



UNIVERSIDAD DE CUENCA

Facultad de Filosofía, Letras y Ciencias de la Educación

Departamento de Investigación y Postgrados

Maestría en Lingüística Aplicada a la Enseñanza del Inglés como Lengua Extranjera

**CALL: The impact of Cambridge LMS on the enhancement of English
grammar proficiency at a B1 level in 12th grade EFL students at Sagrados
Corazones high school in Cuenca**

Tesis previa a la obtención del título de
Magíster en Lingüística Aplicada a la
Enseñanza del Inglés como Lengua
Extranjera

AUTOR:

Lcdo. Juan Carlos Calle Astudillo
C.I. 0105473334

DIRECTOR:

Mst. Willian Patricio Garcia Padilla
C.I. 0301866703

Cuenca – Ecuador

Marzo 2019



RESUMEN

El aprendizaje de idiomas asistido por computadora (CALL), que pertenece al campo de la instrucción asistida por computadora (CAI), se promociona ampliamente como un enfoque efectivo para mejorar la adquisición del lenguaje a través del uso de interacción e información significativa. El objetivo de este estudio es contribuir a la investigación actual sobre CALL en América del Sur mediante la evaluación de los resultados de la incorporación de la plataforma interactiva en línea *Prepare CALL* nivel 5 en un curso convencional para estudiantes de Inglés como Lengua Extranjera pertenecientes a segundo de bachillerato en la Unidad Educativa Sagrados Corazones en Cuenca, Ecuador y comparando el aprendizaje gramatical a través de (CALL) con la enseñanza tradicional de gramática dirigida por el maestro en el aula. Este estudio recopila datos cuantitativos de 61 participantes pertenecientes a los grupos de instrucción CALL y al dirigido por el maestro para determinar el impacto de CALL y de la Teoría de Estilos de aprendizaje en su dominio gramatical durante un período de intervención de 32 horas. Los resultados de la Prueba de Rango con Signo de Wilcoxon muestran que hubo un aumento estadísticamente significativo en las puntuaciones en las pruebas posteriores del grupo CALL después del tratamiento. Sin embargo, no hubo una diferencia estadísticamente significativa en la adquisición del dominio gramatical para los estudiantes de EFL que aprendieron gramática en un aula convencional en comparación con aquellos que aprendieron exclusivamente a través de CALL.

Palabras clave: Aprendizaje Asistido por Computadora (CALL). Inglés como Lengua Extranjera (EFL). Competencia gramatical. Teoría de los estilos de aprendizaje.



ABSTRACT

Computer Assisted Language Learning (CALL), which belongs to the field of Computer Assisted Instruction (CAI), is broadly advertised as an effective approach for enhancing language acquisition due to the use of interaction and meaningful input. This study aims to contribute to the current research on CALL in South America by assessing the outcomes of incorporating the *Level 5 On-line Interactive Prepare* CALL platform into a conventional EFL course for 12th year students at Sagrados Corazones High School in Cuenca, Ecuador and comparing Computer-Assisted Language Learning (CALL) grammar instruction with traditional classroom teacher-directed grammar instruction. This study gathered quantitative data from 61 participants belonging to both Experimental and Control groups to determine the impact of CALL and the Theory of Learning Styles on their grammatical competence during an intervention period of 32 hours. Results of the Wilcoxon Signed Rank Test showed that there was a statistically significant increase in scores on the CALL group post-tests after the treatment. However, there was no statistically significant difference in acquisition of grammatical competence for EFL students taught in a conventional classroom when compared to those who were taught exclusively by CALL. The Learning Styles Questionnaire revealed that there was no significant connection between CALL and the Theory of Learning Styles. Recommendations for future research have also been discussed.

Keywords: Computer Assisted Language Learning (CALL). English as a Foreign Language (EFL). Grammatical competence. Theory of learning styles.

**TABLE OF CONTENTS**

RESUMEN.....	2
ABSTRACT.....	3
ACKNOWLEDGEMENTS	10
DEDICATION	11
INTRODUCTION.....	12
CHAPTER I: STUDY PURPOSE AND DESCRIPTION.....	15
1.1. Background	15
1.2. Statement of the Problem	17
1.3. Justification and Purpose of the Study	17
1.4. Research Question.....	19
1.5. Objectives.....	19
1.5.1. General objective.....	19
1.5.2. Specific objectives.....	19
1.6. Operational Definitions.....	20
1.7. Limitations.....	21
CHAPTER II: THEORETICAL FRAMEWORK AND LITERATURE REVIEW.....	23
2.1. Interactionist Theory	24
2.1.1. Interactionist Theory in SLA.....	24
2.1.2. Sociocultural Theory (SCT).....	28
2.1.3. Effects of Negotiation in Second Language Acquisition (SLA).....	31
2.2. Communicative Language Teaching (CLT) and Grammatical Competence ...	33
2.2.1. Communicative Language Teaching (CLT).....	33
2.2.2. Grammatical Competence.....	36
2.3 Computer-Assisted Language Learning (CALL).....	39
2.3.1 CALL – Background.....	39
2.3.2 CALL – Stages.....	40
2.3.3 CALL and Corrective Feedback.....	41
2.3.4 Research on Computer Assisted Language Learning.....	42
2.3.5 Review of the LMS Cambridge: Interactive-Interchange CALL.....	47
CHAPTER III: METHODOLOGY.....	50
3.1. Introduction	50
3.2. Participants Population and Context	50
3.2.1. Design of the Study.....	53
3.2.2. Ethical Concerns	54
3.2.3. Exclusion Criteria	55
3.3. Data Collection Instruments and Pilot Tests	55
3.3.1. Grammatical Competence Test.....	55
3.3.2. Learning Styles Questionnaire.....	57
3.4. Procedures	59



3.4.1. Phase 1: Authorization, pilot testing, and pre-testing	60
3.4.2. Phase 2: The intervention.....	61
3.4.3. Phase 3: Post-tests.....	66
CHAPTER IV: DATA ANALYSIS AND INTERPRETATION	67
4.1. Introduction	67
4.2. Demographic profile of study participants	69
4.3. Grammatical competence pre and post-test findings	71
4.3.1. Pre-test Experimental Group	71
4.3.2. Post-test Experimental Group.....	73
4.4. Learning Styles Questionnaire Experimental Group.....	74
4.5. Contrasting of pre-test and post-test results.....	75
4.6. Control group pre-test and post-test findings.....	76
4.6.1. Pre-test Control Group.....	79
4.6.2. Post-test Control Group.....	80
4.7. Intervention Group and Control Group Post-tests comparison.....	81
4.8. Discussion.....	84
4.8.1. Impact of CALL on Grammar Competence.....	84
4.8.2. Impact of Learning Styles on Grammar Enhancement.....	86
CHAPTER V: CONCLUSIONS.....	88
REFERENCES.....	92
APPENDICES	103
Appendix A – Permission from Sagrados Corazones High school.....	103
Appendix B – Participant Consent Form.....	104
Appendix C – Research Proposal Approval.....	105
Appendix D – Background Questionnaire.....	106
Appendix E – Pre and Post-Test.....	107
Appendix F – Grammatical Competence Tests.....	110
Appendix G – Learning Styles Questionnaire.....	116
Appendix H – LMS Online Platform Features Gallery.....	117



LIST OF TABLES

Table 1: Age of Study Participants (Intervention Group) 69
Table 2: Age of Study Participants (Control Group) 69
Table 3: Gender of Study Participants (Intervention Group) 70
Table 4: Gender of Study Participants (Control Group) 70
Table 5: Level of English of Study Participants (Intervention Group) 70
Table 6: Level of English of Study Participants (Control Group) 71
Table 7: Official Grading Equivalences 72
Table 8: Question Success Rate.....77
Table 9: Co-relation between Grades and Learning Styles.....79
Table 10: Pre-test - Post-test Grammatical Competence Level Comparison.....79
Table 11: Question Success Rate per Group.....83



LIST OF FIGURES

Figure 1: Classification of Participants Grammatical Competence (Pre-test).....	72
Figure 2: Classification of Participants Grammatical Competence (Post-test).....	73
Figure 3: Accomplishment Rate by Number of Attempts.....	74
Figure 4: Participants Learning Styles Preferences.....	75
Figure 5: Contrasting of Pre-test and Post-test Results.....	76
Figure 6: Individual Success Question Analysis.....	78
Figure 7: Classification of Participants Grammatical Competence (Pre-test).....	80
Figure 8: Classification of Participants Grammatical Competence (Post-test).....	81
Figure 9: Post-tests Results Comparison (Intervention group - the control group).....	82
Figure 10: Individual Success Question Analysis per Group.....	83



Cláusula de licencia y autorización para publicación en el Repositorio Institucional

Juan Carlos Calle Astudillo, en calidad de autor y titular de los derechos morales y patrimoniales de la tesis “CALL: The impact of Cambridge LMS on the enhancement of English grammar proficiency at a B1 level in 12th grade EFL students at Sagrados Corazones high school in Cuenca”, de conformidad con el Art. 114 del CÓDIGO ORGÁNICO DE LA ECONOMÍA SOCIAL DE LOS CONOCIMIENTOS, CREATIVIDAD E INNOVACIÓN reconozco a favor de la Universidad de Cuenca una licencia gratuita, intransferible y no exclusiva para el uso no comercial de la obra, con fines estrictamente académicos.

Asimismo, autorizo a la Universidad de Cuenca para que realice la publicación de este trabajo de titulación en el repositorio institucional, de conformidad a lo dispuesto en el Art. 144 de la Ley Orgánica de Educación Superior.

Cuenca, 12 de marzo de 2019

Juan Carlos Calle Astudillo
C.I. 0105473334



Cláusula de Propiedad Intelectual

Juan Carlos Calle Astudillo, autor de la tesis “CALL: The impact of Cambridge LMS on the enhancement of English grammar proficiency at a B1 level in 12th grade EFL students at Sagrados Corazones high school in Cuenca”, certifico que todas las ideas, opiniones y contenidos expuestos en la presente investigación son de exclusiva responsabilidad de su autor.

Cuenca, 12 de marzo de 2019

Juan Carlos Calle Astudillo
C.I. 0105473334



ACKNOWLEDGEMENTS

First, I would like to thank Universidad de Cuenca for the dedicated effort in the academic endeavor of providing constant formation to its students. Also, I would like to thank Juan José S. M.A., for acting as my thesis advisor, dedicating his valuable time to this project, and encouraging me to always do my best. Finally, this work could have not been written without the love and support of my family and friends. An everlasting gratitude will dwell in my heart.



DEDICATION

- To Lia Antonia, for whom my heart grows fonder.
- To my family; what I am and what I might become will not be but the reflection of the love you have endowed me with.



INTRODUCTION

With the advent of the Information Age and the accompanying technological boom, the field of education has been experiencing a major shift in how, where, and when learning takes place with the focus of moving from a teacher-centered to a student-centered learning, a learning that can happen at any time and in any place.

In the course of the most recent decades, language teachers have witnessed enormous changes in the ways in which languages are taught and learnt, moving from one approach to another. For instance, currently, different smart-phone applications and on-line language platforms are being progressively incorporated in order to replace the traditional paper-made dictionaries, books, or the old-fashioned CD-based language labs (Nagata, 1996). These new language focused media platforms are spaces that provide a place where language learners can interact and make use of intuitive software, research databases, multimedia apps, and real-time communications with speakers of the target language. Ergo, if language learning has evolved presenting itself as more multifaceted, it has, likewise, turned out to be even more significantly exiting and accessible thanks to the presence of new language learning tools (Milton, 2010). Thus, this phenomenon has long served the view that supports the foundation for Computer Assisted Language Learning (CALL), an approach that may be defined as “the study of applications of the computer in language teaching and learning” (Levy, 1997, p. 2)

Having said that, nowadays, there is a considerable large number of companies which provide their CALL related services and products to the market, offering promising results. That is the case of the *Level 5 On-line Interactive Prepare by Cambridge LMS* platform by Cambridge, an interactive language software that uses the Language Management System (LMS) on-line platform by Cambridge that is reportedly based on the renewed Computer



Assisted language Learning (CALL) approach. However, even with the apparently beneficial results that such technology represents, there is almost no evidence of an existent body of research on the use of CALL for learning English as a Foreign Language (EFL) in South America (Ministry of Education, 2016). No evidence about it can be traced or found, especially in relation to countries like Ecuador where English is frequently seen and used merely as a requirement to obtain academic credits, a validation in order to be promoted to an upper level, or a graduation requirement rather than being seen as a Lingua Franca (Ministry of Education, 2016). Therefore, the main objective and purpose of this study was to determine the actual impact of CALL on grammar competence enhancement, using the *Level 5 On-line Interactive Prepare* platform by Cambridge LMS at a local context. The chosen population was a class with 12th Grade EFL students at Sagrados Corazones High School in the city of Cuenca, Ecuador.

There are five sections in this research work, and the study will be presented accordingly in five chapters as follows:

Chapter one provides an introduction and background of the research and establishes the statement of the problem, the motivation behind the examination, research question, limitations, and operational definitions.

Chapter two synthesizes and reviews the literature concerning the theory of Second Language Acquisition (SLA), Computer-Assisted Language Learning (CALL), Kolb's Theory of Learning Styles, and in addition, the Interactionist theory in SLA.

Chapter three proceeds to depict the methodology of the study, which deals with the selection of participants (sampling), the population, the design of the study, instrumentation, and data collection procedures.



Chapter four describes the exact techniques employed for breaking down the collected data and reporting a discussion of the consequences of the present research.

The last part, Chapter Five, provides the summary of the discoveries, conclusions and suggestions, and proposals for forthcoming research.



CHAPTER 1: STUDY PURPOSE AND DESCRIPTION

1.1 Background

Globalization has created a growing need for communication, which has escalated to a degree where the English language is now spoken by millions of people either as a first, second, or foreign language. In fact, English is nowadays the most widely spoken language in the world across non-native speakers and has been recognized as a *lingua franca*; that is, a language used by speakers of different nationalities whose languages are not mutually understandable (Levy & Stockwell, 2006). This is why the Ecuadorian government along with the Ministry of Education have recognized the importance of teaching and learning English as a second language. Therefore, the Ministry of Education has established new policies in order to create and launch a new curriculum that intends to reinforce and support ESL processes in schools (Ministry of Education, 2016). After recognizing that acquiring English communicative competence is a basic requirement to improve education in Ecuador, many schools have decided to have their students assessed through standardized tests such as the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), the Michigan English Language Assessment Battery (MELAB), the Pearson Test of English (PTE), or the Skills for Life (ESOL) in order to identify more accurately the level of language proficiency in which students are.

With this in mind, grammar, whether it is for communicative accuracy or academic purposes, represents an essential component for an appropriate use of Language (Garrett, 1988). It assumes a significant part in governing the use and application of the different elements of language. Grammar provides the user with the main structure to assemble complete and significant sentences. Currently, there are many means and tools available for learners that



serve as a medium to develop this element of language. The use of computers with new technological advances is a good case in point (Ellis, 2008).

The constant development of computer technology has progressively advanced and become more manageable for its many users and more attention has been drawn upon its potential benefits in the field of language learning (Chapelle, 2003). Therefore, since computers have come to be more commonly used in teaching-learning processes, it is relevant to consider the study of the actual role of CALL (Computer-Assisted Language Learning) as an approach in the world of English as a Foreign Language (EFL).

Several studies have been conducted in the fields of Instructional Technology (IT) in connection to English as a Foreign Language. For instance, according to Garrett (2012), some studies have examined important issues as the impact of the use of computers in combination with the traditional classroom teacher-directed instruction method as well as the similarities and differences between students who learn only by classroom instruction in contrast to the ones who learn exclusively by Computer-Assisted Language Learning (CALL).

In particular, this study focuses on the second part of the above-mentioned studies where the first addressed element is the matter of how computers could assist as tools in the process of reinforcement when learning a second language. Nevertheless, that research makes great emphasis on clarifying that when using this type of technology, classroom instruction is still essential to second language instruction (Garrett, 2012). The second element this study focuses on deals with the different results between students who learn exclusively through CALL and students who learn through traditional classroom instruction. That is, this research focuses on whether CALL can replace classroom instruction rather than complement it. This study attempts to focus mainly on the second issue and its impact on grammar competence.



1.2 Statement of the Problem

The vast majority of students at Sagrados Corazones High School has shown to have domain over the different skills of the target language, English, according to the standards of the Ministry of Education and the Cambridge examinations database of the school .

Nevertheless, grammar appears to be an area in which a process of improvement could be carried on in order to increase students' competence in this area to a higher level. The lack of students excelling in this particular and essential part of the language can be evidenced in their tests, which were selected and applied specifically for this study, but also in their summative assessment. This particular phenomenon may find an explanation in one of the recent tendencies in EFL education, the Communicative Approach, which in terms of weaknesses, often focuses on fluency without sufficient regard to grammar, vocabulary and pronunciation accuracy (Lyster & Ranta, 2007). This weakness is one of the misconceptions teachers frequently have when interpreting the communicative approach although it is not by any means the goal of the approach itself (Thompson, 1996). Moreover, the school where the study took place has recently implemented a new on-line platform for learning English, offering favorable results without involving a teacher's participation.

