates say they will _____ the people if they don't get money.<br>A) escape<br>B) pretend<br>C) shoot<br>D) disguise<br>ANS: C |

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6. The ship's captain buy a number of slaves who had lost their _____ .
A) factor
B) illegal
C) freedom
D) employee
ANS: C

7. It is far more common for pirates to _____ things like cloth, spices.
A) purchasing
B) steal
C) illegal
D) disease
ANS: B

8. Pirates _____ the goods among themselves.
A) invent
B) steal
C) treated
D) divided

ANS: D

9. From the pirates' clothes, scientists have learned that the _____ pirate was only about 1.6 meters tall.
A) average
B) factor
C) equality
D) income

ANS: A

10. But on a pirate ship, _____ was important. Men elected their captain.
A) disease
B) free
C) factor
D) equality
ANS: D

11. It is well known that musicians suffer greatly due to _____ downloading of their music
A) illegal
B) freedom
C) equality
D) purchasing
ANS: A

12. A _____ is a reason or cause of something.
A) goods
B) sailor
C) chest
D) factor

ANS: D

13. Regular exercise is the best and consistent remedy to cure _____ .
A) diseases
B) treated
C) factor
D) goods
ANS: A

30. Pirates mostly _____ cargo ships for both goods and the money on board.
A) pretend
B) rescue
C) target
D) avoid
ANS: C

31. They _____ the goods from one ship to another ship.
A) targeted
B) disguised
C) transferred
D) discovered
ANS: C

32. The owners and the players will lose a lot of money if they _____ to come to an agreement soon.
A) fail
B) capture
C) retired
D) fleet
ANS: A

33. I mean most people try to impress the _____ in their first match, he did his best to upset him!
A) capture
B) discover
C) transfer
D) boss

ANS: D

34. He gained no such_____ from officialdom.
A) respect
B) discover
C) capture
D) avoid
ANS: A

35. If the men _____ her true identity, they might shoot and kill her.
A) retired
B) disguised
C) respected
D) discovered
ANS: D

36. Honeybees may not have much brain, but they have a _____ .
A) secret
B) powerful
C) ship
D) terrorized
ANS: A

37. The police _____ the burglar
A) retired
B) absolutely
C) coast
D) captured
ANS: D

38. I can always have it to say that It is _____ delicious and unquestionably

14. In popular culture, pirates are often shown with _____ full of gold.
A) goods
B) patches
C) chest
D) maritime

ANS: C

15. Movie _____ often wear eye patches and have wooden legs.
A) employee
B) pirates
C) ships
D) sailor
ANS: B

16. The average pirate was usually trying to _____ from a difficult life.
A) escape
B) income
C) steal
D) freedom
ANS: A

17. The_____ needs to be trained to use the photocopy machine.
A) employee
B) election
C) factor
D) common
ANS:A

18. We have the technology to_____ new ways of transportation and other sources of energy.
A) freedom
B) invent
C) chest
D) elected
ANS:B

19. She also serves as an _____ official in the regional parliament
A) equality
B) income
C) escape
D) elected
ANS: D

20. I still think the company _____ you very poorly
A) treated
B) income
C) elect
D) divided
ANS: A

21. they were _____ who were treated poorly.
A) patches
B) common
C) ships
D) sailors

ANS: D

worth.
A) region
B) absolutely
C) majority
D) fearless
ANS:

39. Throughout the history, the _____ of pirates have been men.
A) majority
B) fearless
C) ship
D) secret
ANS: A

40. Ann was born in UK. She lived most of her life _____ as a man.
A) capture
B) goods
C) pretends
D) disguised
ANS: D

41. Your employer will be allowed to force you to _____ at the normal age.
A) sell
B) steal
C) retire
D) chest
ANS: C

42. We must salute all who _____for freedom everywhere
A) sell
B) fearless
C) fleet
D) fight
ANS: D

43. But the south-western _____ has a relatively mild climate
A) terrorized
B) wave
C) coast
D) discover
ANS: C

44. Click on a _____ for a temperature forecast
A) transfer
B) discover
C) capture
D) region
ANS: D

45. The _____of the thief was found.
A) powerful
B) identity
C) fought
D) fearless
ANS: B

46. Blackbeard and his pirates _____ sailors on the Atlantic Ocean and Caribbean Sea
A) fleet
B) terrorized
C) fearless

22. In _____, on many pirate ships, men were like slaves.
A) capture
B) end
C) reality
D) disguised
ANS: C

23. Their captain always _____ the earnings fairly.
A) shares
B) capture
C) escapes
D) elected
ANS: A

24. I am going to _____ my scooter for 15$.
A) coast
B) secret
C) respect
D) sell
ANS: D

D) pretend
ANS: B

47. He is a _____ man if he can lift that heavy machine.
A) shoot
B) share
C) powerful
D) respect
ANS: C

48. _____ of warships right round the Indian Ocean
A) fleet
B) capture
C) factor
D) steal
ANS: A

49. Outside Treasure Island a battle goes on between pirate _____
A) powerful
B) identity
C) sail
D) ships
ANS: D

50. When a song is played on a musical instrument, a sound _____ travels out into the air
A) freedom
B) wave
C) invent
D) escape
ANS: B

Appendix C: Observational tool, Intervention & Control Group's observation sheet.

| Group: Intervention Group | Place: CALL Classroom | Time length: 60 min. |
|---|---|---|
| | | Week 1 |
| General description for students: • Are they happy to come to class? • Do students feel stress free in class • What students like to do most in class? | | |
| What happened in the classroom when students used computers for developing their vocabulary in English? | | |
| What computer-based tasks students completed and how teachers set up activities for the students | | |
| How did students complete the computer-based tasks to practice vocabulary learning? | | |
| What kinds of support teachers provided for students' learning English vocabulary? | | |
| What is the students' general impression of the using computer to learn vocabulary? | | |
| What is the students' attitude toward immediate feedback and error correction during the Moodle activities? | | |
| What is the students' motivation and attention level? | | |
| Additional information | | |