1.3 Justification and purpose of the study

Much has been said about the many real-life benefits of applying Communicative Approaches in foreign language learning processes, which nowadays are a very common trend among the Ecuadorian EFL teacher community (Ministry of Education, 2016). However, it appears that in most cases grammar has been looked upon as a non-essential part of EFL teaching due to misconceived methodologies, time constrains, and/or the misleading bad reputation that the Grammar Translation Method has nowadays (Levy, 1997).



In the course of the most recent years, a great debate has occurred amongst scholars in reference to what the role of grammar should be since some approaches, methodologies, and new trends in teaching have begun to overlook the role of grammar in Second Language Acquisition (SLA) (Kim & Rissel, 2008). These thoughts depend on the view that, as kids, children did not need to learn grammar to get their first language and the generalization of this principle to other different stages of language learning processes. These ideas, nonetheless, were demonstrated later as impractical as grammar assumes a key part in clearing up the language for children and facilitating it to adults especially in SLA (Bouziane, 2012). Therefore, grammar should be given the place it occupies in the learning process, and it should be properly taught by all means possible. Along these lines, the approach suggested in this study is the use of interactive CALL focused specifically on the development of grammar competence due to the favorable results seen in studies abroad.

Furthermore, there is a considerably large number of studies and research concerning different sorts of Computer-Assisted Language Learning (CALL) and EFL grammar instruction. Nonetheless, a thorough analysis of some recognized databases such as ERIC, EBSCOhost, Web of Science, MLA International Bibliography, PsychInfo, WorldCat, and ArticleFirst gave as a result only a couple of studies which directly associated traditional classroom teacher-directed grammar instruction with CALL grammar instruction for EFL and ESL students. One of the main researchers who took a look at the impacts of CALL grammar instruction in contrast to teacher-directed grammar instruction was Nutta (1996). Since only a few studies showed a direct contrast between teacher-directed grammar instruction and CALL grammar instruction for EFL students, this study expects to do a consecutive study of Nutta's (1996) research.



1.4 Research Question

Consequently, this study seeks to answer and better understand the question: To what extent does the application of the CALL approach, through the *Level 5 On-line Interactive Prepare by Cambridge LMS* influence the development of grammatical competence in 12th grade students at Sagrados Corazones high school?

1.5 Objectives

1.5.1 General Objective

- To assess the influence of the application of the CALL approach on the development of grammatical competence in 12th grade students at Sagrados Corazones High School.

1.5.2 Specific Objectives

- To determine the pre-treatment grammatical competence level of the participants of the study, divided into an experimental and a control group.
- To identify the experimental group participants' learning styles students and their connection with the use of the Level 5 on-line Interactive Cambridge LMS *Prepare* series by Cambridge.
- To involve the experimental group participants in daily one-hour CALL-based lessons, during a six-week intervention.
- To examine the effects of the intervention by means of comparing the results of pre and post grammar tests, administered to both groups.

1.6 Operational Definitions

1.6.1 Computer-Assisted Instruction (CAI)

Merrill et al. (1986) stated that Computer-Assisted Instruction (CAI) refers to the use of Computers to aid instructional practices. It is normally used to suggest applications as



simulations, tutorials, drill and practice and didactic games. CAI is the general term used to refer to the use of Computers to aid instructional activities. Hence, CAI could be connected to a wide range of fields such as science, arithmetic, sociologies, mathematics, and so on (Merrill, et al., 1986).

1.6.2 Computer Assisted Language Learning (CALL)

Under the umbrella term of CAI, Computer-Assisted Language Learning (CALL) is characterized by Merrill et al. (1986) as the use of Computers in helping English as a second Language (ESL) or English as a Foreign Language (EFL) instructional practices. Said differently, CALL would be the application of CAI to EFL or ESL acquisition or learning.

1.6.3 English as a Foreign Language (EFL)

English as a Foreign Language. It is the role that the English language has in countries and places where it is learned as a subject yet not used as a medium of direction in training nor as a dialect of communication inside the nation (Richards, et al., 1992).

1.6.4 English as a Second Language (ESL)

English as a Second Language. It is the role that the English Language has in the lives of emigrants and minorities in nations where English is the official language (Richards et al., 1992).

1.6.5 Interaction

Interaction: Chen (2006) recognizes as many as three different kinds of interaction: Intrapersonal (inside someone's mind), interpersonal (among people), and human-computer interaction (learner-computer).

1.6.6 Language 1 (L1) and Language 2 (L2)



Richards et al. (1992) makes the following descriptions: L1: First Language (regularly known as Mother Tongue or Native Language). L2: Second Language (frequently used indistinctly with Target Language).

1.7 Limitations

This study was constrained by the following:

- 1) The sampling in the study only allowed a small number of participants in both the control and experimental groups, which were limited to high school English as a Foreign Language (EFL) students in Azuay, Ecuador.
- 2) The sample size of the present study was relatively short, but large enough to be accepted for research data analysis standards (Mackey & Gass, 2012). The class used as the experimental group had initially 31 students. Nevertheless, among the 31 participants who took part in the research process, one applicant requested that neither she nor her data would be included in the final data analysis. Thus, the study compels information specifically from 30 participants in the experimental group and 30 participants in the Control group as well.
- 3) The time frame for the experimental treatment was constrained to only 32 hours with the first and last day dedicated to the application of the pretest and the posttest, correspondingly. Hence, the real treatment time was constrained to 30 hours.
- 4) The CALL course was restricted to the interactive grammar context depicted by the *Level 5 On-line Interactive Prepare* by Cambridge LMS program



CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Introduction

The term Computer-Assisted Instruction (CAI) was shaped in the mid-sixties when individuals initially used Computers in the educational field. "At the point when Computers initially entered training on a generally wide premise in the mid-sixties, the term Computer-Assisted Instruction (CAI) was invented" (Russel, 1982, p.27). Blomeyer (1984) suggests that Computers have been gaining greater significance in foreign language teaching. According to Garrett (1988), in spite of the fact that the most usually used acronym for the attempt had been CAI, there had likewise been progressively mentions to Computer-Assisted Language Learning (CALL).

The definition of the term CALL was brought to existence by Garrett (1982) as the version of Computer Assisted Instruction connected to the learning and acquisition of a second or foreign language. CAI is the most general term for the use of Computers to support teaching. Hence, Computer Assisted Instruction could be connected to a wide range of fields such as science, sociologies, mathematics, and so forth. Under the category of CAI, Computer-Assisted Language Learning (CALL) is characterized as the use of Computers in helping English as a second Language (ESL) or English as a Foreign Language (EFL) instructional practices. Said differently, CALL is the application of CAI to EFL or ESL acquisition or learning (Garrett, 1982).

Despite the fact that there is a lot of research on Computer Assisted Language Learning in a broad context, the analysis of how much impact can grammar instruction have by this approach in education has not yet been explored enough. Consequently, the literature review



developed in this research, for the most part, inspected branches of knowledge that are related to the research question in the study or that relate to the legitimacy of the research.

2.1 Interactionist Theory

2.1.2 Interactionist Theory in SLA

McCarthy (1994) shows that interactionists guarantee that, besides the control of input through interaction, students require chances to get feedback to have the capacity to better direct the final product of language. There are various examinations in the Second Language Acquisition literature that depend on the interactionist points of view. Harris (2003) explains learners' demands for help as a route for students to conquer the breakdowns in understanding what they encountered while communicating with a listening section. Lee (2005) uses the interactionist description because from her perspective, the outline of the courseware mirrored the interaction negotiation model projected by Lavine (1992). As Lavine (1992) shows, one of the key parts of the Interactionist Theory is that just the information that is seen or apperceived can wind up being noticeably advantageous. It gives direction to the plan of instructional materials, which ought to contain highlights that improve modified input.

According to Felix' (2001) analysis on interaction, Chen (2006) identifies as many as three different kinds of interaction: Intrapersonal (inside someone's mind), interpersonal (among people), and human-computer interaction (learner-computer).

Chen (2006) notices that most students are used to start student computer interaction when they tap on a hypertext connect to get help with understanding or look for word reference assistance. One advantage of student computer interaction recognized by Chen is that of acquiring upgraded input. Chen (2006) notices that SLA experts concur that improvement of



the quality of the input is more valuable for learning than simplification since students are presented to frames nearer to the ones used by local speakers of the target language.

Reviewing the Second Language Acquisition theory from an interactionist point of view and the Computer-Assisted Language Learning research, Chen (2006) proposes that interaction in CALL might be helpful for enhancing language learning given the case that these concentrate students' attention on input form. In addition, allow for modification so students can concentrate on input meaning and form, and finally, these have to attract students' attention towards the type of their linguistic output in a way that prompts self-correction. (McIsaac, 2013).

Chen (2006) demonstrates that the application of the theory and techniques of interactionism to Computer Assisted Language Learning requires a reinterpretation of the notion of negotiating of meaning in two ways. To start with, meaning negotiation should be seen as a process that happens in speaking activities as well as in written communication that happens over connected computers. Second, a broader extension of meaning negotiation happens when the adjusted interaction occurs between the student and the computer. The computer program provides the space for adjusted interaction by contributing with altered input on the student's request. The information archived showed that students got involved with altered interaction by asking for and getting the modified input (Chen, 2006). Different studies have proposed that the prominence of the goal of L2 input and the chances for creation of meaningful output (Sauro, 2009) are vital for learning. These cases point to other detectable types of interaction that can be recorded in Computer Assisted Language exercises, as are the cases of whether students are presented with information that features important language highlights and whether they rectify their output to make it intelligible.



Chen (2006) states that a very commonly used reference in research to the advantages of Computer Assisted Language Learning is the work-in-information gathering techniques that can record students' participation as they get involved in learning exercises. Chen (2006) also recommends that such information can deliver thorough information about students' interactions to researchers.

Research on SLA conducted from a sociocultural framework, particularly that originated from Vygotsky (1978) also underscores cooperative learning as paramount to second language acquisition and emphasizes the importance of interaction (Ohta, 2002; Swain, 2000).

According to interactionist ways to deal with SLA (Harris, 2003), interaction is the most critical path in which students get information for language learning. In Lavine (1992) Interactionist Theory, he asserts that interactive tasks that advocate for the negotiation of meaning among students can encourage the improvement of a second language. Negotiation is frequently the result of interactional transaction where the disintegration of communication happens. Typically, the student gets interactionally altered information, and she or he is additionally pushed to deliver an interactionally modified outcome (Sauro, 2009). In this procedure, students see some information structures, and contrast them and their own result. Swain (2000) states that this type of observation must be available so the input transforms into intake. Negation would work in these instances as the element which permits the voluntary observation (Swain, 2000). The sociocultural spectrum, especially Vygotsky's studies on SLA, additionally emphasizes on the fact that cooperation in learning is fundamental as well as interaction.

Vygotsky, an analyst and social constructivist, set up the establishment for the



interactionists' points of view of SLA. As per Vygotsky (1978), social connection assumes an imperative part in the learning procedure. He saw the Zone of Proximal Development as the place where students build the new dialect through socially intervened association. In spite of the fact that Vygotsky's theories date from more than 90 years ago, it continues to fill in as a solid establishment for the interactionists' points of view today (Al-Jarf, 2007).

In the course of recent decades, while language specialists have proposed numerous studies on SLA, there has been little agreement on a specific SLA Theory. The acquisition of a second or a foreign language has customarily been seen from either a focus on environmental factors or a focus on birth variables, which were progressed by the interactionist and nativist groups individually. Interactionism considers dialect to be a movement learned in connection with others, while nativists see dialect capacity as an inborn ability to create grammatically appropriate sentences. That is, interactionists accept contextual variables as more relevant in language learning while nativists accept intrinsic elements are more predominant (Schmidt, 1995).

Nativists, as is the case of Krashen (1981), accept that common inside components work upon intelligible input, which prompts dialect capability. This is obvious in Krashen's input theory of Second Language Acquisition. It has been more than 30 years since Krashen's theory saw the light for the very first time, growing from Chomsky's Language Acquisition Device. Since that time, numerous hypotheses have been affected by Krashen's theory (as cited in Schmidt, 1995).

As indicated by Krashen's input theory, acquiring a second language happens among by human association in L2 conditions. The student is then presented to strong comprehensible L2 input. Nevertheless, with the ultimate goal of guaranteeing this happens,



the information has to be marginally above the student's actual level of language domain.

Vygotsky placed great attention on the function of cooperation in Second Language Acquisition. Swain, along with other interactionists, likewise puts special interest in the significance of input. Swain's Interaction theory additionally focuses on the significance of understandable input as a central point in SLA; in any case, he likewise trusted that interactive information is more vital than static, one-way-input. Even more importantly, Swain focuses also on the importance of interactional adjustments and flexibility which happen in the arranging of meaning when communication issues emerge (Felix, 2001).

The most significant difference amongst nativism and interaction supporters is that researchers, for example Krashen (1985), highlight intelligible L2 input that is unidirectional whereas interactionists recognize the significance of a bidirectional interaction in L2. Nonetheless, Interactionists proponents concur that Krashen's understandable information is essential in acquiring a second language, yet their focus is placed on how input can become understandable (Liou, 1997).

2.1.2 Sociocultural Theory (SCT)

Constructivism has as one of its branches The Sociocultural Theory (SCT). The concept of Constructivism declares that people create information and significance from the cooperation between their encounters of their thoughts and practices (Krashen, 1985). It is the result that comes from the collaboration between the students' behavioral criterion and their experiences.

Constructivism is defined by Hymes (1972) neither as a particular teaching method nor as a new concept. It has been one of the most well-known essential learning processes, recognized by teachers for a considerable length of time. For constructivists, learning is



developing a person's own insights through social communication with others. It is a procedure of thinking, and students make sense of information without anyone else's input. When exploring constructivism, it must be seen as a way that is normally set up in a classroom with meetings of students cooperating, building and sharing. Inside the constructivist worldview, the emphasis is on the student as opposed to the instructor. The student cooperates with her or his condition that increases information through this self-learning process.

Furthermore, the Zone of Proximal Development (ZPD), which is a concept created by the noticeable analyst and social constructivist Lev Vygotsky, expresses the contrast between what a student can manage without help and what this person can do with offered assistance. Vygotsky expresses that a child looks after and follows an adult's example and gradually builds up the capacity to do certain actions without help or any help. Vygotsky (1978) provides as the meaning of ZPD the distance between the genuine formative level as dictated by autonomous critical thinking and the level of potential advancement as determined through critical thinking with the help of an adult (a specialist), or through coordinated effort with more proficient associates (beginners).

Likewise, a considerable number of CALL scientists see in the Sociocultural Model (SCT) a valid option to outline and decipher discoveries in CALL (Warschauer, 2005). In spite of the fact that the present study lies on the grounds of the Interactionist model, the researcher trusts that CALL can likewise be analyzed through the perspective of the Sociocultural Theory. Carroll (2001) remarks that outlined by the Sociocultural Theory, CALL can likewise be seen from the viewpoint of the beginner-expert interpretation. Along these lines, CALL could be viewed as the specialists who have extra data a beginner may



possibly need to comprehend learning resources. As students (amateurs) encounter challenges, they may ask for extra types of improved contribution through CALL. When students are presented to various types of upgraded input, it is likely that they will have the capacity to better perform exercises in the Target Language.

What is more, Chen (2006) influence on the connection between SLA theory and CALL not just refreshes and extends the concerns Gass (1997) brought up in 1997 but, in addition, gives a especial and detailed examination of the issues. Gass (1997) encourages researchers in the field of CALL to remind themselves and those outside the field that CALL is not to be seen or used as a shortcut for the use of technology but to assign an active compound in which principles, pedagogy, and technology are indivisibly interlaced. Chen (2006) contends that the realistic objective of CALL designers and specialists to make and assess learning forces them to consider many different approaches to deal with SLA, that have grown incompletely considering the need to debate about the role instruction plays in SLA.

Chen (2006) suggests that the extending use of technology changes the idea of the Communicative Approach, vindicates SLA Theory, and expands the quantity of users for SLA analyses. Mackey and Gass (2012) referred to teaching as being an ability so complex to be taught that the instructor's labor is to make a domain in class or in materials in which scholars can have an opportunity of acquiring that capacity. The power of innovation as a medium for supporting new sorts of language practices is duplicated by its potential for a phenomenal incorporation of research and instruction. A CALL lesson which makes a place for some intriguing language learning activity could be fitted with a program gathering information on how the student makes use of that condition, and that information can give



input into enhancing instructional methodologies as well as add to the advancement of SLA.

Chen (2006) expands the concept of the Sociocultural Theory in relation to SLA in addition to the interactionist approach and demonstrated that the two of them, the interactionist and sociocultural methodologies, share mutual fields of interest on the grounds that both methodologies stress the importance of communication in language learning.

2.1.3 Effects of Negotiation in Second Language Acquisition (SLA)

Numerous scientists concur that communication advances the contribution to the learning components. As per Liou (1997), meaning negotiation guarantees the learning of language. Garrett (2009) additionally recognizes meaning negotiation as an enabler of acquisition and claims that this kind of agreements attract concern for incorrect or improper structures. Furthermore, it creates a circumstance in which students get criticism through direct as well from indirect indicators, and, thus, this encourages language acquisition.