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| Group:<br>Intervention Group | Place: CALL Classroom | Time: |
|---|---|---|
| General description for students:<br>• Are they happy to come to class?<br>• Do students feel stress free in class<br>• What students like to do most in class? | They come early and sit their chair and start to check their moodle website. if of them forgot their password. Teacher solved their problem. They were happy, and seem to me that they were more stress free. They click the ... |
| What happened in the classroom when students used computers for developing their vocabulary in English? | They liked to listen and click again and again on the sentences or words. To repeat - finishing first the tasks their main goal matching vocab with definition was interesting for the |
| What computer-based tasks students completed and how teachers set up activities for the students | They were several vocabulary games, such as match the meaning, write vocabulary, listen story and answer questions. They try to finish them without mistake |
| How did students complete the computer-based tasks to practice vocabulary learning? | interesting thing. if they made a mistake they start again and try to finish the task without mistake - |
| What kinds of support teachers provided for students' learning English vocabulary? | Teacher was helping them whenever they need but this section she just help 3 students others were happy with getting feedback from computer. They just inform teacher ... |
| What is the students' general impression of the using computer to learn vocabulary? | They seem to be very busy with tasks. ...body was using computer for another purpose They were very positive and happy. One st. was trying to understand what is it |
| What is the students' attitude toward immediate feedback and error correction during the Moodle activities? | Getting feedback immediately from computer actually made them relax seemed to one st. student was doing mistake by purpose. She ... she is doing it to see and hear correct one. |
| What is the students' motivation and attention level? | They are happy. Nobody asked for permission ... party. ... free environment. |
| Additional information | |

| Group:<br>Control Group | Place: CALL Classroom | Time length: 60 min. |
|---|---|---|
| | Week 1 | |
| General description for students:<br>• Are they happy to come to class?<br>• Do students feel stress free in class<br>• What students like to do most in class? | | |
| What happened in the classroom when students used traditional Materials for developing their vocabulary in English? | | |
| What tasks students completed and how teachers set up activities for the students | | |
| How did students complete the tasks to practice vocabulary learning? | | |
| What kinds of support teachers provided for students' learning English vocabulary? | | |
| What is the students' general impression of the using traditional materials to learn vocabulary? | | |
| Feedback and error correction during the class.<br>St. attitude toward error correction?<br>Did all Students get immediate feedback? | | |
| What is the students' motivation and attention level? | | |
| Additional information | | |

| Group: Control | |
|---|---|
| General description for students:<br>• Are they happy to come to class?<br>• Do students feel stress free in class<br>• What students like to do most in class? | They try to understand what's going on. They asked about time issue; such as when it will finish. They liked vocabulary matching with meaning. |
| What happened in the classroom when students used traditional Materials for developing their vocabulary in English? | Teacher gave them topic. ask them to read but most of them did not read - Several st. were checking their mobile phone |
| What tasks students completed and how teachers set up activities for the students | - Activities were the same as the other group but paper they used. Half of class did not have time to finish task. or they just st. and watch other students. |
| How did students complete the tasks to practice vocabulary learning? | There were several student they did not even try to finish task. They were volunteer They were students try to repeat and follow teacher. |
| What kinds of support teachers provided for students' learning English vocabulary? | The teacher was the main speaker. She directed everything. She read each vocab and st. repeat |
| What is the students' general impression of the using traditional materials to learn vocabulary? | After a while they started to ask about time It seems to me that they did not feel very comfortable |
| Feedback and error correction during the class.<br>St. attitude toward error correction?<br>Did all Students get immediate feedback? | Teacher try to correct everybody but it took time, and most student hesitated to pronounce vocab. Yes. |
| What is the students' motivation and attention level? | ... the students were ok but others seem to me that they did not motivated and level of attention was low |
| Additional information | student asked to go out for a drink |

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## Appendix E: Ethical Review Panel Aplication Forms

**CANİK BAŞARI ÜNİVERSİTESİ SOSYAL BİLİMLERDE İNSAN ARAŞTIRMALARI ETİK KURULU BAŞVURU FORMU**

> Canik Başarı Üniversitesi (Canik Başarı) bünyesinde yapılan ve/ya Canik Başarı Üniversitesi (Canik Başarı) çalışanları/öğrencileri araştırmacı olduğu/yürütücü olduğu ve insan katılımcılardan bilgi toplamayı gerektiren tüm çalışmalar,! Canik Başarı Üniversitesi Etik Kurulu incelemesine tabidir: Bu başvuru formu doldurulduktan sonra diğer gerekli belgelerle birlikte Canik Başarı Üniversitesi Etik Kuruluna başvuru yapılmalıdır. Çalışmalar. Etik Kurulun onayının alınmasından sonra aktif olarak başlatılmalıdır.

1. **Araştırmanın başlığı** : *Vocabulary acquisition through computer assisted language learning (CALL) in Turkey*

2. **Araştırmanın niteliği** (Uygun olan kutuyu işaretleyiniz)  Öğretim Üyesi Araştırması   ■ ›ktora Tezi

   ☐Yüksek Lisans Tezi   ☐ Diğer (belirtiniz) _____

3. **Araştırmacının/Araştırmacıların:**

   **Adı-Soyadı:** Bahattin Altay

   **Projedeki Görevi:** Yönetici

   **Kurumu:** Canik Başarı Üniversitesi E-posta adresi: baltay@basari.edu.tr

   **Kurumu:**

   **Adı-Soyadı:**

   **Projedeki Görevi:**

   **E-posta adresi:**

   **BURSİYERLER**

   1-

4. (Varsa) Danışmanın: Adı-Soyadı   Victoria Door     Telefonu: 0044 1782 733122

5. Proje Dönemi: Başlangıç: Ekim 2013     Bitiş  Aralık 2013

6. Projenin desteklenip desteklenmediği:     ☐ Desteksiz     ☐Destekli

   Desteklenen bir proje ise. destekleyen/destekleyecek kurum:   ■ Üniversite     TUB☐AK

   ☐Uluslararası (belirtiniz) _____     ☐Diğer (belirtiniz)_____

7. Başvurunun statüsü: ■ 'eni başvuru       ☐ Revize edilmiş başvuru   ☐ır önceki projenin devamı

   Bir önceki projenin devamı ise, yürütülen çalışına önceden onaylanan çalışmadan herhangi bir farklılık gösteriyor

   mu?   ☐ Evet     ☐ Hayır

   Evet ise açıklayınız: _____

8. Çalışma katılımcılara. herhangi bir şekilde yanlı/yanlış bilgi vermeyi, çalışmanın amacını tamamen gizli tutmayı

   gerektiriyor mu?     ☐ Evet     ■ Hayır

   Evet ise açıklayınız: _____

9. Çalışma katılımcıların fiziksel veya ruhsal sağlıklarını tehdit edici sorular/maddeler, prosedürler ya da

   manipülasyonlar/uygulamalar içeriyor mu?   ☐Evet     Hayır ■

   Evet ise açıklayınız: _____

10. Katılımcı sayısı:

11. Kontrol grup kullanılacak mı?:   ■ 'et     Ha☐

12. Aşağıda sunulan listeden, çalışmanın katılımcılarını en iyi tanımlayan seçenekleri işaretleyiniz

- ■ Üniversite Öğrencileri
- ☐ Çalışan Yetişkinler/Öğretmenler
- ☐ Hâlihazırda İş Sahibi Olmayan Yetişkinler
- ☐ Okul Öncesi Çocuklar
- ☐ İlköğretim Öğrencileri
- ☐ Lise Öğrencileri
- ☐ Çocuk İşçiler
- ☐ Yaşlılar
- ☐ Zihinsel Engelli Bireyler
- ☐ Fiziksel Engelli Bireyler
- ☐ Tutuklular
- ☐ Diğer (belirtiniz) _____