Cardenas and Gruba (2009) assume the task of explaining the conceivable elements of meaning negotiation in connection to the improvement of language acquisition and state that interaction enables the student to make more exact her or his decision of choosing lexical structures. This may reinforce the learner's encoding of a given construction and prompt more prominent practice, which thusly will upgrade the ability to remember significant structures. The researchers additionally affirm that it is yet vague whether meaning negotiation arranged can fulfill any other aspect than training.

Returning to Felix (2001), the researcher additionally indicates and mentions research concerning the endeavor to find whether interaction and negotiation prompts interlanguage improvement and whether alterations help learning at any rate where vocabulary is involved. He, nevertheless, likewise affirms that there has been no pragmatic proof of the assertion that



meaning negotiation helps the procurement of language acquisition. In condensing discoveries of observational studies concerning the connection amongst input and student's output, Felix (2001) expresses that students are substantially more disposed to create modified output as a reaction to clarification than to affirmation solicitations and reiterations, as clarification demands from students to deliver enhanced output rather than to native speaker's displaying of a model of what the student planned to mean.

Furthermore, forcing students to deliver more understandable output might bring a long-term impact, yet not all the participants involved in the process would be affected by it. In any case, Felix (2001) once more observed that there is minimal hard confirmation to help the output theory up until this point, and it is not certain whether forced output can bring about the gaining of new semantic features.

To conclude this exchange of ideas, negotiation of meaning and modified feedback show to have the following consequences for SLA: 1) Negotiation enhances the promotion of communication; 2) Negotiation makes easier the process of learning as it helps spotting a hole between the provided input and the student's output; 3) Negotiation allows students to be assessed through direct as well from indirect indicators; 4) It supports learning at any rate where vocabulary is involved; 5) modified output can be due to the act of asking for Clarification; 6) Forcing students to deliver more understandable output might bring a long-term influence in Language Learning (Sauro, 2009).

2.2 Communicative Language Teaching (CLT) and Grammar Competence

2.2.1 Communicative Language Teaching (CLT)

The Communicative approach in language teaching starts from a theory of language as communication. The goal of language teaching is to develop what Hymes (1972) refers to as



"Communicative Competence." Hymes devises this term in order to contrast a Communicative view of language and Chomsky's theory of competence. Chomsky (1965) states that linguistic theory is concerned primarily with an ideal speaker-listener in a completely homogeneous speech community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitation, distractions, shifts of attention and interest, and errors in applying his knowledge of the language in actual performance.

For Chomsky (1965), the focus of linguistic theory is to characterize the abstract abilities a speaker possesses that enable them to produce grammatically correct sentences in a language. Hymes (1972), on the other hand, specifies that such a view of linguistic theory is sterile, that linguistic theory needs to be seen as part of a more general theory incorporating communication and culture; Hymes's theory of Communicative Competence is a definition of what a speaker needs to know in order to be communicatively competent in a speech community. In Hymes's (1972) view, a person who acquires Communicative Competence acquires both knowledge and the ability for language use with respect to whether something is formally possible; feasible in virtue of the means of implementation availability; and appropriate in relation to a context in which it is used and evaluated. This theory of what knowing a language entails offers a much more comprehensive view than Chomsky's view of competence, which deals primarily with abstract grammatical knowledge.

Another linguistic theory of communication recognized in CLT is Halliday's functional account of language use. "Linguistics is concerned with the description of speech acts or texts, since only through the study of language in use are all the functions of language, and therefore all components of meaning, brought into focus" (Halliday 1970, p.145). In a number of influential books and papers, Halliday (1970) has elaborated a powerful theory of the functions



of language, which complements Hymes's view of the Communicative Competence for many writers on CLT (e.g., Brumfit and Johnson 1979; Savignon 1983). Halliday (1970) describes seven basic functions that language performs for children learning their first language:

1. the instrumental function: using language to get things;
2. the regulatory function: using language to control the behaviour of others;
3. the interactional function: using language to create interaction with others;
4. the personal function: using language to express personal feelings and meanings;
5. the heuristic function: using language to learn and to discover;
6. the imaginative function: using language to create a world of the imagination;
7. the representational function: using language to communicate information.

Learning a second language was similarly viewed by proponents of CLT as the acquisition of the linguistic means to perform different kinds of functions. In addition, at the level of language theory, Communicative Language Teaching has a rich, if somewhat diverse, theoretical base. More recent accounts of the Communicative Language Teaching, however, have attempted to describe theories of language learning processes that are compatible with the communicative approach. Savignon (1983) surveys second language acquisition research as a source for learning theories and considers the role of linguistic, social, cognitive, and individual variables in language acquisition. Other theorists (e.g., Stephen Krashen, who is not directly associated with Communicative Language Teaching) have developed theories cited as compatible with the principles of CLT.

Krashen (1981) sees acquisition as the basic process involved in developing language proficiency and distinguishes this process from learning. Acquisition refers to the unconscious development of the target language system as a result of using the language for real



communication. Learning is the conscious representation of grammatical knowledge that has resulted from instruction, and it cannot lead to acquisition. It is the acquired system that we call upon to create utterances during spontaneous language use. The learned system can serve only as a monitor of the output of the acquired system. Krashen and other second language acquisition theorists typically stress that language learning comes about through using language communicatively, rather than through practicing language skills.

Richards and Rodgers (2001) consider an alternative learning theory that they also see as compatible with CLT a skill-learning model of learning. According to this theory, the acquisition of Communicative Competence in a language is an example of skill development. This involves both a cognitive and a behavioral aspect. The cognitive aspect involves the internalization of plans for creating appropriate behavior. For language use, these plans derive mainly from the language system. They include grammatical rules, procedures for selecting vocabulary, and social conventions governing speech. The behavioral aspect involves the automation of these plans so that they can be converted into fluent performance in real time. This occurs mainly through practice in converting plans into performance. This theory thus encourages an emphasis on practice as a way of developing Communicative skills. Some of the characteristics of this Communicative are: language is a system for the expression of meaning; the primary function of language is for interaction and communication; the structure of language reflects its functional and communicative uses; and the primary units of language are not merely its grammatical and structural features but categories of functional and communicative meaning as exemplified in discourse.

2.2.2 Grammatical Competence



The term *Communicative Competence* is comprised of two words. The combination of these two words means competence to communicate. This simple lexico-semantic analysis uncovers the fact that the central word in the syntagm *Communicative Competence* is the word *Competence*.

Competence is one of the most controversial terms in the field of general and applied linguistics. Its introduction to linguistic discourse has been generally associated with Chomsky (1965) who in his very influential book *Aspects of the Theory of Syntax* draws what has been today viewed as a classic distinction between competence (the monolingual speaker-listener's knowledge of language) and performance (the actual use of language in real situations).

Soon after Chomsky proposed and defined the concepts of competence and performance, advocates for a communicative view in applied linguistics (e.g. Savignon, 1972) expressed their strong disapproval at the idea of using the concept of idealized, purely linguistic competence as a theoretical ground of the methodology for learning, teaching and testing languages. They found the alternative to Chomsky's concept of competence in Hymes's *Communicative Competence*, which they believed to be a broader and more realistic notion of competence. Thus, Hymes (1972) defined *Communicative Competence* not only as an inherent grammatical competence but also as the ability to use grammatical competence in a variety of communicative situations, thus bringing the sociolinguistic perspective into Chomsky's linguistic view of competence.

In an effort to explain the concept of *Communicative Competence*, Widdowson (1983) made a distinction between competence and capacity. In his definition of these two notions, he applied insights that he gained in discourse analysis and pragmatics. In this respect, he defined competence, i.e. *Communicative Competence*, in terms of the knowledge of linguistic and



sociolinguistic conventions. Under capacity, which he often referred to as procedural or communicative capacity, he understood the ability to use knowledge as means of creating meaning in a language. According to him, ability is not a component of competence. It does not turn into competence, but remains “an active force for continuing creativity” (Widdowson, 1983, p.27), i.e. a force for the realization of what Halliday (1970) called the *Meaning Potential*. Having defined Communicative Competence in this way, Widdowson is said to be the first who in his reflections on the relationship between competence and performance gave more attention to performance or real language use.

Swain (1985) understood Communicative Competence as a synthesis of an underlying system of knowledge and skill needed for communication. In his concept of Communicative Competence, knowledge refers to the (conscious or unconscious) knowledge of an individual about language and about other aspects of language use. According to him, there are three types of knowledge: knowledge of underlying grammatical principles, knowledge of how to use language in a social context in order to fulfil communicative functions, and knowledge of how to combine utterances and communicative functions with respect to discourse principles. In addition, his concept of skill refers to how an individual can use the knowledge in actual communication. According to Swain (1985), skill requires a further distinction between underlying capacity and its manifestation in real communication, that is to say, in performance.

Unlike Hymes, Swain, or even Widdowson, Savignon (1972) put a much greater emphasis on the aspect of ability in her concept of Communicative Competence. Namely, she described Communicative Competence as “the ability to function in a truly Communicative setting, that is, in a dynamic exchange in which linguistic competence must adapt itself to the total informational input, both linguistic and paralinguistic, of one or more interlocutors”



(Savignon, 1972, p.8). According to her, the nature of Communicative Competence is not static but dynamic, it is more interpersonal than intrapersonal, and it is relative rather than absolute. It is also largely defined by context.

As to the distinction between competence and performance, Savignon (1972) referred to competence as an underlying ability and to performance as an open manifestation of competence. In her opinion, competence can be observed, developed, maintained, and evaluated only through performance. Like many theoreticians in the field of language learning and teaching, Savignon (1972) equates Communicative competence with language proficiency. Due to this, as well as to the controversial use of the term *competence*, Taylor (1988) proposed to replace the term *Communicative Competence* with the term *Communicative proficiency*.

2.3 Computer-Assisted Language Learning (CALL)

While there are multiple theories in the literature that attempt to explain Second Language Acquisition (SLA) theory as it relates to Computer-Assisted Language Learning (CALL), this study focuses primarily on Interactionist Theory as the main research underpinning.

2.3.1 CALL - Background

CALL as a research field has gotten significant consideration in the course of recent years, and various studies have endeavored to distinguish the qualities and restrictions of research occurring in the field (Warschauer, 2005). CALL is customarily depicted as a method for showing, fortifying, and assessing specific language aspects. The student is first given a rule and a few exercises, and afterward answers a progression of questions which test the students' understanding of the rule, and the COMPUTERS gives proper feedback accompanied by a grade or mark, which might be put away for later examination for the



educator (Godwin, 2009).

Godwin (2009) demonstrates that despite the fact that Computers have been used since the major half of the twentieth century, these devices were not used for instructive and educational objectives until the 1960s. When the 1970s arrived, the use of CALL advanced in the linguistics area as well as in the SLA area. The first ventures in CALL, which were referred as Computer-Assisted Instruction (CAI) was the computer based initial courses created in the United States of America. Later, around the early 1980s, individuals had seen the spread of Computers in educational environments as well as in family surroundings. In addition, since the early 1980s, Computers have been used as a part of many schools, and CALL programming has additionally turned out to be more promptly accessible and available (Kessler & Plakans, 2001). CALL is a rising power in language acquisition training. In spite of the still remaining groups that refuse to see it as a tool in SLA, it keeps developing and demonstrating that it can be a capable instrument when used by skilled instructors (Kim, 2009).

2.3.2 CALL - Stages

2.3.2.1 Behavioristic CALL

Behavioristic CALL appeared in the 1960s and was used widely in the 1970s affected by the direct influence Audio-Lingual Approach for language learning. CALL, in this phase, focused its structure mainly on repetition, and the computers did not enable learners to perform at a personalized pace, which blocked motivation (White, Spada, Lightbown, & Ranta, 1991).

2.3.2.2 Communicative CALL

White, Spada, Lightbown, and Ranta (1991) note that it was within the time of the



1980s that the behavioristic model to language learning began to be excluded at both hypothetical and educational levels, and Computers were making more prominent and possible individualized tasks at school. This kind of CALL found its relationship with cognitive models that focused on the account that learning was a process of discovery, expression and development. Affected by the Communicative Approach, promoters of Communicative Computer Assisted Language Learning contended that computer based tasks should concentrate more on the use of forms. In addition, the core of this model was less centered on what learners did with the computer and more focused on their interactions with one another while using their Computers.

2.3.2.3 Interactive CALL

In the 1990s, the Communicative Approach to Computer Assisted Language Learning started to be questioned. Innovative language learning perspectives affected numerous educators and drove them to utilize more social and student focused strategies, but on this occasion, the emphasis was put on the application of language in real life contexts. Task or project based activities, among others, all aimed to incorporate students in real life situations, and, furthermore, to incorporate language skills. With an integrative methodology, learners can make use of an assortment of innovative instruments as a continuous procedure of learning instead of using the computer for single purposes and activities (White, Spada, Lightbown, & Ranta, 1991).

2.3.2.4 Internet-based CALL

In a variety of research studies, The Internet has proven to be a tool that enhances learners' skills for learning a language, independent learning, and self-determination (Garrett, 2009). Additionally, there is prove that learners can enhance their pre-disposition and



inspiration towards language learning by making use of the Internet (Bouziane, 2012).

2.3.3 CALL and Corrective Feedback

Researchers have contended that corrective feedback assumes a valuable part in encouraging the learning and acquisition of some grammar structures in second language, which might be hard to pick up through input by itself. Corrective feedback might also serve to attract students to noticing incongruities between the students' output and the desired dialect forms (Cardenas & Gruba, 2009).

Chapelle (2009) analyzed discoveries extracted from an experimental research process on the viability of corrective feedback in a computer learning setting. Polls, interviews, and posttest information produce experiences into the students' responses and learning results in connection to the distinctive kinds of feedback. Godwin (2009) came to the realization that clearer feedback along with sufficient profundity of processing prompted better learning results and more progressive learners' observations.

Numerous online grammar websites provide interactive feedback that requests the learners to reflect on their responses. These types of activities enable learners to comprehend why their responses might be right or wrong, according to Chapelle (2009). The mentioned actions do not merely explain to learners why a response is correct or incorrect, but, in addition, they direct them to a more significant comprehension of syntactic principles as they are incited to explore, think, and make decisions on the course of their own learning process (Heift, 2004). Moreover, numerous online grammar sites provide complementary activities with quick instant feedback to the learners, containing also negative feedback (Kim, 2009), which is equally necessary in the process of learning grammar for a better development in grammatical competence.



2.3.4 Research on Computer Assisted Language Learning

The application of technology innovations in learning processes has been the discussion of various research studies, incorporating developments in technology as well as in the Computer Assisted Language Learning field. In this part of the research, various studies on CALL were examined and introduced in sequential order.

Blomeyer (1984) led a study looking for data that would reveal the adequacy of Computers in serving to the purpose of acquiring a second language in learners whose mother tongue was from The Middle East or Latin America. Candidates' English capability was established by the IELTS and an oral rubric for speaking skills. The aftereffects of the examination demonstrated that the use of Computer Assisted Language Learning anticipated no fluctuation on the assessing process and showed that some CALL materials might be more qualified to specific sorts of students, being important to consider as many variables as possible while inquiring about the value of CALL.

Kim (2009) conducted an experimental research study to determine the impact of an Instructor Directed Interactive CD-ROM program as a supplement in vocabulary learning to EFL learners. Participants from two intact classes were located in the control and the experimental groups for a month. The control class obtained only two hours of traditional teaching. One specific educator instructed the two classes of similar topics. The outcomes showed the class that applied the use of the CD-ROM software accomplished superior English terminology over the traditional educational teaching class.

According to Mohamad (2009), the adequacy of computer use for improving the process of learning a language established a matter of significant interest. Mohamad contended that research endeavoring to answer this question were for the most part confused.



He declared this because of the fact that the use of the COMPUTERS does not constitute a methodology by itself; its viability rests tremendously on the way it is applied; for example, what types of language activities and exercises it offers and in what way its employment is incorporated in the curriculum. Mohamad's findings revealed that even though the application of CALL is beneficial in SLA, it is imperative to continue doing research on the field in order to make the best out of this learning-educational tool.

The new challenges on the processes of teaching-learning language establish a dominant variety of motivations to reconsider the use of CALL to enhance grammatical competence. Several software programs, unequivocally arranged toward the Communicative method, continue to consign the learners' intents and purposes on grammar as out-of-class activities, suggesting to students reading material for explanations and providing drilling exercises based on form. Course books clarifications have a tendency to be presented from a structural viewpoint as opposed to offering a linguistic, interactive, and theoretical ground for comprehending the form being referred to, and work texts, regardless of their paper or virtual presentation, continue to present drilling mechanical exercises. Mohamad (2009) showed through the application of several studies along the United States of America that despite the fact that SLA scholars and educators have advanced in the creation of better methods for instructing form, such strategies have not been incorporated in Computer Assisted Language Learning yet.

Pica (1996) analyzed the advantages and disadvantages that come with the use of Computers in the introduction of grammar exercises, especially in L2 by observing, through collected data at St. Louis University, the similarities and differences between the traditional workbook and the new technology. Pica (1996) observed that from multiple points of view,



Computer Assisted Language Learning is a subsidiary type of conventional language instruction. However, CALL seems to offer some other particular focal points in areas such as distribution of supplies; showing of objects; size of materials and indiscriminate introduction; feedback, grading and score-register; individual support; multimedia resources; cognitive instruction.