13. Aşağıda yer alan uygulamalardan, çalışma kapsamında yer alacak olanları işaretleyiniz

- ■ Anket
- ■ Mülakat
- ☐ Gözlem
- ■ Bilgisayar ortamında test uygulamak
- ■ Video/film kaydı
- ■ Ses kaydı
- ☐ Alkol, uyuşturucu ya da diğer herhangi bir kimyasal maddenin katılımcılara kullandırılması
- ☐ Yüksek düzeyde uyarıma (ışık, ses gibi) maruz bırakma
- ☐ Radyoaktif materyal maruz bırakma
- ☐ Diğer (belirtiniz): _____

Bu bölüm; ilgili bölümleri temsil eden Canık Başarı Üniversitesi Etik Kurul üyesi/üyeleri tarafından doldurulacaktır

Proje No:

Değerlendirme Tarihi  8.07.2013
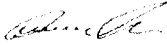
Adı-Soyadı        Prof. Dr. Reşit ÖZKANCA

İmza

Karar        : Etik Kurul açısından sakınca bulunmamaktadır.

Etik Kurulu Başkanı ve Üyeleri

Prof. Dr. Reşit ÖZKANCA
Başkan
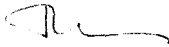
Prof. Dr. Özgür KIŞI
Üye

Prof. Dr. Osman DEMIR
Üye
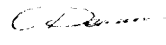
Prof. Dr. Celal TARAKÇI
Üye
**İzinli**

Prof. Dr. Ragıp ERDOL
Üye

Appendix F: Consent Form Ethical Committee

TO THE ETHICS COMMITTEE

CONSENT FORM

I am including a consent form for questionnaire participants. As an educator pursuing a
PhD in the teaching of English, I am planning to conduct in-depth questionnaire
with semi-structured questions.

For the interviews with select participants, in most cases consent will be obtained
by a web tool called Moodle. I will assure people of confidentiality at
the start of each questionnaire.

I only engage in overt research where my identity as a researcher is open.
The participants are all over the age of 16.

I will offer to preserve anonymity.

I have included in this submission a personalized Information Sheet.

Appendix G: Letter of Invitation

Address: ......................................

...............................................

Dear .............................................,

My name is Bahattin Altay and I am currently undertaking a Doctorate in Education at Keele
University, Staffordshire, England. As part of the Doctorate I am carrying out a research into
college age vocabulary acquisition through CALL among Turkish English Language learners
The aim of this study is to investigate the ways Computer Assisted Language Learning may benefit
to improve vocabulary acquisition among college aged English learner in Turkey.
I would like to invite you to take part in the study and would be very grateful if you would consider
participating.
Before you decide whether or not you wish to take part, it is important for you to understand why
this research is being done and what it will involve.
Please take time to read the attached information document carefully and discuss it with friends and
relatives if you wish.
My research supervisor is Victoria Door, who is a Professor in Education at Keele University.

Please direct any questions you may have to me or my supervisor via v.m.door@keele.ac.uk if
there is anything that is unclear or if you would like more information about the study.
With best wishes,

_____
Bahattin Altay

Appendix H: Students' Consent Forms

**CONSENT FORM**

**Title of Project:** *Vocabulary acquisition through computer assisted language learning (CALL) in Turkey*

**Name and contact details of Principal Investigator:** *Bahattin Altay*

Canik *Basari University*

*Samsun,*

*Turkey*

00905073083414

bmanas1@hotmail.com

**Please tick box**

| | | |
|---|---|---|
| 1 | I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. | ☐ |
| 2 | I understand that my participation is voluntary and that I am free to withdraw at any time. | ☐ |
| 3 | I agree to take part in this study. | ☐ |
| 4 | I understand that data collected about me during this study will be anonymised before it is submitted for publication. | ☐ |
| 5 | I agree to the interview group being audio /video recorded | ☐ |
| 6 | I agree to allow the dataset collected to be used for future research Project | ☐ |
| 7 | I agree to be contacted about possible participation in future research projects. | ☐ |

_____          Date          Signature _____
Name of participant

_____    _____    Signature _____
Researcher                Date

# CONSENT FORM
## (for use of quotes)

**Title of Project:** *Vocabulary acquisition through computer assisted language learning (CALL) in Turkey*

Name and contact details of Principal Investigator: *Bahattin Altay*
*Canik Basari University*
*Samsun, Turkey*
00905073083414
bmanas1@hotmail.com

**Please tick box**

1    I agree for any quotes to be used            ☐

2    I do not agree for any quotes to be used    ☐

_____        _____        _____
Name of participant                    Date                                    Signature

_____        _____        _____
Researcher                                Date                                    Signature

## A. PIRATES: ROMANCE AND REALITY
In many movies, a pirate's life is an exciting adventure. But what was life actually like for an 18th-century pirate? And which parts of the movie pirate are real and which are invented?

### A PIRATE'S LIFE
In reality, the average pirate was usually trying to escape from a difficult life. Some were ex-sailors who were treated poorly on their ships. Others were escaped slaves who wanted their freedom. They came from 10 many different backgrounds. But on a pirate ship, equality was important. Men elected their captain and created the ship's rules together. The men also divided the income from stolen goods, and they shared these earnings fairly.

### PIRATE TREASURE
In popular culture, pirates are often shown with chests full of gold. It is true they took money from others. However, it was far more common for pirates to steal things like cloth, spices, and even medicine. Then they often sold these things. Of course, purchasing stolen goods from pirates was illegal, but many people did it. Also, unlike movie pirates, real "pirates didn't bury their money," says Cori Convertito, who works at a maritime museum in the U.S. "They blew it as soon as they could on women and booze."