Long's (1996) discerning on the analysis of ESL director's attitudes and views towards CALL in North American colleges revealed that a significant number of directors at the ESL programs trusted Computers were at the time more appropriate for instructing in grammar and vocabulary rather than reading and writing in ESL classes. Measurably substantial contrasts were encountered between and amongst sub-groups. Long (1996) applied a modified form of the famous Maka's poll to 302 ESL institutions with a rate response of 72%. The vast majority of the ESL courses examined in the research offered CALL. The analysis exposed that administrators with a number over a hundred learners were more prompt to concur than the rest of the groups that CALL represents a strong device for expanding motivation in second language learners. Directors with under a hundred learners, on the other hand, were more explicitly inclined on the idea that CALL was at the moment a tool useful for teaching vocabulary and grammar forms. Correspondingly, directors using CALL concurred more firmly that CALL is a capable device for expanding learners' participation in second language instruction than those without using CALL.

Nagata (1998) analyzed the viability of grammar instruction through CALL in contrast to the traditional teacher directed teaching, using the ELISSE software with 54 College EFL participants at UBC University in an Intensive English Course. The pre-test and post-tests outcomes demonstrated that Computer Assisted Language Learning can be accounted as



successful and at times more successful than teacher directed grammar teaching with college EFL participants in an Intensive English Course. The Computer Assisted Language Learning class showed altogether higher accomplishment than the teacher directed instructor class on the final tests. The outcomes exposed that Computer assisted Language Learning was a viable technique for second language grammar instruction.

Mohamad (2009) led a quasi-experimental research to analyze the impact of Computer Assisted Language Learning programs in EFL oriented to beginner grammar students in contrast to the traditional teacher directed teaching. As part of the assessment, a written posttest was applied to the control group as well as to the experimental group. A hundred and fifty compositions were examined using error analysis and information was registered through a restricted ANOVA process. The final results on error rates revealed that throughout the treatment, no statistically significant impact was accomplished to show a difference in learning between the experimental group and the control group. The fact that the control group showed a parallel development in learning to the experimental group suggests that the traditional teacher directed class is up to the mark with the constant development of technology in ESL education.

Ngu and Rethinasamy's (2013) research evaluated the suitability of employing a Computer Assisted Language Learning course instead of a traditional course with the purpose of making the learning of prepositions easier. The same content was included for both courses, changing only the way of providing the content to the students. 28 participants were provided with computers to experience the CALL course in a self-directed way while the traditional course was dictated by an instructor in a classroom. Test outcomes showed that the participants who were involved in the traditional teacher directed class did better than the



participants who experienced the CALL course. The outcomes additionally demonstrated that in the traditional course, participants learned more productively than the Computer Assisted Language Learning course. The researcher attributed this phenomenon to the lack of commitment in participation by students belonging to the experimental group.

2.3.5 Review of the LMS Cambridge: Interactive-Interchange CALL

Bouziane (2012) detailed in his review of the on-line *Interactive Interchange CALL* by Cambridge that the platform has many recommendations for language students. From an educational point of view, the way in which grammar is presented in context and the extensive amount of chances to exercise is thorough. One of the focal points is that learners are not to be committed to the conventional arrangement of teaching –learning which consists of introduction, practice, and production. There is no prerequisite for students to experience the grammar sections of the program previously to endeavoring in practicing exercises. Students are allowed to entirely avoid the explanations offered by the program and seek after a more inductive way to deal with training by inferring from various illustrations accessible in the program. To meet different learning styles, students have the option of even assuming a Trial and Error approach, as every single exercise and activity in the program provides the students with no less than one opportunity to modify wrong answers after the first attempt. The activities are the strongest feature of the program. The quantity, quality, and variety of exercises available in the program constitute by themselves a sufficient reason to suggest it as an effective asset. The program offers different sorts of exercises such as the well know Multiple-Choice, Fill-in-the-blank, Editing/Error correction, True-False, among others. In addition, activities consolidate and link themselves with other language skills as reading, listening, and even writing.



A space has additionally been provided in the activities for checking and increasing vocabulary by linking some specific words and phrases to the appendix. New windows open showing a definition and a context for the element being used by just clicking on it. Bouziane (2012) specified that it ought to be noticed that the end of unit tests are very valuable, not just from the position of understanding grammar points, but additionally for the purposes of receiving feedback and diagnosing. Moreover, students can have the feature of pop-up windows to show clarifications for answers established as erroneous, and after finishing a test, students can see a thorough advance report displaying their accomplishment concerning particular grammatical forms featured in the section. This factor can help spot structures that need to be reinforced or gaps in knowledge that call for additional clarification by either an educator or a student utilizing the program autonomously.

Bouziane (2012) analyzed the LMS Cambridge: Interactive-Interchange, a platform that has the elements to be a helpful tool for its users. Its unique method for deductively showing syntactic forms along with contextualized settings, production, and assessing stages are overall convenient for encouraging the learning of grammar, according to Nutta (1996). Bouziane (2012) suggested that a few changes may be applied, for example, presenting ideas utilizing a blend of both a deductive and an inductive methodologies. The construction of a consolidated union of theory (concepts) and practice of the language skills in contextualized settings will most certainly generate new spaces for learning to happen. Furthermore, Bouziane (2012) stated that the Interactive Interchange online software is flexible enough as to be used for autonomous learning, as a book complement, in a private location, or even in a laboratory. The high level of multimedia elements found in the exercises and interactive activities make of this program a development that would be hard to emulate with the



traditional paper-based resources.

Based upon this review of literature, the researcher determined that the research question in this present study – To what extent does the application of the CALL approach, through the Level 5 On-line Interactive Prepare by Cambridge LMS influence the development of grammatical competence in 12th grade students at Sagrados Corazones high school? – is a valid question for research. Hence this research contributes to the current body of literature had examined the effectiveness of CALL instruction in enhancing grammar competence in comparison with traditional classroom teacher-directed instruction to high-school EFL students in a local context. Additional research yet needs to be done in this area of research.



CHAPTER 3: METHODOLOGY

3.1 Introduction

This Chapter defines the methodology and procedures established and used in the study, including the sample selection, research design, instrumentation, experimental treatments, and data collection processes. The motivation behind this examination was to analyze the impacts of CALL grammar instruction through the application of the *Level 5 Online Interactive Prepare by Cambridge LMS* platform in contrast to the conventional teacher-guided grammar instruction as measured by students' accomplishment in multiple-choice of grammatical forms corresponding to a B1 level, according to the CEFR (Common European Framework of Reference).

3.2 Participants – Population and Context

The population for this research study consisted of sixty-one EFL 12th grade students at Sagrados Corazones high-school in Cuenca. 31 students were assigned to the Experimental Group, and the remaining 30 participants were assigned to the Control Group. The groups of participants belonged to a B1 level of English, according to the Cambridge database in the school, and they were selected because of its convenient accessibility to the researcher. The intervention lasted for 6 weeks, and the students had a participation rate of 32 hours each. All the participants in the study were accepted as part of this research under two conditions: first, they had to accept voluntarily to participate, and second, since they are minors, they were required to present an informed consent, which will be attached to this document, signed by their parents. If not, students were not allowed to participate in the study.

The population of English as a Foreign Language (EFL) students that constituted this study was enrolled in a regular English class in the aforementioned high school. This English



class aims to offer English language teaching to help EFL students improve their capability in using and comprehending English the way it is spoken, written, and heard in real life contexts as well as in academic situations, according to the school's syllabus. The teaching-learning process at this school is based and planned on language skills with a communicative approach, and the main objectives cover the development of communicative skills, reading, writing, grammar, listening, and speaking skills. Extra classes in PET (Preliminary English Test) preparation used to be also offered, but not anymore.

The main goal of this English Class is primarily to assist students in the improvement of their English competence so that they can use the language more efficiently in real life situations, but more importantly, it seeks to assure students pass the PET (Preliminary English Test) by Cambridge. It was stated by the authorities of the school that by doing this, students guarantee themselves a better continuation of their academic studies after graduating as well as a pursuit of higher educational opportunities in local or foreign universities in countries like the United States or England, as mentioned by the principal of the school. Likewise, from the perspective of the participants, the goal of the majority of the students registered in this institution is nowadays to graduate and, additionally, obtain the PET certification to enter universities, travel abroad, or improve their English in order to have better performance at work and adapt to society and culture.

Two 19-week terms of English as a Foreign Language are provided to the learners each year based on the school planning and the Ecuadorian National Curriculum. It is programmed for the students to spend 2 hours a day studying English from Monday to Friday at the school. Extracurricular activities at this institution are no longer available to enhance students' English competence, eliminating the chances of providing them with more opportunities to



practice the language out of class, this, in contrast to 4 years ago where such activities were available. Students can have access to multimedia computer laboratories to supplement their classroom instruction, depending on the instructors' planning. Classes at the Sagrados Corazones High School are limited to approximately 35 students per class to provide quality-learning surroundings, according to the school authorities.

After establishing these conditions as a point of reference, a convenience sample was believed to be appropriate to conduct this study, based on Mackey's and Gass's (2012) view. It states that an existing classroom can be considered a sound setting to conduct research "if the effects of a particular instructional method are investigated, an existing classroom may be the most ecologically sound setting for the research" (p. 143). Therefore, as mentioned before, the convenience sample used in this study consisted of 61 students who voluntarily agreed to participate in the study at Sagrados Corazones High School. The participants belonged to two different 12th classes, yet both of them were initially designed by the school planning committee based on the same syllabus and with the same instructor. Having two classes, each was assigned to either the Experimental Group or to the Control Group by using the validated online *Research Randomizer 2000* tool. The class used as the experimental group had initially 31 students. Nonetheless, among the 31 participants who were involved in this part of the research process, one participant requested to have all her data removed from the final data analysis. Thus, the study compels information specifically from 30 students in the experimental group. The control group, on the other hand, consisted of 30 participants from the beginning until the end of the study. Students' ages ranged between 15 and 16 years. All of the participants were female and had an unofficial B1 level of English at C grade, according to the Cambridge Scale and the CEFR (Common European Framework of reference).



3.2.1 Design of the Study

This research focused on the enhancement of grammar competence throughout the use of an online-platform. The study was developed around a quasi-experimental design, considering that the participants were not randomly assigned to either the treatment or the control group (comparison group) and because in the intervention there was one variable manipulated by the researcher and one that was not. The independent variable was the method of grammar instruction; that is, the traditional classroom teacher-directed grammar instruction and the Computer Assisted Language Learning grammar instruction. The dependent variable was the score on the measure of contextual grammatical forms with a validated multiple-choice test. Therefore, the independent variable consisted of the application of an on-line platform developed to enhance grammar competence in EFL learners. This research was carried out from an explanatory point of view since it sought to have a better understanding of a process, test the possibility of a more extensive study, and determine the best methods to be used in a subsequent study. Therefore, the research design called for the use of a quantitative methodology in order to determine the impact of CALL on this variable.

The use of quantitative data is viewed as an essential piece of research as it shows if the element being studied has the potential to be generalized to a larger population (Larson-Hall, 2012). Mackey and Gass (2006), have argued that large population samples in research will, in general, be considerably helpful for acquiring statistical significance while small populations make it gradually challenging to acquire such significance. Contrarily, Sim and Wright (2000) have affirmed that even research with extensive populations that can be viewed as higher in "statistical power" cannot guarantee to be entirely bias free. Indeed, it has been proposed that additional consideration should be taken in making conclusions and different



techniques could be used to support the "statistical power" of a research process. Two of those tactics involve concentrating on participant retention and expanding heterogeneity inside a sample or population (Hopkin, Hoyle, and Gottfredson, 2015, p. 4). Lastly, Mackey and Gass (2006) have indicated that significance and meaningfulness are not the same terms and that concessions should be made to denote that SLA processes entail extensive periods of time in order to analyze advances in the generation of structures. Thus, they affirm that "it may be that meaningful trends are worthy of discussion, independent of statistical significance" (p. 268). Consequently, it was considered important to conduct this study on a quantitative methodology to try to draw meaningful conclusions that could go beyond the results directly obtained as a result of the intervention.

3.2.2 Ethical Concerns

With respect to ethical considerations, a consent form to voluntarily partake in the study (see Appendix B) was developed and given to the participants to get their permission and especially their parents', which was a very important requirement considering that all of the students were minors. The parental permission letter was introduced in both English and Spanish to secure clear and complete comprehension of the study. The participants' identity, privacy, and their entitlement to withdraw from the study at any time in the process were granted. Participants were additionally informed about the motivations behind the research. The information gathered has been securely kept and has been used only by the researcher for the motivations behind this examination.

3.2.3 Exclusion Criteria

Keeping in mind the final goal of achieving experimental morality, it was established that participants whose attendance registered more than two class periods of absence out of



thirty-two would be viewed as poor participants and would be analyzed independently from the individuals who go to classes consistently. Furthermore, one of the highlights of the *Level 5 On-line Interactive Prepare by Cambridge LMS* program is that it archives the amount of hours participants spent using it. Likewise, to address ethical concerns, it was resolved that those participants who devoted less than 30 hours to the use of the *Level 5 On-line Interactive Prepare by Cambridge LMS* platform on the training activities and exercises would be excluded from data analysis processes. The optimal number of hours participants spent utilizing the *Level 5 On-line Interactive Prepare by Cambridge LMS* program was thirty hours. If the experimental group participants did not miss any lab session, they would have accounted a total of thirty-two hours on the program. There are no effective means to know and confirm the real amount of time the control group participants spent on the regular *Prepare* textbook outside of class time.

3.3 Data Collection Instruments and Pilot Tests

3.3.1. Grammatical Competence Test

The purpose of the present study is to contribute to the current body of knowledge on the possibility of enhancing grammar competence throughout the use of CALL; therefore, the researcher administered a Cambridge grammar test before initiating with the intervention as well as the end of this process. Each test taken by the students consisted of multiple choice grammar questions provided by the Cambridge American More Sixth Level Edition Test-builder 5 evaluation software package, which features a large question bank with more than two-thousand items related to B1 level textbooks of most of the Cambridge book series. Similarly, all the questions and grammar exercises from the Test-developer program used in the selection of the tests have been consistently presented in different English language tests



(including also some other reading, writing, and listening components) provided by the faculty along the year. That is the reason why these tests were considered as a fitting method to test the students' capacity to perceive linguistic structures.

In connection with the objectives for conducting this study, the Test-developer program by Cambridge was used with the guidance and support from the English Language Area Coordinator at Sagrados Corazones High School to find a pre-test and a post-test containing 10 grammar items each. These tests were based on the material and content used in the high school EFL classes dictated at the school. The grammatical forms addressed in the test corresponded to different themes such as the perfect tenses, the past tenses, conditionals, and future forms. The pre-test and post-test were indistinguishable, of equivalent trouble, estimated the same syntactic abilities, and permitted a top score of 10 points, being 7 the lowest passing grade for evaluation purposes in accordance with the Ecuadorian Ministry of Education current standards. These test forms were chosen due to their similarity to the school standardized examinations by Cambridge, including language competence and placement tests.

Mackey & Gass (2012) consider a pilot test as a critical process to be addressed in order to early correct problems that could appear before the main study takes place. Therefore, after arranging the corresponding authorization from the principal at Sagrados Corazones High School to conduct the study (Appendix A), a pilot test was carried out before applying the instruments to the participants of this study. The grammar test was piloted with a class that had 34 participants, who belonged to the same 12th school level as the control and intervention groups did. This class was taught by an EFL (English as a Foreign Language) teacher - coworker, and as a result, no abnormalities or inconsistencies were found throughout this



process; therefore, the original test was kept integral.

3.3.2 Learning Styles Questionnaire

Participants' preferences about their most frequent learning styles were also taken into account in the study throughout a version of the Index of Learning Styles Questionnaire developed by NC University, which is a validated questionnaire form that can be useful to be applied in EFL environments. In this study, this test was considered of great significance because it was important to know if there was a link between students' learning styles and CALL. This test was applied only with the Experimental group. The original version of the test features 44 items and has been used in a series of studies in EFL and ESL contexts, according to Felder and Soloman (2011) from the North Carolina State University, who are responsible for the design of the questionnaire. Since the test is very specific with what it measures, there was no need to modify it. Considering that the original version of this questionnaire was presented in English, students had the support of an EFL teacher, acting as a translator, all throughout the test in case they needed any type of assistance. The test was fixated on the following three learning styles: visual, kinesthetic, and auditory, which, according to Ferlder and Soloman (2011) are the most statistically measurable and reliable.

It is necessary to mention that there are other variables which can be considered as having a connection with the students' preferences on learning styles, including gender, and classroom environment, among others. Although it is clear that some of these variables might have more influence than others, it has been established that these can account for the varying degrees of success experienced by learners of a second or foreign language (Garrett, 2012). As CALL was the focus of this research process, these other variables were not examined in detail. Rather, the conduction of this research, including its main instrument and questionnaire, was



oriented towards the general concept of preferences in learning styles. This phenomenon has been described by Garrett (2012) as implying “effort, persistence, consistency, focus, interest, enthusiasm, goals, affect, and so on” (p. 217). These ideas are also depicted in the Index of Learning Styles Questionnaire developed by NC University under the categories of visual, kinesthetic, and auditory learning styles.

The items in the test were shown as double option worded statements that participants were required to agree or disagree with. There were no additional modifications made to the instrument; nevertheless, during the collection of the test, students were accompanied by an instructor in order to help facilitate completion and comprehension of the test by the participants.

The Index of Learning Styles Questionnaire developed by NC University was different from other learning style tests in that, instead of applying a Likert scale to measure degrees of agreement or disagreement with assertions, it took the form of a multiple choice questionnaire consisting of 44 questions embodying hypothetical language learning situations, as prescribed by Garrett (1988). Each question required participants’ to select one of two possible alternatives they felt were most applicable to their own context. The Index of Learning Styles Questionnaire uses its own validated software for data analysis to show the main learning profile of the person who takes the test.

3.4 Procedures

This study was conducted through three main phases. The first phase was carried out before the intervention and consisted on obtaining authorization from the school authorities at Sagrados Corazones High School, where the intervention took place and the piloting of the instruments to be used for gathering data. Considering that the students were minors at the



moment of the intervention, an informed consent had to be signed by their parents in order to participate in this study and be included the actual intervention; that is, the use of CALL throughout the application of the *Level 5 On-line Interactive Prepare by Cambridge LMS* platform on the enhancement of grammar competence, which will be discussed in detail in the next section. At this point, students enrolled in the study were part of the Pre-test evaluation and the Learning Styles evaluation. This phase took around one month to be completed.

The second phase began with the participants making use of the aforementioned software for a thirty-two-hour period of time. The second phase had a duration of approximately two months and will be explained in detail later in this chapter.

The third phase involved the application of the final Post-test evaluation regarding the use of CALL by EFL learners to find out if there was an enhancement in the students' grammar competence. This phase was shorter and lasted for about one week.

3.4.1. Phase 1: Authorization, pilot testing, and pre-testing

The first phase of the study included obtaining authorizations, pilot testing and modification (if needed) of the grammar tests and The Index of Learning Styles Questionnaire, and pre-testing. Given the importance of ethics in research, formal written approval was requested from the Principal of the school. Authorization was approved on the condition that the intervention would not endanger the learning of the main skills required in the B1 Level, specifically, grammatical structures including future tense, phrasal verbs, modals of necessity and suggestion, infinitives and gerunds, as well as language functions including making suggestions and making requests, among others. Once permission was granted, the above-mentioned pilot testing and refinement of the study instruments took place. After compiling the feedback regarding content, format, layout, and time requirements, no irregularities were



detected during the pilot testing of the grammatical competence tests, these were left in their original format.

According to Mackey and Gass (2012), ethical guidelines also include obtaining written consent from research subjects, provision of sufficient but relevant information about the phenomena under investigation, and confidentiality guarantees. Thus, once the school year initiated, the study participants along with their parents were called for a meeting at the school where they were handed a consent form outlining the purpose of the study, methods for data collection, and procedures to guarantee student confidentiality. The form was written in Spanish and explained also in the participants' mother tongue (Spanish) to make sure there was a complete understanding of the process (Mackey & Gass, 2006, p. 32). In the form, it was made clear to all students that in the event they wished to withdraw their consent at any time during the intervention, their information would not be used in the data collection phase. However, they were made fully aware that the content to be used throughout the intervention process would be part of the final evaluation to generate mid-term grades, as required by Sagrados Corazones High School.

While the sample size and conditions of this study made it difficult to generalize the results, it was nonetheless possible to collect key demographic information.

To reduce test exhaustion in the participants, the Index of Learning Styles Questionnaire and the grammatical competence pre-test were administered on different days. The Index of Learning Styles Questionnaire took approximately 35 minutes to complete while the grammar pre-test took less than 20 minutes.

3.4.2 Phase 2: The intervention



As mentioned previously, the content selected as the basis for the intervention was based on the *Level 5 On-line Interactive Prepare by Cambridge LMS*. Even though there were 6 units in the program for the whole school year, only 1 unit was required for the 32-hour intervention. As mentioned in previous chapters, both the participants in the control group as well as the participants in the experimental group had 10 hours of English per week divided into 2 hours of English every day, according to the school program. The content of the online platform was the same content provided by the teacher to the Control Group, using a physical workbook in the classroom. In this way, for the intervention group, the regular physical book served as the backdrop for all in-class activities such as reading, writing, speaking, and listening while the *Level 5 On-line Interactive Prepare by Cambridge LMS* platform was as the source for grammar instruction. In contrast, grammar instruction for the control group was carried out through the traditional physical workbook.

Prior to the first day of the intervention, the participants in the intervention group attended a one-hour training meeting to understand the use of the *Level 5 On-line Interactive Prepare by Cambridge LMS* grammar instruction program. The intervention group participants attended class from 9 a.m. to 10:50 a.m. Upon arriving at the English virtual lab, students signed in and logged onto the *Level 5 On-line Interactive Prepare by Cambridge LMS* program. The researcher kept a regular record of events, with careful attention given to technical problems, student questions and difficulties concerning the use of the program.

Chapelle (1998) affirmed that one of the most common advantages of Computer-Assisted Language Learning (CALL) is the integrated data-collecting methods that are able to record the participants' interaction as they work on the activities. She also suggested that such data could offer researchers detailed information about the participants' experiences and



performance. The *Level 5 On-line Interactive Prepare by Cambridge* feature of recording the amount of time participants spent on using the program in the student's practice activities grade book report proved to be very convenient for this study. In order to address experimental mortality, it was decided that students who spent less than thirty hours on the practice of exercises and activities on the *Level 5 On-line Interactive Prepare by Cambridge LMS* courseware would be excluded from the processes of data analysis. None of the participants of the study was excluded from the program due to this reason or any others. As noted previously, the average number of hours students spent using the *Level 5 On-line Interactive Prepare by Cambridge LMS* program was thirty hours and seventeen minutes.

Consequently, the researcher registered the number of hours each participant spent on the program, saved, and printed out a report for every student in the Intervention group to make students aware of how much participation they had had in the program.

The intervention group received Computer-Assisted Language Learning (CALL) grammar instruction from the *Level 5 On-line Interactive Prepare by Cambridge LMS*. The researcher acted as the lab assistant for the CALL group. The researcher also asked another instructor at Sagrados Corazones High School to help monitor and assist with the CALL grammar instruction group. Much effort was put into minimizing researcher bias that might have influenced the results of the intervention. That is why the researcher served merely as the lab assistant in the CALL group. Both the researcher and the other instructor in the intervention group decided not to answer any questions from the CALL group participants that were related to the activities or the content of the on-line platform. Lastly, both the researcher and the other instructor kept themselves from acting as an instructional figure throughout the intervention.



The entire Intervention group used the computers in the Sagrados Corazones Multimedia Laboratory (#2). There were 38 computers in the lab. Each student had her or his own computer assigned to work on the *Level 5 On-line Interactive Prepare by Cambridge LMS* program. The Multimedia Lab was equipped with the latest technology at that moment. All the computers run the latest version of Microsoft Windows 8 Professional. The specifications of the computers are as follows: Participants used the HP Microtower PC's with Samsung widescreen LCD monitors, and standard memory of 2GB.

All the computers in the virtual laboratory were equipped with a good quality high definition audio system. There were 3 USB ports, 1 headphone unit, 1 microphone unit, 2 internal speakers, and a 2 pixel camera on each computer. The keyboards were HP USB keyboards and the mouses were HP USB optical mouses. In summary, the laboratory was fully equipped with the latest tech in order to provide the participants with a smooth experience without any problems throughout the intervention.

The researcher selected the *Level 5 On-line Interactive Prepare by Cambridge LMS* platform program because all of the content, activities, and grammar points, which were presented at the beginning of this chapter, are very similar to those presented in the *Prepare Workbook Level 5* by Cambridge. In addition to the significant characteristic of the program of being capable of keeping a record of the time participants spent on the program in the gradebook report, it presents a combination of instruction and practice in one program.

It is also important to recognize other important characteristics of this program such as 1) animated grammar presentations which show lively animated short videos to present grammar in context to students; 2) development of structure awareness, including introductory dialogs that exemplify how grammar works by stressing use of forms and providing a context;



3) extensive grammar practice, providing a wide range of interactive exercises with dynamic practice in listening, speaking, and reading; 4) learner support that includes pop-up notes, grammar charts with clear examples, and explanations of key points which provide easy access to information, especially when a mistake is done; 5) assessment that delivers instant feedback in practice exercises, allowing participants to monitor their progress. The *Level 5 On-line Interactive Prepare by Cambridge LMS* course took advantage of everything this technology has to offer, including pictures, movement, color, sound, words, and interactivity. The online software exploits the medium for teaching purposes, and more importantly, to create online programs that are fun as well as instructive with the great advantage of allowing students to work at their own pace.

In the process of teaching grammar, the *Level 5 On-line Interactive Prepare by Cambridge LMS* course uses a deductive model by dividing the English language into several teachable units or grammar points. It presents rules, which always provide an example first, and then offer practice exercising followed by the explanation of the grammar points. It can be said that the program works in an inductive-deductive way, in that order. One great benefit of the online version of *Prepare* over the physical book version is that the users are able to receive corrective feedback immediately. In addition, it is beneficial for people who plan on taking the on-line PET exam by Cambridge because the format of the exercise resembles the test.

In the Control Group, thirty students from a similar class to the Intervention Group were participants in this part of the study. The classes for the control group took place in classrooms without any type of computer equipment. This particular level at Sagrados corazones High School used the *Prepare Cambridge workbook Level 5*. The book portrays grammar in a structural way. That is, the main point of each lesson is to present, explain, and practice a



grammar point within a context, attempting to contextualize the structure while providing practice and meaning. The Level 5 *Prepare* workbook follows a consistent format, with an opening text introducing the grammatical structure, explanatory grammar notes, written exercises, and conversation practice activities, including small group conversation activities.

Although there were different English teachers with individual distinctions at Sagrados Corazones High school, in general, the methodology used by the teacher in the Control group class as observed by the researcher was as follows: At the beginning of the class, the teacher checked attendance and requested students to turn in their classwork, which was done quickly. The teacher reviewed the classwork from the day before, starting by calling out the student's name. Students seemed to be quite used to this, as a well-established routine to do in class. Students then presented the answers to the assigned classwork orally or on the board, by turns. Students seemed to be open to this activity because they were familiar with the way their teacher checked their classwork.

The teacher began the grammar point of the day by setting a situational context, usually through the use of PowerPoint presentations and the board. After that, students were asked to do the exercises in the workbook to practice the structure they just learned in class. These exercises showed to be successful, according to the students' scores. The teacher provided students with the correct answers to the exercises by reading out loud and asking the class to read the sentences along with her. The teacher assigned the classwork for the following day with the only purpose that students read it in advance. The teacher followed a deductive-inductive approach to grammar instruction followed by additional opportunities for practice and reinforcement.

3.4.3 Phase 3: Post-tests



After six weeks, as the intervention came to its end, the participants completed the grammatical competence post-test. This was conducted prior to the final unit examination mandated by the school at the end of each unit from the six units mentioned before. Since the objectives of the study did not consider any other language skills except for grammar, none of them was measured as variables to be assessed except for grammar which according to Cambridge standards is also known as Use of the Language.



CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

4.1. Introduction

In this section of the study, the researcher presents the results found in the process. It includes an analysis of the data collected through the instruments employed to support the answers to the research question. The following section presents the findings from the study to measure the impact of CALL on the enhancement of grammar competence throughout the following data collection instruments: the Index of Learning Styles Questionnaire developed by NC University, a grammatical competence test, multiple choice , and cloze/fill-in-the-blank tests. The resulting data was analyzed to answer the following research question:

- To what extend does the application of the CALL approach, through the *Level 5 On-line Interactive Prepare by Cambridge LMS* influence the development of grammatical competence in 12th grade students at Sagrados Corazones high school?

The research question will be answered through the analysis of quantitative data collected using grammar focused pre-tests and post-tests to measure the effect of CALL on students' grammar competence. Data from the tests were analyzed with the Wilcoxon signed-rank test using SPSS v.6 statistics to determine if the means of the two tests were significantly different from one another. The use of non-parametric statistics (Wilcoxon's test) is recommended for analyzing data from continuous variables, or ordinal variables (Mackey & Gass, 2012). Examples of the former are exam scores while Likert scales are examples of the latter. In addition, this test is recommended when the analyzed data comes from related groups; that is, the same subjects are assessed in different times during the study (Laerd Statistics, 2013). Moreover, this test has been proved effective when working with very small sample sizes, providing more feasible outcomes than the Student's t-test. (Winter, 2013). This study



met all the aforementioned conditions, thus, the use of Wilcoxon's test was considered appropriate.

The test was conducted by calculating the differences between the first and the second sets of data and ranking the absolute value of these differences from the lowest to the highest so that the lowest difference receives the rank of 1, the next receives 2, and so forth. The test is based on numeric differences between the results from the first and the second set of data, in this case, between the grammar pre-test and the post-test. A negative difference indicates that the second set of scores were higher than the first, while a positive difference shows a lower result. Depending on the final results, these could be interpreted as an increase or a decrease, respectively (McIssac, 2013). As for this study, a statistically negative difference (*p-value* ≤ 0.05) between the scores of the pre-test and the post-test was indicative of an increase in the students' grammar competence.

In the following section, the quantitative results will be explained through descriptive statistics tables, ranks tables, and test statistics tables. The descriptive statistics show calculations such as mean, minimum, and maximum scores, as well as quartile statistics. The ranks table of the Wilcoxon test shows the number of participants who achieved a higher (as indicated by the term *positive rank*) or lower score (as indicated by the term *negative rank*) between the two tests. In cases in which there was no difference between the two tests scores, the term *ties* was used to group these results. The test statistics tables indicate whether the differences in scores were actually statistically significant according to the p value, also known as "critical value" or the probability of obtaining the observed results. According to Mackey and Gass (2012), a 0.05 level of significance (5% probability) is an acceptable level for success in second language research.



4.2. Demographic profile of study participants

This section provides general information regarding the profiles of the study participant, which is believed to be a good starting point when analyzing quantitative data (Brown, 1994).

Tables 1, 2, 3, and 4 show a very homogeneous group where all participants were teenagers between the ages of 15 and 16 and that all of them were female.

Table 1

*Age of Study Participants
(Intervention Group)*

Age Group	Frequency	Percentage
15	28	93.0
16	2	7.0
Total	30	100.0

Table 2

*Age of Study Participants
(Control Group)*

Age Group	Frequency	Percentage
15	29	96.0
16	1	4.0
Total	30	100.0

**Table 3*****Gender of Study Participants
(Intervention Group)***

Gender	Frequency	Percentage
Female	30	100
Male	0	100
Total	30	100.0

Table 4***Gender of Study Participants
(Control Group)***

Gender	Frequency	Percentage
Female	30	100
Male	0	100
Total	30	100.0

Data related to the previous level of knowledge of English of the participants were collected from the School's database. It showed that since students were enrolled in a B1 level English class at the time of the study, they had already passed the A2 level. This meant they were in the early stages of the B1 level according to the Cambridge examinations based on the CEFR.



Table 5
Level of English of Study Participants
(Intervention Group)

English Level	Frequency	Percentage
B1	12	40
A2	18	60
Total	30	100.0

Table 6
Level of English of Study Participants
(Control Group)

English Level	Frequency	Percentage
B1	9	30
A2	21	70
Total	30	100.0

4.3 Grammatical competence pre and post-test findings

4.3.1 Pre-test (Experimental Group)

The grammatical competence validated pre and post-tests consisted of 10 multiple choice questions that attempted to measure participants' ability to recognize grammatical forms corresponding to the B1 level from the Test-developer software program by Cambridge used at the school. The tests were similar in format to final examinations at the school, which are calculated over 10 points, and to pass a subject, a minimum of 7 out of 10 points is required. To

provide a familiar context for the results of the pre and post-tests, the grade equivalencies used followed the Ministry of Education official guidelines for assessment. See table 7.

Table 7

Official Grading Equivalencies

Point range	Equivalency
Less than 4	No Attainment
From 4,01 to 6,99	Near Attainment
From 7 to 8,99	Attainment
From 9 to 10	Mastery

Students in the Experimental group initially presented scores between 5 and 10 points with a mean of 7.37 with a low data dispersion ($SD = 1.19$). There were 4 participants who were in a level of Mastery, 17 of them were in Attainment, and 9 were Near Attainment. Figure 1.