### PIRATE STYLE
Movie pirates often wear eye patches and have wooden legs. In reality, many pirates did look like this. Why? One factor was the poor living conditions. "Life at sea was hard and dangerous," says David Moore, a maritime museum employee in the U.S. Disease was also common. For these reasons, some pirates lost eyes and legs. But many pirates did one thing for their health: they wore earrings—just as in the movies. They believed putting weight on the ears stopped seasickness.

## B. WOMEN OF THE WAVES
Throughout history, the majority of pirates have been men.
But were there any women pirates? Absolutely! Below are two from different parts of the world.

### MARY READ; PIRATE IN DISGUISE
Mary Read was born in England around 1690. She lived most of her life disguised as a man. As a teenager, looking for adventure, she dressed as a boy and got a job at sea. Later, as a young woman (still pretending to be a man), she got work on a ship and sailed to the Caribbean.
On one journey, pirates attacked Mary's ship. Instead of fighting, she joined them. But Mary had to be careful because many pirate ships had a rule: no women allowed. If the men discovered her true identity, they might shoot and kill her. So at first Mary stayed by herself and avoided the others. But one day, she made a surprising discovery: one of the pirates on the ship was actually a woman! Anne Bonny was the captain's girlfriend, but she was also a pirate herself. Mary told Anne her secret, and the two women became good friends, and powerful fighters. They fought together until they were captured in 1720.

### CHINC SHIH: PIRATE QUEEN
In the early 1800s, pirate Ching Shih terrorized the Chinese coast. When her powerful pirate husband died, control of his 500 junks transferred to Ching Shih. While she was boss, her fleet grew to almost 2,000 ships.
A fearless fighter, Ching Shih led nearly 80,000 pirates— both men and women. They targeted ships and towns along the coast of China. For years, leaders throughout the region failed to stop her. Eventually, Ching Shih retired, a rich and respected woman.

Appendix J: A Sample Traditional Lesson Plan

**Warm-up- 5 mins.**

- The class remember the words that they have encountered before.

- The teacher gives them some information about the common pirate flag which is today known as Jolly Roger.

'The Jolly Roger is any of various flags flown to identify a ship's crew as pirates that were about to attack. The flag most commonly identified as the Jolly Roger today is the skull and crossbones, a flag consisting of a human skull above two long bones (probably tibias) set in an x-mark arrangement, most usually depicted crossing each other directly under the skull, on a black field. This design was used by several pirates, including Captains "Black Sam" Bellamy, Edward England, and John Taylor.'

**The teacher asks them some questions:**
*Do you know any famous movies, stories or books about the sea or sailors?
**BEFORE READING- early vocab practice**
A. Matching - 5 mins
**They do the matching activity that the book recommends.**
B. Predict - 2 mins
**They do the true-false activity by making predictions.**
**While Reading**
Students read the paragraph and answer the questions.
**Vocabulary Practice**

A. **Match the words with the definitions and complete the puzzle.**

| | | | |
|---|---|---|---|
| 1. | invented- d | a) | Chosen to be leader by friends or other people. |
| 2. | Average - h | b) | The way someone behaved toward you. |
| 3. | Escape- j | c) | Against the law (rules of a country) |
| 4. | Treated- b | d) | Made something that no one made before. |
| 5. | Equality- i | e) | Someone who works for a company. |
| 6. | Elected- a | f) | Put into two or more groups. |
| 7. | Divided- f | g) | Money you get from working. |
| 8. | income- e | h) | The middle number of a group of numbers. |
| 9. | illegal- c | i) | Everyone being equal. |
| 10. | Employee- e | j) | Run away from something dangerous or something you don't like. |



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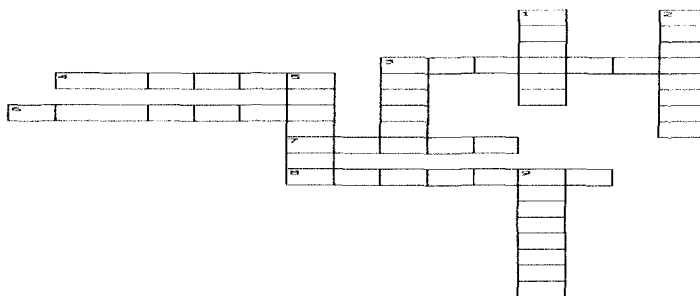
**B. Match these phrases from the text:**

| | | | |
|---|---|---|---|
| 1. | a pirate's life is an - c | a) | different backgrounds |
| 2. | trying to escape - f | b) | eyes and legs |
| 3. | They came from many - a | c) | exciting adventure |
| 4. | they shared these earnings - g | d) | money from others |
| 5. | It is true they took - d | e) | bury their money |
| 6. | real pirates didn't - e | f) | from a difficult life |
| 7. | poor living - h | g) | fairly |
| 8. | some pirates lost - b | h) | Conditions |

Appendix K: Abbreviations and Definition of Terms

| Definition of Terms | |
|---|---|
| **Annotation** | An additional note revealing explanations about a word (Oxford Advanced Learner's Dictionary of Current English, 2000), (Wehmeier & Hornby, 2000) |
| **Autonomous Learner** | Autonomous learners are both cognitively and meta-cognitively mindful of where they stand in the learning process, pursue and generate their own opportunities to build knowledge, and make efforts to earnestly be in control of their learning in and out of the classroom (Holden & Usuki, 1999, p. 3). |
| ***Communicative* Competence** | General ability to use the target language in everyday situations (Littlewood, 1981) |
| **Communicative Language Teaching** | Communicative language teaching asserts the matter that not only must learners know how accurately grasp propositional explanations regarding the experiential world that are grammatically correct, but need to expand the capacity in which they can use language to carry out tasks (Nunan, 1989, p. 25). |
| **Computer Assisted Language Learning (CALL)** | Using the Internet, software programmes and computers for language teaching. CALL is defined as a mode of instruction that uses computers to deliver, strengthen and assess certain language items (Jones & Fortescue, 1987). |
| **Computer To Assist In Instruction (CAI)** | The use of the computer as a support means in instructional exercises. CAI for the most part is used refer to tutor applications, such as drill and practice, tutorials, simulations and games (Chimezie, 1987). |
| **Computer Assisted Vocabulary Instruction (CAVI)** | Methods involving the use of computers for vocabulary learning and instructional purposes. |
| **Cooperative Learning** | Cooperative learning assumes that learning occurs among persons through constructing and maintaining knowledge. This is done not by examining the |