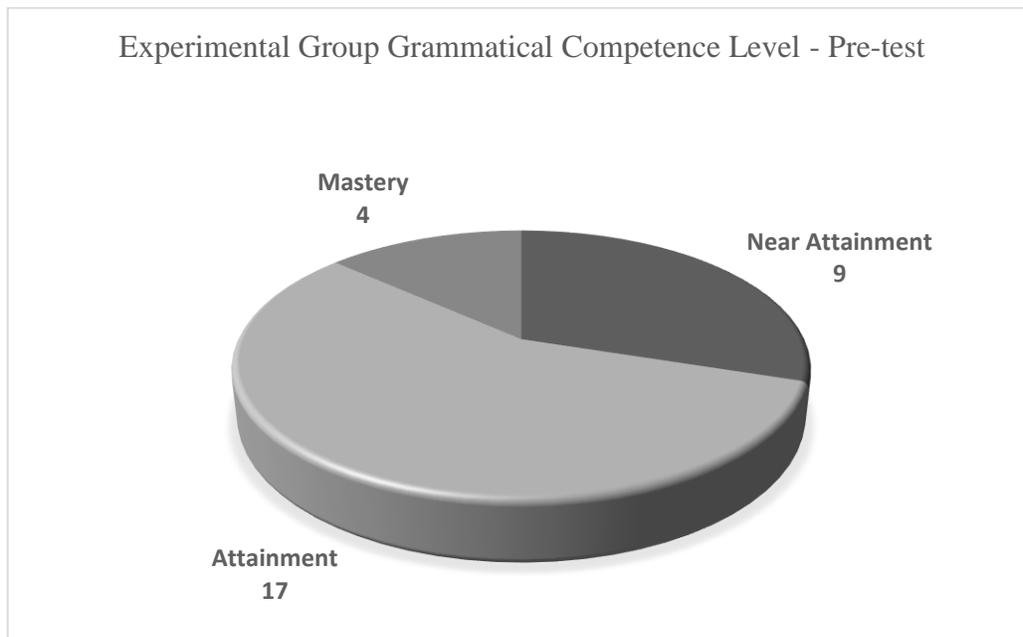
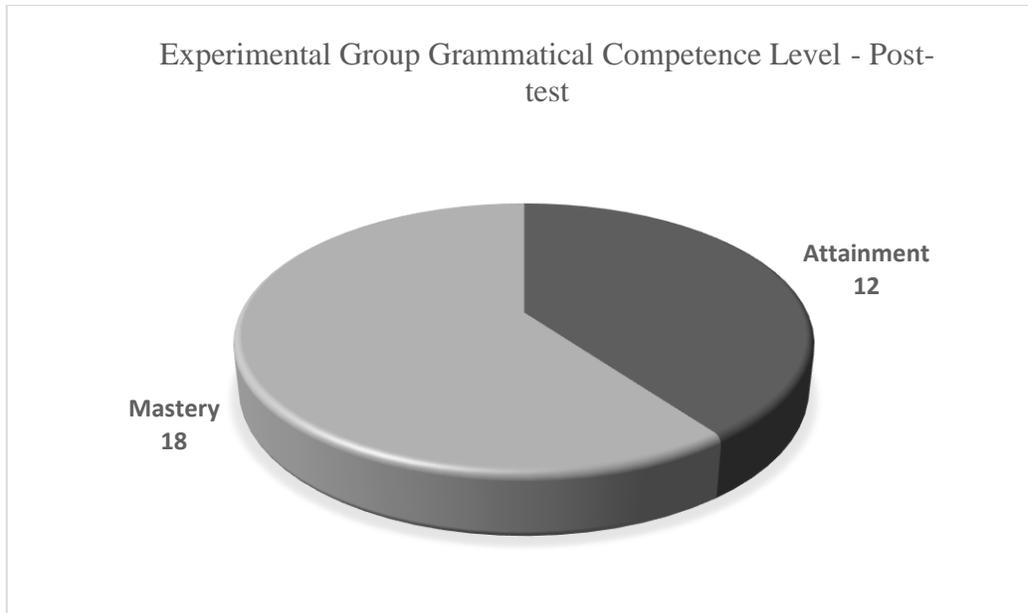


Figure 1. Classification of grammatical competence of participants pre-test**4.3.2 Post-test (Experimental Group)**

The results obtained after the intervention varied between 7 and 10 points with a mean of 8.6 points and a low dispersion of data ($SD = 0.89$). In this case, there were 18 students who dominated the Mastery level and 12 who managed to reach the Attainment level. Figure 2.

**Figure 2. Classification of grammatical competence of participants post-test**

The participants registered a success rate according to the number of attempts between 71% and 97% with a mean of 85.53% ($SD = 7.11$) and a median of 86.50%. The distribution of accomplishment is shown in Figure 3.

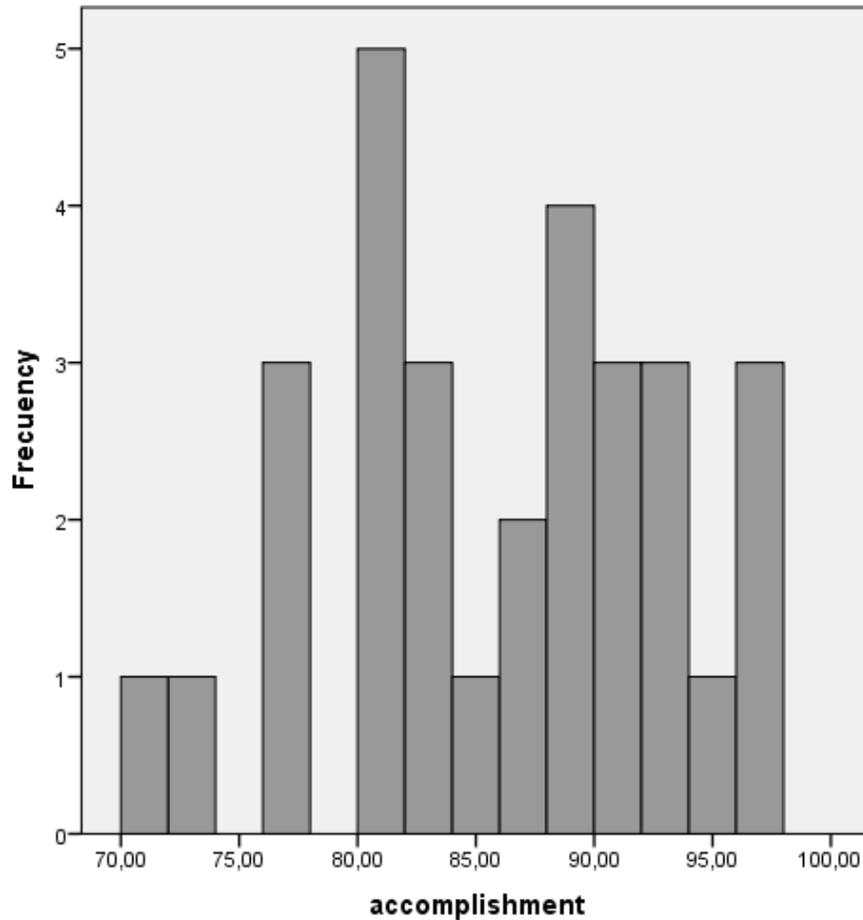


Figure 3. Accomplishment rate by number of attempts (Experimental Group)

4.4 Learning Styles Questionnaire (Experimental Group)

In general the predominant feature in the students turned out to be the Visual learning style, with oscillating values between 15 and 61 and a mean of 46.23 (SD = 10.65), followed by the Kinesthetic learning style scores between 10 and 55 with a mean of 29.03 (SD = 10.81), and the Auditory style remains as the weakest feature in the group.

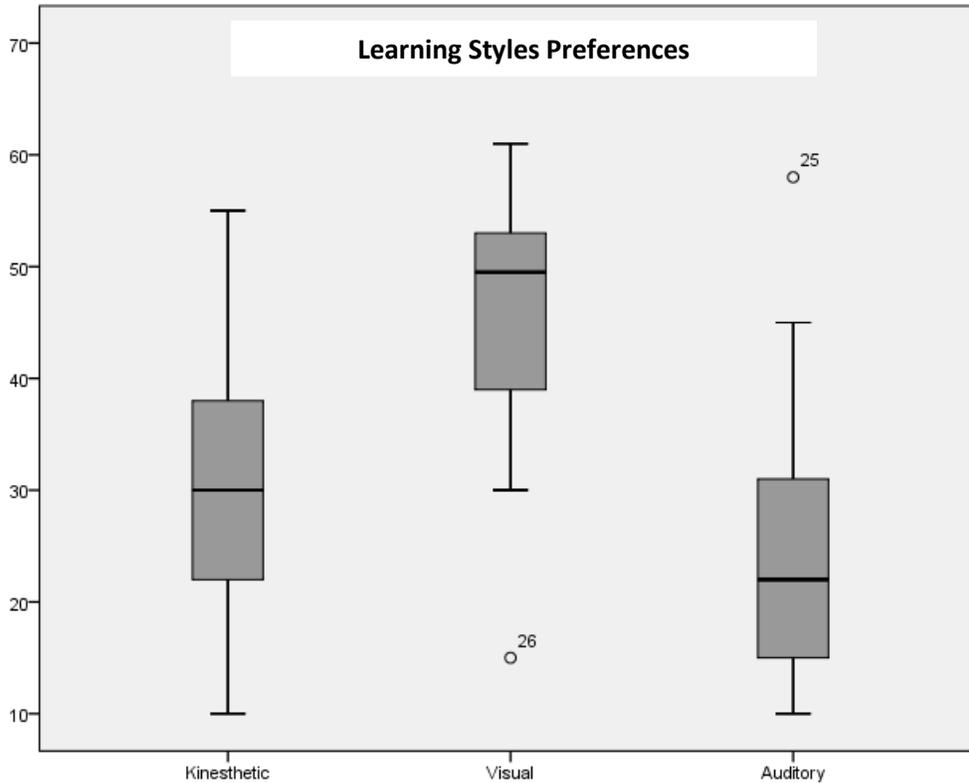


Figure 4. Participants learning styles preferences

4.5 Contrasting of pre-test and post-test results (Experimental Group)

The contrasting of results obtained between the pre-test and post-test in the Intervention group reflected some statistically significant differences ($p = 0.00$), reporting 24 positive changes and 6 ties. The medians corresponded to 8 and 9 points respectively.

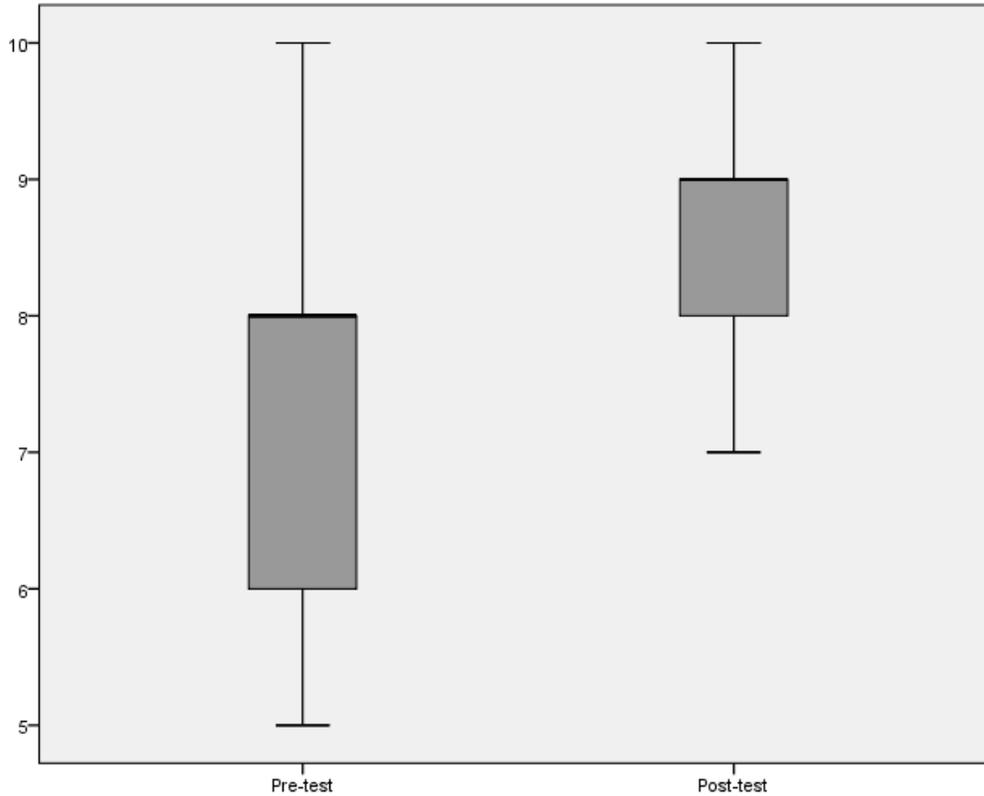


Figure 5. Contrasting of pre-test and post-test results

The item-by-item analysis showed that: although all the items presented positive changes, only in the questions: number 8 and number 10 significant differences were reflected before and after the intervention ($p < 0.05$). The question with the most correct answers in both cases was the number 3 in which all the participants answered correctly, followed by questions 1 and 6. Table 8.



Table 8.
Question Success Rate (Experimental Group)

Question	Pre-test	Post-test	p
1	26	28	0,500
2	20	25	0,063
3	30	30	-
4	19	24	0,063
5	25	27	0,500
6	26	28	0,500
7	24	27	0,250
8	10	21	0,001*
9	24	25	1,000
10	17	23	0,031*

Note: p-value (≤ 0.05) indicates strong evidence against the null hypothesis

The reason why Students might have had better results in questions 8 and 10 can be attributed to the fact to the way in which those questions were presented in the test, which was very similar to the way in which this type of exercise was presented in previous A2 test taken by the students.

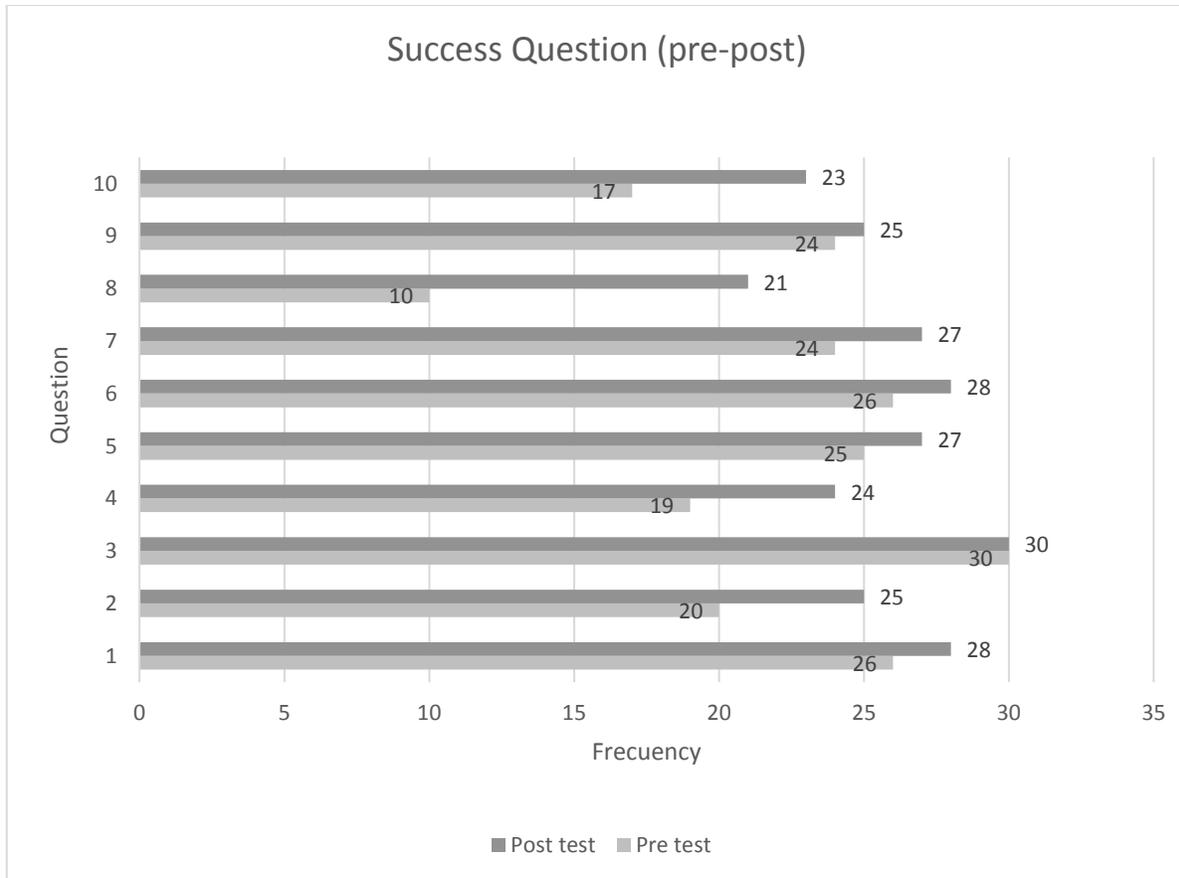


Figure 6. Individual success question analysis (Experimental Group)

No relationship was found between the characteristics of learning styles of the students and the test scores. However, a direct high relation was established between the pre-test and post-test scores ($Rho = 0.717$, $p < 0.05$); as the pre-test grades increase, the post-test scores increase. This shows that students who obtained better scores in the pre-test did better in the post-tests as well.



Table 9.
Co-relation between grades and learning styles

		Post - test	Success Rate	Kinesthetic	Visual	Auditory
Pre-test	Rs	,717*	-,095	,160	-,046	,044
	p	,000	,616	,399	,809	,819
Post - test	Rs		,041	,124	,076	-,094
	p		,828	,515	,688	,622

Table 10.
Pre-test - Post-test Grammatical Competence Level Comparison

	Pre-test	Post-test
Near attainment	9	-
Attainment	17	12
Mastery	4	18

4.6 Control group pre-test and post-test findings

4.6.1 Pre-test Control Group

The students initially presented scores between 4 and 10 points with a mean of 7.15 with a low data dispersion ($SD = 1.08$). There were 5 participants who were in a level of Mastery, 14 of them in Attainment, and 11 were Near Attainment. Figure 7.

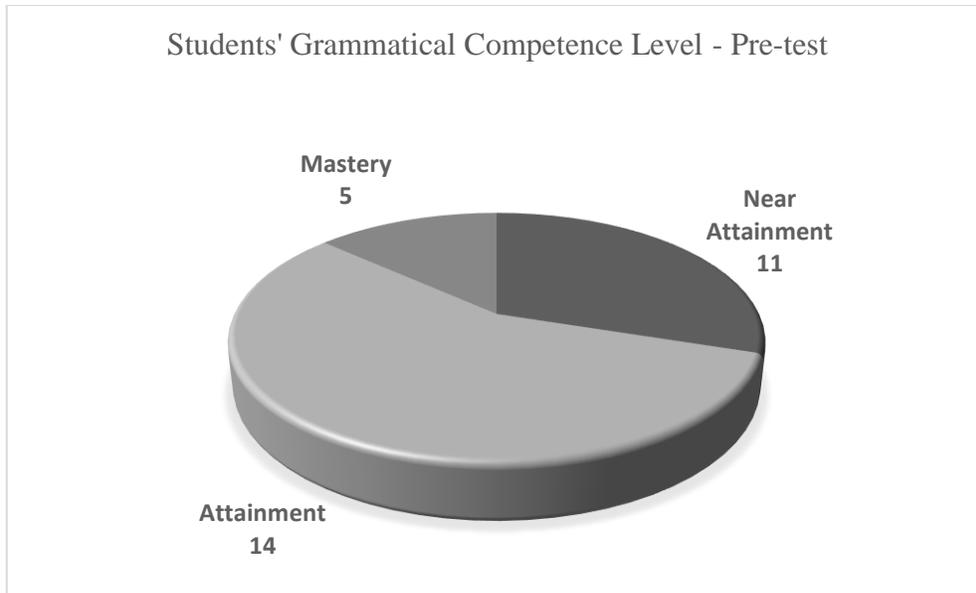


Figure 7. Classification of grammatical competence of participants pre-test

4.6.2 Post-test Control Group

The grades of the students who had worked with the traditional method of learning reflected that 11 participants were at a level of Mastery, 15 reached the Attainment level, and 4 were in the Near Attainment level. Figure 8.

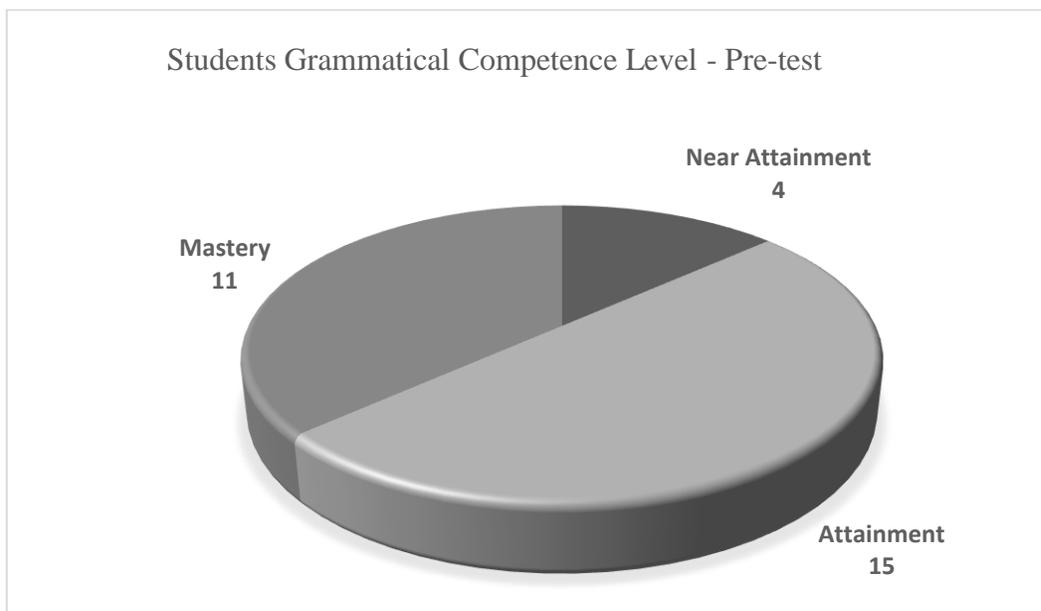


Figure 8. Classification of grammatical competence of participants post-test

4.7 Comparison of Post-tests Results between the Intervention Group and the Control

Group

The grades achieved by the students who learned with the traditional method registered values between 5 and 10 points with a mean of 8 points ($SD = 1.26$), compared to the average of 8.6 points ($SD = 0.89$) obtained by the intervention group. The variances in both groups did not appear to be similar ($p = .228$); nevertheless, the Mann-Whitney U test, which is a non-parametric test used to assess for significant differences in a scale or ordinal dependent variable by a single dichotomous independent variable, did not show any significant differences between the groups.

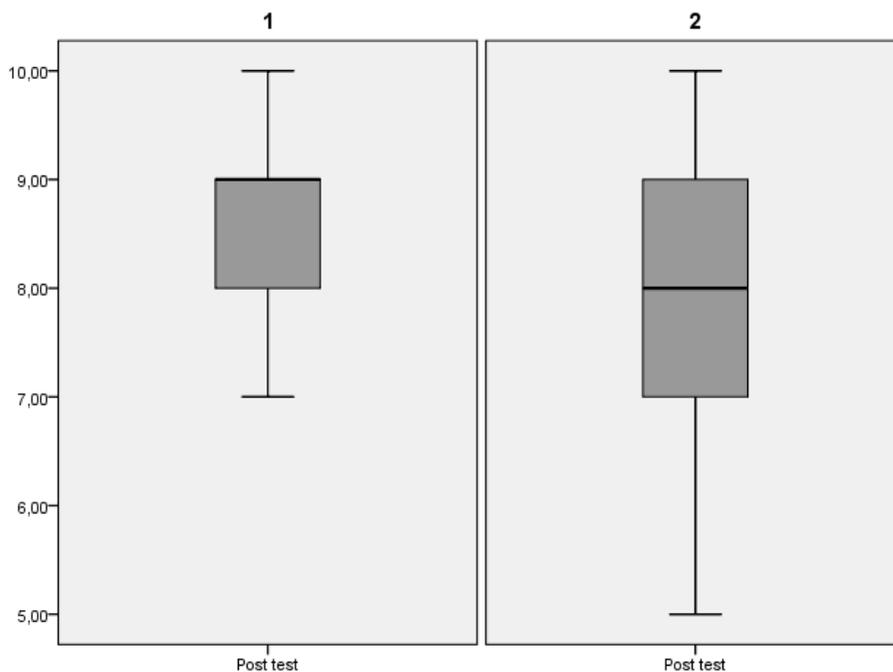




Figure 9. Comparison of post-tests results between the intervention group and the control group

The individual analysis of items between the two groups did not report a significant difference in the number of correct answers obtained for each question in the two groups. ($p > 0.05$). Details are shown in table 3.

Table 11.
Question success rate per group

Question	Intervention group	Control group	p
1	28	26	0,667
2	25	23	0,519
3	30	30	-
4	24	21	0,371
5	27	27	1,000
6	28	27	1,000
7	27	27	1,000
8	21	17	0,284
9	25	23	0,519
10	23	19	0,260

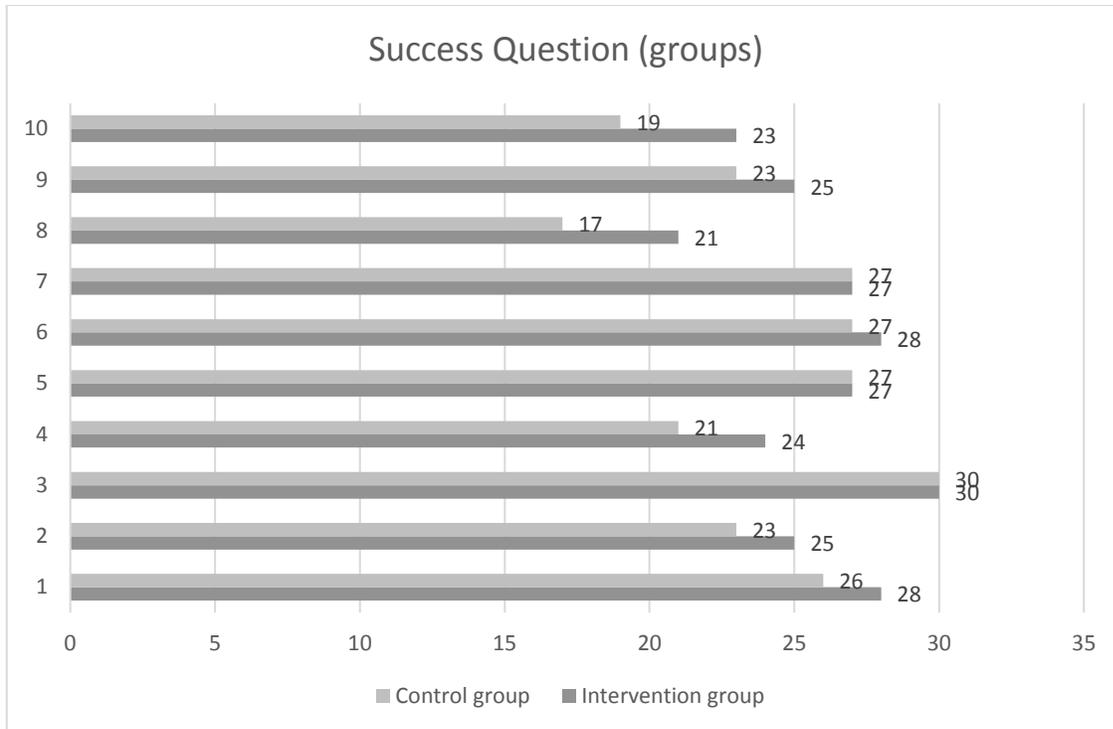


Figure 10. Individual success question analysis per group

4.8 Discussion

This section addresses the results of the research. It also includes a summary and explanation of the relevance of the findings and an overall assessment. These components, which are considered to be very important at this stage of the research (Mackey & Gass, 2006), are conducted by the research question that served as the basis for the study:

- To what extent does the application of the CALL approach, through the *Level 5 Online Interactive Prepare by Cambridge LMS* influence the development of grammatical competence in 12th grade students at Sagrados Corazones high school?

An answer to this question is provided by interpreting and contextualizing the results from the data collection phase.



4.8.1 Impact of CALL on Grammar Competence

The ideas underlying behind the main research question regarding the effects of CALL on grammar skills were proposed out of necessity to assess whether enhancements in grammar competence could be accomplished given the initial low grammar scores recorded by Cambridge tests in the school, which was interpreted by the researcher as a sign of competence insufficiency in Second Language Acquisition (SLA). The results obtained from the grammar competence pre-test and post-test revealed a statistically significant increase in the grammar scores of the study participants in the Experimental Group. Thus, positive results in their grammar skills can be attributed to the use of CALL during the learning process. Correspondingly, these results seem to be consistent with other studies that have reported significant higher scores in senior and undergraduate students' grammar tests after using CALL and CAI in their classes as in the cases of Nagata (1996) and Mohamad (2009).

While the grammatical competence post-tests of the Experimental Group did not reflect all of the participants achieving the highest ranking scores in a scale from 1 to 10, that is, the attainment of the Mastery level, they did show a significant amount of post-test scores (9 participants) leaving the Near Attainment level to a higher rank as well as a considerable amount of scores (4 participants) leaving the Attainment level to a higher level. Additionally, the Mastery level incorporated the highest number of scores moving from lower levels (14 participants). As mentioned before, these results are consistent with the findings from other studies on CALL and CAI programs developed by Nagata (1996) and Mohamad (2009), which attained parallel results from a grammatical standpoint due to conscious efforts made to focus on grammar, according to the context under investigation (Rodgers, 2006). According to interactionist approaches to Second Language Acquisition (Hatch, 1978; Long, 1996),



interaction is the most important way in which learners receive input for language learning. Likewise, interactionists claim that in addition to manipulation of input through interaction, learners need opportunities to obtain corrective feedback in order to be able to control language production better (Mackey & Gass 2006). The fact that the two methods of instruction had no statistically significant difference suggests that both the Experimental Group and the Control Group had similar quality of *input* of the target structure, i.e., the Present Perfect Tense (the *Prepare* workbook and the *Level 5 On-line Interactive Prepare Interactive* cover identical content, charts, and materials) as well as effective *interaction* that are both critical for language learning processes.

As demonstrated by Swain (1985), developing grammatical competence is a difficult task to accomplish when the essential focal point of content teaching is on providing comprehensible the kind of input that can foster an output that requires students to use the language they know for communicative purposes. In the present study, not only were participants exposed to large quantities of input in the form of lectures, videos, readings on various topics, and multiple choice self-assessment exercises provided by the *Level 5 On-line Interactive Prepare by Cambridge LMS* program, as mentioned previously; but, the program also provided explicit instruction regarding grammatical rules and forms in order to equip participants with the linguistic items necessary to complete the activities.

4.8.2 Impact of Learning Styles on Grammar Enhancement through CALL

Regarding the role of cognitive learning styles, many studies have shown that some of these learning styles have a crucial role in learning a language, and so it is important for teachers to make a distinction among the students' learning styles and prepare their classes according to these styles Felder and Soloman (1996).



According to Felder and Soloman (1996), the content and the quality of input that students receive rely on their abilities, prior experience, learning styles, and the teachers' methodology. Furthermore, some research suggest that language learners will perform better if their instruction and their learning style are linked (Chapelle, 2009; Chen, 2006).

As presented in Figure 3, the results generated by the study show a difference which is not statistically significant and could be attributed to the fact that students were not at the extremes of the range in each category; that is, participants did not show to have a strong tendency to simply one of the learning styles patterns. Nevertheless, it is also necessary to consider that the whole layout of *Level 5 On-line Interactive Prepare by Cambridge LMS* focuses and works based on the Theory of Learning Styles, allowing participants with different styles to connect with the interface in a better way.

Furthermore, the Index of Learning Styles Questionnaire was not applied on the Control group, as was mentioned in the methodology chapter, to keep it from having any external interference and to keep it as natural as a traditional teacher directed class could be (Mackey & Gass, 2006). Nevertheless, it is important to take into account that the Experimental Group revealed that there was no significant connection between the students' learning styles and the results obtained with the learning approach (CALL), making this a variable no statistically value. Therefore, the statistically significant difference in learning acquisition in the Experimental Group is attributed to the implementation of the CALL. These results also sustain the idea that the traditional teacher directed approach can be as effective for the enhancement of grammar as the use of CALL as was suggested by Nutta (1998).



CHAPTER 5: CONCLUSIONS

The leading motivation behind this research project was the desire to test the viability of using CALL as an approach to enhance grammar competence in 12th grade students at Sagrados Corazones High School where EFL instruction has had a predominantly communicative approach, overlooking to some degree grammar instruction. Thus, being grammar a crucial part of the evaluations by Cambridge at the school, this approach (CALL) was intended to provide the attention grammar was lacking, considering the benefits shown in similar studies as in the cases of Nutta's (1996) and Mohamad's (2009) interventions with CALL.

The main treatment, when comparing the two methods of grammar instruction used in this study, teacher-directed instruction and CALL grammar instruction, was not effective enough as to state that CALL instruction is superior, in terms of efficiency, to the other approach. Therefore, these results suggest that there is no statistically significant difference between the effectiveness of the two teaching approaches. Thus, it can be determined that CALL grammar instruction is as effective as a traditional classroom with a teacher-directed grammar instruction since its application does bring positive results as demonstrated by the findings of the Experimental Group which revealed that there is a statistically significant increase in scores on the post-test, indicating that participants were more proficient in grammar than prior the treatment. Consequently, even though CALL cannot be considered as a more effective approach than the traditional teacher directed class, CALL can serve well for the purposes of enhancing grammar proficiency as demonstrated in this study.

Moreover, Interactionist approaches to SLA (Long, 1996) suggest that interaction is the most important way in which learners obtain information for language learning.

Interactionists also mention that in addition to the manipulation of input through interaction



what learners need the most is opportunities to receive corrective feedback in order to be able to better control language production or output (Mackey & Gass 2006). Considering that the results of the two methods of grammar instruction have no statistically significant difference, it can be assumed that both Control group as well as the Intervention group had similar quality of *input* of the target language structure. For instance, the *Level 5 On-line Interactive Prepare by Cambridge LMS* program contains identical content, charts, and materials providing lots of *interaction* that are crucial for the language learning processes.