| | world, but by interacting with one another in communities of knowledgeable peers. This interaction can range from sharing ideas, debating constructively, or simply engaging in conversation (Bruffee, 1999). |
|---|---|
| **Graphic** | A visual portrayal that serves the purpose to target a specific point, simplify, demonstrate, abridge or simply enhances the existing text. |
| **Hypermedia** | Hypermedia are computer-based applications that combine various forms of media by using hypertext technology in a nonlinear way. |
| **Hypertext** | A computer-based system for creating and accessing nonlinear texts and multimedia. |
| **Independent Learning** | Independent learning is defined as making use of available opportunities and occurrences deemed imperative for students to evolve into proficient, self-reliant, self-motivated and life-long learners. |
| **Interactive Multimedia** | Text, images, auditory and video content displayed on a computer to point to links and materials. This media blended together allow the user to operate, interact, create, and communicate. |
| **Internet** | The Internet is a very large computer network that is made up of other smaller networks of computers. |
| **Language Learning Strategies** | Steps taken by students to enhance their own learning (Oxford, 1990, p. 1). |
| **Learner Autonomy** | Essentially, learners who have proven to be knowledgable, masterful and prosperous in their disciplines have trained themselves on the ability to learn. These individuals have learned effective approaches, overall insight and the proper outlook to maximise the usefulness of the process. This enables autonomous learners to wield these tactics and information positively, in an adaptive manner, accordingly and separate of teacher influence (Wenden, 1991, p. 15). |
| **Learner Responsibility** | Learner responsibility is defined as the idea that learners are aware that their efforts are important to improve their learning. Such learners are capable of monitoring their progress, and make an effort to further their advancement in learning with support from opportunities that present themselves in and out of classroom contexts. |
| **Learner-Centered Language Teaching** | It is defined as collaborative effort between teachers and learners. It differs from traditional language education in which the teachers transfer specific sets of rules to the students in a one-way channel (D Nunan, 1988, p. 2). |
| **Media** | All the tools that are used for storing and transmitting information. Media includes texts, photos, drawings, audio, and video sources (Pusack & Otto, 1997). |
| **Multimedia** | Materials comprised of different types of information in a computer environment. Through the use of computers, various media can be combined into a single environment such as audio, video and text (Pusack & Otto, 1997, p. 10). |
| **Multimedia Annotations** | Extra information about the terms and the lexical phrases in a reading text presented through multiple forms of media. |
| **Self-regulated** | Self-regulation refers to the extent that learners are engaged participants in their |

| Learning | own learning in a metacognitive, motivational and behavioural manner (Schunk & Zimmerman, 1994; Sharp, Pocklington, & Weindling, 2002, p. 37). |
|---|---|
| **Still Visuals** | Images, including text, displayed on a computer monitor without the illusion of movement in space |
| **Strategy** | Conscious progress toward a goal (Hsiao & Oxford, 2002, p. 369). |
| **Vocabulary Revision** | Reviewing newly-learned vocabulary. |
| **Web-Based Education (WBE)** | The use of the Internet, software programmes and computers for language teaching. |
| **Web-Based Instruction (WBT):** | Synonymous with WBE, this also refers to language teaching methods involving software programmes, computers and the Internet. |
| **World Wide Web (WWW)** | What can be seen of the Internet - the visible face. This is the interface between users and the vast network of computers. Many millions of websites with their accompanying millions of items of information are found here. |

## Abbreviations : The abbreviations used in the study are as follows

| | |
|---|---|
| ARCS | Attention, Relevance, Confidence and Satisfaction |
| ARPA | Advanced Research Projects Agency |
| CACD | Computer Assisted Classroom Discussion |
| CAE | Computer Aided Education |
| CAI | Computer Assisted Instruction |
| CALL: | Computer assisted language learning |
| CAMILLE | Computer- Aided Multimedia Language Learning |
| CAT | Computer Adaptive Test |
| CAVI: | Computer assisted vocabulary instruction |
| CAVL | Computer-Assisted Vocabulary Learning |
| CDT | Component Display Theory |
| CELL | Computer Enhanced Language Learning |
| CES | Computer Experimental Schools |
| CMC | Computer-Mediated Communication |
| CMC: | Computer Mediated Communication in which computers are used as a tool. The users are not necessarily online at the same time. E-mails, message boards, and blogs are some examples. |
| CRAPEL | Centre de Recherches et d'Applications en Langues |
| Cd- Rom: | Compact Disc read only memory |
| DITE | Department of Information Technology in Education |
| DILL | Distance Interactive Learning |
| EAP | English for Academic Purposes |
| EFL | English as Foreign Language |
| EGAP | English for General Academic Purposes |
| ELT: | English Language Teaching |
| EMI | English Medium Instruction |
| ESL | English as Second Language |
| ESP | English for Secondary Purposes |
| FLTL | Foreign Language Teaching and Learning |
| FTP | File Transfer Protocol |
| HTTP | Hypertext Transfer Protocol |
| ICALL | Intelligent Computer Assisted Language Learning |
| ICQ | I seek you |
| IDEA | Asynchronous Internet Education |
| L1: | Native language |
| L2: | Second language |
| LAN: | Local area network |

| METU | Middle East Technical University |
|------|--------------------------------|
| MIT | Multiple Intelligence Theory |
| MSN | Messenger |
| N: | Number |
| OLA | Oral Language Archive |
| SILL | Strategy Inventory for Language Learning |
| SLA: | Second Language Acquisition |
| SPPS: | Statistical Package for the Social Sciences |
| TELL | Technology Enhanced Language Learning |
| T-EMI | Turkish-English Instruction |
| TEPAV | Turkey Economic Policy Research Foundation |
| TMI | Turkish Medium Instruction |
| TNNA | Turkey National Needs Assessment |
| TPR | Total Physical Response |
| URAP | University Ranking by Academic Performance |
| VFT | Virtual Field Trips |
| Vroma | Virtual Rome experience for learning Latin |
| WBE: | Web-Based Education |
| WBT: | Web-Based Instruction |
| WELL | Web Enhanced Language Learning |
| WWW: | World Wide Web |

## Appendix L: Questionnaire for Vocabulary

| A. PERSONAL INFORMATION | | |
|---|---|---|
| **1** NAME: <br><br> #          **Response** <br> 1 | | |
| **2** Gender <br> **Response**    **Average** <br> Male <br> Female | | **Total** |
| **3** Age <br> **Response**    **Average** <br> 14-19 <br> 20-29 | | **Total** |
| **4** I have been learning English for <br> **Response**    **Average** <br> 1-5 years <br> 6-10 years <br> 11-15 years <br> and over | | **Total** |
| **5** <br><br> Have you ever attended any training course, workshop, or seminar on using computers? <br><br> **Response**    **Average** <br> Yes <br> No <br> Total | | **Total** |
| **6** If yes please specify the type (name, duration, etc.) of the seminar | | |

| | | | |
|---|---|---|---|
| | # | Response | |
| | 1 | | |
| | 1 | | |

| 7 | Computer at home: | | |
|---|---|---|---|
| | **Response** | **Average** | **Total** |
| | Yes | | |
| | No | | |
| | Total | | |

| 8 | Internet Access of your computer: | | |
|---|---|---|---|
| | **Response** | **Average** | **Total** |
| | Yes | | |
| | No | | |
| | Total | | |

## B. COMPETENCE OF STUDENTS

**Please indicate your current computer competence level (both your knowledge of and skill in using computers) regarding each of the following statement.**

**I can**

| 9 | Install new software on a computer. |
|---|---|

| | | **Average rank** | | | | **Average** |
|---|---|---|---|---|---|---|
| | No Competence | Little competence | Moderate | Competence | Much Competence | |

| 10 | Operate a word processing programme.(e.g. Word) |
|---|---|

| | | **Average rank** | | | | **Average** |
|---|---|---|---|---|---|---|
| | No Competence | Little competence | Moderate | Competence | Much Competence | |

| 11 | Operate a presentation programme.(e.g. Powerpoint) |
|---|---|

| | | | | | | **Average** |
|---|---|---|---|---|---|---|
| | | **Average rank** | | | | |
| | No Competence | Little competence | Moderate | Competence | Much Competence | |

| 12 | Use the Internet for communication.(e.g. e-mail, chat-room) |
|---|---|

| | | **Average rank** | | | | **Average** |
|---|---|---|---|---|---|---|
| | No Competence | Little competence | Moderate | Competence | Much Competence | |

| 13 | Use the World Wide Web to Access different types of information. |
|---|---|

| | | **Average rank** | | | | **Average** |
|---|---|---|---|---|---|---|
| | No Competence | Little competence | Moderate | Competence | Much Competence | |

| 1 | Solve simple problems in operating computers. |
|---|---|

| 4 | | | Average rank | | | | Average |
|---|---|---|---|---|---|---|---|
| | No Competence | Little competence | Moderate | Competence | Much Competence | | |

---

| 1 5 | Select and evaluate educational software | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Average rank | | | | Average |
| | No Competence | Little competence | Moderate | Competence | Much Competence | | |

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| 1 6 | Create or develop your own webpage. | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Average rank | | | | Average |
| | No Competence | Little competence | Moderate | Competence | Much Competence | | |

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| 1 7 | Find materials on the Internet that you need. | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Average rank | | | | Average |
| | No Competence | Little competence | Moderate | Competence | Much Competence | | |

---

| 1 8 | Use a face account. (e.g Putting picture, sending messages) | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Average rank | | | | Average |
| | No Competence | Little competence | Moderate | Competence | Much Competence | | |

---

**C. Please select your agreement to these sentences:**

**GENERAL ATTITUDE ITEMS**

| 1 9 | I can access extra information more easily during a CALL class. | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Average rank | | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | | |

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| 2 0 | After taking CALL courses, I know how to benefit from my PC to improve my English. | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Average rank | | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | | |

---

| 2 1 | CALL is a stress-free environment to learn English. | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Average rank | | | | Average |
| | Strongly | Disagree | Neutral | Agree | Strongly | | |

|  | disagree | | | | | Agree | |

| 2 2 | I can get more feedback in CALL classes. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 2 3 | CALL is a more casual way of learning. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 2 4 | I benefit more from the group/pair work in a CALL class. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 2 5 | I feel comfortable enough to share my ideas in English during CALL classes. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 2 6 | My achievement can be measured in different ways in a CALL class. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 2 7 | I can practice all language skills in a CALL environment. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 2 8 | I know more about how to use computers after having taken CALL courses. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 2 9 | I can understand everything we do in CALL classes. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 3 0 | It takes less time to explain something during CALL classes. | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | | | **Average rank** | | | **Average** |
|  |  | *Strongly disagree* | Disagree | Neutral | Agree | *Strongly Agree* | |

| 3 | I have become a better problem-solver after using the computer while learning English. |

| 1 | | | Average rank | | | Average |
|---|---|---|---|---|---|---|
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 3 2 | CALL has helped me become an independent learner. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 3 3 | I do not have technical problems in using computers during CALL classes. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

**D. Please select your agreement to these sentences:**
**VOCABULARY**

| 3 4 | Computers help me identify the key words when listening is supported with visual activities. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 3 5 | I have the options to hear different accents for the pronunciation of a word. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 3 6 | I prefer CALL to traditional classrooms for vocabulary classes. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 3 7 | I have the opportunity to interact/speak with everybody in pairs/groups in vocabulary courses via computers. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 3 8 | I get immediate feedback with my vocabulary pronunciation. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 3 9 | It is easy to access the meaning of words while reading in CALL classes. | | | | | |
|---|---|---|---|---|---|---|
| | | | Average rank | | | Average |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 4 0 | In reading courses, listening to the written text helps me comprehend better *as I can hear the intonation, stress ...* | | | | | |
|---|---|---|---|---|---|---|
| | | **Average rank** | | | | **Average** |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 4 1 | I prefer to study reading via computers. | | | | | |
|---|---|---|---|---|---|---|
| | | **Average rank** | | | | **Average** |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 4 2 | Reading via computers is more interesting when supported with visual information. | | | | | |
|---|---|---|---|---|---|---|
| | | **Average rank** | | | | **Average** |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

| 4 3 | Computers help me self-correct my spelling, and my pronunciation errors. | | | | | |
|---|---|---|---|---|---|---|
| | | **Average rank** | | | | **Average** |
| | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | |

### OPEN ENDED QUESTIONS

| 44 | What is your general impressions of the vocabulary project ? |
|---|---|
| | **#**          **Response** |
| | 1 |
| | 1 |
| | 1 |

| 45 | What is your general impressions of the using computer to learn vocabulary? |
|---|---|
| | **#**          **Response** |
| | 1 |

| 46 | Do you think, the digital materials provided by your teacher were useful for learning vocabulary? If so why? If not why? |
|---|---|
| | **#**          **Response** |
| | 1 |

| 47 | What was the most interesting part while you were learning vocabulary through computer? |
|---|---|
| | **#**          **Response** |
| | 1 |

| 48 | Do you think learning vocabulary through digital material contributed more to your learning? If so why? If not why |
|---|---|
| | **#**          **Response** |
| | 1 |
| | 1 |

| 49 | How do you describe the term(s) that best describe(s) the role(s) you see the computer taking in language learning? |
|---|---|
| | **#**          **Response** |
| | 1 |

| 50 | What do you think CALL's greatest potential advantages/benefits are? |
|---|---|
| | **#**          **Response** |
| | 1 |
| | 1 |

| 51 | Do you have anything to add to this survey that you think can contribute to successful CALL implementation at tertiary level EFL context in Turkey? (For examples, missing points, suggestions, comments, etc). |
|----|---|
| | **#**        **Response** |
| | 1 |
| | 1 |

Illustration 1: Sample of the Traditional Warm up Activity

## 11A The Real Pirates of the Caribbean

◄ Captain Samuel Bellamy (in the red coat) and his pirates take another ship.

### Before You Read

**A. Matching.** Read the information below and match each word in **blue** with its definition.

**The Golden Age of Piracy (1660–1730)**

- During the period 1660–1730, there was a lot of **maritime** trade between Europe, Africa, the Caribbean, and the eastern coasts of the Americas. Some **goods** commonly traded were cloth, spices, and weapons.
- By the 1720s, pirates were common – especially in the Caribbean.
- Each pirate ship was led by a **captain**. One of the most famous was Black Sam Bellamy (pictured).

1. the leader of the people on a ship  _____
2. related to the sea  _____
3. things that are made to be sold  _____

**B. Predict.** What do you think pirates were really like? Read the sentences and circle **T** (True) or **F** (False). Then read the passage to check your ideas.

| | T | F |
|---|---|---|
| 1. Only the captain made the ship's rules. | T | F |
| 2. Pirates made most of their money by stealing gold. | T | F |
| 3. Many pirates had wooden legs or wore earrings. | T | F |

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Illustration 2: Sample of Traditional Vocabulary Exercises



## Vocabulary Practice

**A. Completion.** Complete the information with the correct form of words from the box. Three words are extra.

| average | divide | disease | equality |
|---------|--------|---------|----------|
| factor | freedom | illegal | income |
| purchase | steal | | |

Most people earn a(n) **1.** _____ by going to work. Not Barry Clifford. He makes money by finding lost pirate treasure. In 1984, he discovered a pirate ship called the *Whydah* in waters near Massachusetts in the U.S.A.

The *Whydah* was an English slave ship. It traveled to western Africa, and the ship's captain **2.** _____ a number of slaves who had lost their **3.** _____. The ship then traveled to the Caribbean. Here, in February 1717, Captain Sam Bellamy and his pirates took the *Whydah*. They **4.** _____ the ship and all of its goods. Later Bellamy's men **5.** _____ the goods among themselves. But their luck didn't last. On April 26, the *Whydah* sank[1] in a storm near Massachusetts, and all but two pirates died.

Today, **6.** _____ such as bad weather and rough water make it difficult for Clifford's team to bring objects up from the *Whydah*. Despite this, over 100,000 objects have been found, including coins, weapons, and clothing. From the pirates' clothes, scientists have learned that the **7.** _____ pirate was only about 1.6 meters tall (5'4"). In other words, most pirates were not as tall as we see in the movies.

[1] If something **sinks**, it goes underwater.

▲ A diver studies a coin discovered from the *Whydah*.

**B. Definitions.** Use words from the box in **A** to complete the definitions.

1. If you _____ something, you buy it.
2. If you _____ something, you break it into smaller, equal parts.
3. A _____ is a reason or cause of something.
4. If something is _____, it is not allowed by law.
5. _____ is the ability to do, say, or think what you want.
6. _____ is money you earn, usually for work you do.
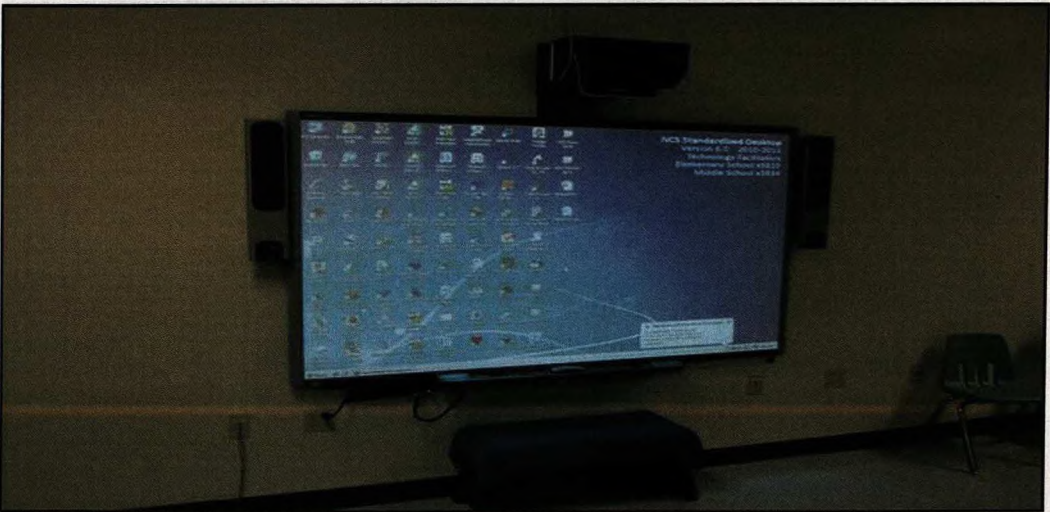
Illustration 3: A Sample of Interactive Board

Illustration 4: Before Reading activities

## Match each word with its defination

### captain

The leader of the people on a ship    `Drag text here`

Things that are made to be sold    goods ✓

Related to the sea    maritime ✓

---

### Before You Read

**A. Completion.** Read the paragraph and then complete the sentences below.

The Golden Age of Piracy produced a number of famous pirates. Edward Teach, better known as Blackbeard, was one of the most famous—and terrifying—pirates of the time. According to legend, he cut off people's fingers and killed others just for fun. From 1716 to 1718, he attacked boats in the Atlantic and the Caribbean. By 1718, he had a large fleet of ships and was the captain of hundreds of pirates. In 1718, the British finally captured and killed Blackbeard.

If you *attack* a person or thing, you try to   hurt ✓   them.

help

A *fleet* is an organized group of   `Drag text here`   them.

ships    people

If you *capture* something or someone, you   `Drag text here`   them

free    take and control

Illustration 5: Sample of Reading Text for Intervention Group

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**READING TEXT FOR INTERVENTION GROUP**

Click on it to listen the text.

Listen the text

Click on the words to listen

### A. PIRATES: ROMANCE AND REALITY

In many movies, a pirate's life is an exciting adventure. But what was life actually like for an 18th-century pirate? And which parts of the movie pirate are real and which are invented?

### A PIRATE'S LIFE

Click on the words.

In reality, the average pirate was usually trying to escape from a difficult life. Some were ex-sailors who were treated poorly on their ships. Others were escaped slaves who wanted their freedom. They came from 10    many different backgrounds. But on a pirate ship, equality was important. Men elected their captain and created the ship's rules together. The men also divided the income from stolen goods, and they shared these earnings fairly.

### PIRATE TREASURE

Click on the words.

In popular culture, pirates arc often shown with chests full of gold. It is true they took money from others. However, it was far more common for pirates to steal things like cloth, spices, and even medicine. Then they often sold these things. Of course, purchasing stolen goods from pirates was illegal, but many people did it. Also, unlike movie pirates, real "pirates didn't bury their money," says Cori Convertito, who works at a maritime museum in the U.S. "They blew it as soon as they could on women and booze."

### PIRATE STYLE

Movie pirates often wear eye patches and have wooden legs. In reality, many pirates did look like this. Why? One factor was the poor living conditions. "Life at sea was hard and dangerous," says David Moore, a maritime museum employee in the U.S. Disease was also common. For these reasons, some pirates lost eyes and legs. But many pirates did one thing for their health: they wore earrings—just as in the movies. They believed putting weight on the cars stopped seasickness.

### B. WOMEN OF THE WAVES

Throughout history, the majority of pirates have been men.

But were there any women pirates? Absolutely! Below are two from different parts of the world.

MARY READ; PIRATE IN DISGUISE

Mary Read was born in England around 1690. She lived most of her life disguised as a man. As a teenager, looking for adventure, she dressed as a boy and got a job at sea. Later, as a young woman (still pretending to be a man), she got work on a ship and sailed to the Caribbean.

On one journey, pirates attacked Mary's ship. Instead of fighting, she joined them. But Mary had to be careful because many pirate ships had a rule: no women allowed. If the men discovered her true identity, they might shoot and kill her. So at first Mary stayed by herself and avoided the others. But one day, she made a surprising discovery: one of the pirates on the ship was actually a woman! Anne Bonny was the captain's girlfriend, but she was also a pirate herself. Mary told Anne her secret, and the two women became good friends, and powerful fighters. They fought together until they were captured in 1720.

CHINC SHIH: PIRATE QUEEN

In the early 1800s, pirate Ching Shih terrorized the Chinese coast. When her powerful pirate husband died, control of his 500 junks transferred to Ching Shih. While she was boss, her fleet grew to almost 2,000 ships.

A fearless fighter, Ching Shih led nearly 80,000 pirates— both men and women. They targeted ships and towns along the coast of China. For years, leaders throughout the region failed to stop her. Eventually, Ching Shih retired, a rich and respected woman.

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*Please visit 'moodle glossary' to find definitions of vocabulary with pictures and sample sentences.*

Illustration 6: 'drag the text' match the words with the meaning



| Edit | Check | Reset | Solve | ? |

**Word** — **Description**

| Word | Description |
|------|-------------|
| Majority | Most of the people or things in a group |
| respect | to feel or show esteem or honour for someone or something |
| Discover | Something new you find out. |
| Secret | Something only you know. |
| Fail | Didn't succeed. to be unsuccessful at something |
| boss | a person in control or who has authority over employees |
| Capture | Took somebody as a prisoner and kept them. |
| Absolutely | Yes, certainly, 100%. |

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| Edit | Check | Reset | Solve | ? |

**Word** — **Description**

| Word | Description | |
|------|-------------|---|
| | to move smoothly through water | |
| Fearless | Not afraid of anything | sell |
| | to fire a weapon or to move quickly | Sail |
| | Moved from one place / company / class / college to a different place / company / | Avoid |
| | Stayed away from something or someone because you didn't want to see them or | Pretend |
| | to exchange property, goods for money. | |
| Target | To make people believe you are doing something when really you are not - you | Transfer |
| | to aim at something or someone in particular | Shoot |

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Illustration 7: Match the words with the meaning

| Edit | Check | Reset | Solve | ? |

## Word | Description

| maritime ✓ | connected with the sea in relation to navigation, shipping |
| captain ✓ | a person who is at the head of or in authority over others; chief; leader |
| steal ✓ | to take without permission or right, especially secretly or by force |
| ✗ | to acquire by the payment of money or its equivalent; buy |
| goods ✗ | personal liberty, as opposed to bondage or slavery |
| ✗ | That which is produced, then traded, bought or sold, then finally consumed | purchase |
| illegal ✓ | Against the law (rules of a country) |
| Employee ✓ | Someone who works for a company | freedom |

Illustration 8: Crosswords with the meaning

Illustration 9: Fill in the gaps

← →

Vocabulary Practice

**A. Completion.** Complete the information with the correct form of words from the box. One word is extra.

▲ Pirate attacks are still common today in the Strait of Malacca.

| transfer | shoot | sail | fearless | avoid | target | pretend |
|----------|-------|------|----------|-------|--------|---------|

Pirates might seem like a thing of the past. In reality, they are still common today in places such as the Strait of Malacca in Southeast Asia. This is one of the world's most important shipping regions.

Every year, about 70,000 cargo ships 1. [Drag text here] through this area.

Today's pirates have better weapons, faster boats,

and are 2. [Drag text here] killers.

They mostly 3. [Drag text here] cargo ships for both the goods and the money on board. Some things today's pirates steal (and resell) are oil, wood, animals, and weapons. How do modern-day pirates work?

Sometimes, pirates 4. [Drag text here] to be a ship in trouble. When another ship comes to help, the pirates attack and steal money and goods.

Sometimes, pirates use several boats to attack a ship. Two boats go to the back of a ship, one goes in front.

When the ship slows to 5. [Drag text here] hitting the boat in front, pirates in the back can easily get on the ship. Pirates will also capture people (for example, tourists or sailors) and hold them.

The pirates say they will 6. [Drag text here] die people if they don't get money

Sayfayi Uzat

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llustration 10: Put the words in the right column



Illustration 11: Moodle activity page1

Illustration 12: Moodle activity page 2



Illustration 13: th - t Sounds