Chapelle (2003) acknowledges three kinds of learning interaction: the interpersonal interaction, the intrapersonal interaction, and the one he named learner-computer interaction. It was observed through this study that students in the CALL group were used to instinctively participate in learner-computer interactions, e.g., when participants clicked on the link provided by the program to receive help with comprehension. Therefore, one advantage of learner-computer interaction was that it provided the participants in the Experimental Group with enhanced input (meaningful and interactive). On the other hand, participants in the Control Group received the same quality of input but through a different type of interaction, the teacher-student (interpersonal interaction). Chapelle (1999) suggested that interactions in CALL may be beneficial for language development when they conduct and direct learners' attention towards input form, allow for modification focusing on input form and meaning, and draw learners' attention to the form of the output leading to self-correction.

In this study, there were mainly two types of interactions, the teacher-student (interpersonal interaction) in the Control Group and the learner-to-computer interaction in the Intervention Group. Additionally, it is important to mention that, when the participants in the CALL group made use of the "check answer" button option, they received immediate



corrective feedback by the *Level 5 On-line Interactive Prepare by Cambridge LMS* program, which can be considered as a form of computer-to-learner interaction. This kind of interaction, according to the findings of this study, was comparable at an interactive and meaningful level to the teacher-to-student interaction and the feedback received from the teacher in the Control group.

The majority of the teachers at Sagrados Corazones High School, including the instructor in the Control Group, hold FCE B2 and CAE C1 certifications by Cambridge and have had many years of experience in EFL teaching. This guarantees that students in the Control group, as well as the rest of students in the school, can have access to quality tuition while using the teacher-directed instruction approach. The fact that the participants in the Experimental Group performed as well as the participants in the Control Group using *the Level 5 Prepare Workbook* through a traditional teacher-directed approach confirms that the application of the CALL approach through the *Level 5 On-line Interactive Prepare by Cambridge LMS* has the potential to influence significantly on the development of grammatical competence, as in the case of the 12th grade students at Sagrados Corazones high school.

CALL grammar instruction can potentially be an effective way of learning grammar. Furthermore, based on these results, this study indicates that the *Level 5 On-line Interactive Prepare by Cambridge LMS* program could be as effective for students to learn grammar as using a traditional workbook, as was the case with the *Level 5 Prepare* workbook.

In conclusion, this study has contributed to current body of knowledge of CALL grammar instruction in the interdisciplinary field of Instructional Technology (IT) and Second Language Acquisition (SLA) by confirming from a local Ecuadorian context the



findings of Nutta's (1996) research. The treatment effect was not statistically significant when compared to the traditional the teacher-directed traditional classroom, but the treatment by itself was statistically significant since participants in the Intervention group performed as well as those in the Control group.



REFERENCES

- Al-Jarf, R.S. (2007). The effects of online grammar instruction on low proficiency EFL college students' achievement. *The Asian EFL Journal Quarterly*, 7(4), 166-190.
- Ariza, E., & Hancock, S. (2003). Second language acquisition theories as a framework for creating distance learning courses. *International Review of Research in Open and Distance Learning*. Retrieved from <http://www.irrodl.org/content/v4.2/ariza-hancock.html>
- Blomeyer, R. L. (1984). Computer-based foreign language instruction in Illinois schools. *CALICO Journal*, 1(4), 35-44.
- Bouziane, A. (2012). Understanding and using LMS Cambridge: Interactive Interchange *FCE*, 10(4), 1-20.
- Brown, H. (1994). *Teaching by principles: An interactive approach to language pedagogy*. Englewood Cliffs, N.J.: Prentice-Hall.
- Cardenas, M., & Gruba, P. (2009). Help options in CALL: A systematic review. *CALICO Journal*, 27(1), 69-90.
- Carroll, S. (2001). *Input and evidence: The raw material of second language acquisition*. Amsterdam: John Benjamins B.V.
- Chapelle, C. (1998). Analysis of interaction sequences in computer-assisted language learning. *TESOL Quarterly*, 32(4), 753-757.
- Chapelle, C. (1999). Technology and language teaching for the 21st century. In J. E. Katchen & Y.N. Leung (Eds.), *The proceedings of the Eighth International Symposium of English Teaching*.
- Chapelle, C. (2003). *English Language Learning and Technology*. Amsterdam: John



Benjamins.

- Chapelle, C. A. (2009). The relationship between second language acquisition theory and computer-assisted language learning. *The Modern Language Journal*, 93, 741-753.
- Chen, L. (2006). The effect of the use of L1 in a multimedia tutorial on grammar learning: An error analysis of Taiwanese beginning EFL learners' English essays. *The Asian EFL Journal Quarterly*, 8(2), 76-110.
- Chomsky, N. (1965). *Aspects of the Theory of Syntax*. Cambridge, MA: The M.I.T. Press.
- Chomsky, N. (1988). *Current issues in linguistic theory*. Berlin, Boston: De Gruyter Mouton.
doi:doi.org/10.1515/9783110867565
- Dooly, M. (2007). Joining forces: Promoting metalinguistic awareness through computer- supported collaborative learning. *Language Awareness*, 16(1), 57-74.
- Doughty, C., & Williams, J. (1998). *Focus on form in classroom second language acquisition*. Cambridge, UK: Cambridge University Press.
- Ellis, N. (1985). The psychology of foreign language vocabulary acquisition: Implications for CALL. *Computer Assisted Language Learning*, 8, 103-128.
- Ellis, R. (2002). The place of grammar instruction in second/foreign language curriculum. In E. Hinkel & S. Fotos (Eds.), *New perspectives on grammar teaching in second language classrooms* (pp. 17-34). New Jersey: Lawrence Erlbaum Associates.
- Ellis, R. (2008). *The Study of Second Language Acquisition*. Oxford: Oxford University Press.
- Felix, U. (2001). Research: Absolutely worth the effort! In U. Felix (Ed.), *Beyond Babel: Language learning online* (pp. 299-365). Melbourne: Language



Australia.

- Felder R, & Soloman A. (2011). Index of Learning Styles Questionnaire. Retrieved from <https://www.compadre.org/Precollege/items/detail.cfm?ID=2044>
- Garrett, N. (1982). A psycholinguistic perspective on grammar and CALL. *Modern Media in Foreign Language Education*, 169-196.
- Garrett, N. (1988). Computers in foreign language education: Teaching, learning, and language acquisition research. *ADEL Bulletin*, 19(3), 6-12.
- Garrett, N. (2009). Computer-assisted language learning trends and issues: *Integrating innovation*. *The Modern Language Journal*, 93, 719-740.
- Garrett, N. (2012). Computer-assisted language learning trends and issue revisited: *Integrating innovation*. *The Modern Language Journal*, 99, 719-744.
- Gass, S. (1997). *Input, interaction, and the second language learner*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Godwin, R. (2009). Emerging technologies focusing on form: Tools and strategies. *Language Learning & Technology*, 13(1), 5-12.
- Halliday, M. (1970). Language Structure and Language Function. In Lyons, J., Ed., *New Horizons in Linguistics*, Penguin, Harmondsworth, 140-165.
- Harris, V. (2003). Adapting classroom-based strategy instruction to a distance learning context. *TESL-EJ*, 7(2), 1-16.
- Hatch, E. (Ed.). (1978). *Second language acquisition: A book of readings*. Rowley, MA: Newbury House.
- Heift, T. (2004). Corrective feedback and learner uptake in CALL. *ReCALL*, 16(2), 416-431.



- Hopkin, C. R., Hoyle, R. H., & Gottfredson, a. N. (2015). Maximizing the yield of small samples in prevention research: A review of general strategies and best practices. *Prev Sci, 16*(7), 950–955. doi:10.1007/s11121-014-0542-7
- Hymes, D. H. (1972). On Communicative Competence. In Pride, J. B., & Holmes, J. (Eds.), *Sociolinguistics*, 269-293. Baltimore, USA: Penguin Education, Penguin Books Ltd.
- Kessler, G, & Plakans, L. (2001). Incorporating ESOL learners' feedback and usability testing in instructor-developed CALL materials, *TESOL Journal, 10*, 15-20.
- Kim, D. (2009). *Explicitness in CALL feedback for enhancing advanced ESL learners' grammar skills*. (Doctoral dissertation) Retrieve from ProQuest Dissertations & Theses (PQDT) database.
- Kim, H., & Rissel, D. (2008). Instructors' integration of computer technology: Examine the role of interaction. *Foreign Language Annals, 41*(1), 61-80.
- Krashen, S. (1981). *Second language learning and second language acquisition*. Oxford: Pergamon.
- Krashen, S. (1985). *The input hypothesis: Issues and implications*. New York: Longman. Kung, S., & Chuo, T. (2002). Students' perceptions of English learning through ESL/EFL --- Websites. *TESL-EJ, 6*(1).
- Laerd Statistics, (2013). Wilcoxon signed-rank test using SPSS statistics. Retrieved from: <https://statistics.laerd.com/spss-tutorials/wilcoxon-signed-rank-test-spss-statistics.php>
- Larson-Hall, J. (2012). How to run statistical analyses. In A. Mackey, & S. M. Gass (Eds.), *Research Methods in Second Language Acquisition* (pp. 245-274). West Sussex, UK: Blackwell Publishing.



- Lavine, R. Z. (1992). Rediscovering the audio language laboratory: Learning through communicative tasks. *Hispania*, 75, 1360-1367.
- Lee, L. (2005). Using Web-based instruction to promote active learning: Learners' perspectives. *CALICO Journal*, 23(1), 139-156.
- Levy, M. (1997). Computer-assisted language learning: *Context and conceptualization*. Oxford University Press.
- Levy, M., & Stockwell, G. (2006). *CALL dimensions: Options and issues in computer-assisted language learning*: Mahwah, NJ: Lawrence Erlbaum.
- Lightbown, M., & Spada, N. (1990). Focus-on-form and corrective feedback in communicative language teaching. *Studies in Second Language Acquisition*, 12, 429-448.
- Liou, H. C. (1997). Research of on-line help as learner strategies for multimedia CALL evaluation. *CALICO Journal*, 14, 81-96.
- Liu, M., Moore, Z., Graham, L., & Lee, S. (2002). A look at the research on computer-based technology use in second language learning: Review of literature from 1990-2000. *Journal of Research on Technology in Education*, 1-54.
- Long, M. (1985). Input and second language acquisition theory. In S. M. Gass & C. G. Madden (Eds.), *Input in second language acquisition* (pp. 377-393). Rowley, MA: Newbury House.
- Long, M. (1991). *An introduction to second language acquisition research*. London: Longman.
- Long, M. (1996). The role of the linguistic environment in second language acquisition. In W.C. Ritchie & T.K. Bathia (Eds.), *Handbook of research on*



- second language* (pp. 413-468) San Diego, CA: Academic Press.
- Long, M. (1997). *Focus on form in task-based language teaching*. Retrieved from <http://www.mhhe.com/socscience/foreignlang/top.htm>
- Lyster, R., & Ranta, L. (2007). Corrective feedback and learner uptake: Negotiation of form in communicative classrooms. *Studies in Second Language Acquisition*, 19, 37-66.
- Mackey, A., & Gass, S. (2006). *Second language research: Methodology and design*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Mackey, A., & Gass, S. (2012). *Research methods in second language acquisition*. Malden, MA: Blackwell Publishing.
- Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review*, 62(3), 279-300.
- McCarthy, B. (1994). Grammar drills: What CALL can and cannot do. Paper presented at the Meeting of EUROCALL.
- McIsaac, M.S. (2013). *Pedagogy, the internet and the classroom*. Retrieved from http://seamonkey.ed.asu.edu/~mcisaac/paper_artibyte.html.
- Merrill, P.F., Tolman, M.N., Christensen, L., Hammons, K., Vincent, B., & Reynolds, P.L. (1986). *Computers in education*. Englewood Cliffs, NJ: Prentice-Hall.
- Mills, D. (2000). Web-based technology as a resource for form-focused language learning. *TESOL Quarterly*, 603-615.
- Milton, J. (2010). Design principles for an online EFL course. In B. Morrison, C. Green & G. Motteram (Eds.), *Directions in CALL: Experience, experiments and evaluation*. Hong Kong: The Hong Kong Polytechnic University.



- Ministerio de Educación. (2016). Currículo fortalecimiento del inglés. Retrieved from <http://educacion.gob.ec/curriculo-fortalecimiento-del-ingles/>
- Mohamad, F. (2009). Internet-based grammar instruction in the ESL classroom. *International Journal of Pedagogies and Learning*, 5(2), 34-48.
- Nagata, N. (1996). Computer vs. workbook instruction in second language acquisition. *CALICO Journal*, 14(1), 53-75.
- Nagata, N. (1997). The effectiveness of computer-assisted metalinguistic instruction: A case study in Japanese. *Foreign Language Annals*, 30(2), 187-200.
- Nagata, N. (1998). Input vs. output practice in educational software for second language acquisition. *Language Learning and Technology*, 1(2), 23-40.
- Nagata, N., & Swisher, M.V. (1995). A study of consciousness-raising by computer: The effect of metalinguistic feedback on second language learning. *Foreign Language Annals*, 28, 337-347.
- Ngu, B., & Rethinasamy, S. (2013). Evaluating a CALL software on the learning of English Prepositions. *Computers & Education*, 47, 41-55.
- Nutta, J. (1996). *Effects of CALL instruction on the acquisition of selected grammatical structures by post-secondary ESL students* (Doctoral dissertation). Retrieved from Dissertations & Theses: Full Text.
- Nutta, J. (1998). Is computer-based grammar instruction as effective as teacher-directed grammar instruction for teaching L2 structures? *CALICO Journal*, 16(1), 49-62.
- Pica, T. (1994). Research on negotiation: What does it reveal about second language learning conditions, processes, and outcomes? *Language Learning*, 44(3), 493-527.



- Pica, T. (1996). Second language learning through interaction: Multiple perspectives. *Educational Linguistics*, 12(1), 1-22.
- Ohta, A.S. (2002). Rethinking interaction in SLA: Developmentally appropriate assistance in the zone of proximal development and the acquisition of L2 grammar. In J.P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 51-78). Oxford: Oxford University Press.
- Quinn, R. A. (1990). Our progress in integrating modern methods and computer-controlled learning for successful language study. *Hispania*, 73, 297-311.
- Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. (1985). *A comprehensive grammar of the English language*. London: Longman.
- Richards, J., Johnson, N., Roberts, M., Worell, J. Platt, J., & Platt, H. (1992). *Dictionary of language teaching and applied linguistics*. Essex: University of Cambridge.
- Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching*. Cambridge: Cambridge University Press.
- Russel, J. (1982). Computers and foreign language instruction. *NALLD Journal*, 16(34), 17-23.
- Sauro, S. (2009). Computer-mediated corrective feedback and the development of L2 grammar. *Language Learning & Technology*, 13(1), 96-120.
- Savignon, S. J. (1972). *Communicative Competence: An Experiment in Foreign-Language Teaching*. Philadelphia: The Centre for Curriculum Development, Inc.
- Savignon, S. J. (1983). *Communicative Competence: Theory and Classroom Practice*.



Texts and Contexts in Second Language Learning. Reading, Massachusetts at all: Addison-Wesley Publishing Company.

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R.W. Schmidt (Eds.), *Attention and awareness in foreign language learning* (pp. 1-63). Honolulu, HI: University of Hawaii, Second Language Teaching and Curriculum Center.

Sim, J., & Wright, C. (2000). *Research in Health Care: Concepts, Designs and Methods*. Hampshire, UK: Nelson Thornes.

Stockwell, G. (2007). A review of technology choice for teaching language skills and areas in the CALL literature. *ReCALL*, 19(2), 105-120.

Soo, K. S., & Ngeow, Y. H. (1996). The English teacher v.s. the multimedia computer: The UNIMAS experience. Paper presented in the 1996 RELC Seminar. Singapore, 22-24 April, 1996.

Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S.M. Gass & C.G. Madden (Eds.), *Input in second language acquisition* (pp. 235-253). Rowley, MA: Newbury House.

Swain, M. (1995). Three functions of output in second language learning. In G. Cook & B. Seidlhofer (Eds.), *Principle and practice in applied linguistics: Studies in honor of H.G. Widdowson* (pp. 125-144). Oxford: Oxford University Press.

Swain, M., & Lapkin, S. (1995). Problems in output and the cognitive processes they generate: A step towards second language learning. *Applied Linguistics*, 16, 371-391.

Swain, M. (1998). Focus on form through conscious reflection. In C. Doughty & J.



- Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 64-81). Cambridge: Cambridge University Press.
- Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J.P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97-114). Oxford: Oxford University Press.
- Taylor, D.S. (1988). The meaning and use of the term competence in linguistics and applied linguistics. *Applied Linguistics*, 9, 148-169.
- Thompson, G. (1996). Some misconceptions about communicative language teaching. *ELT Journal*, 50(1), 9-15. doi:10.1093/elt/50.1.9
- Tsai, R., & Jenks, M. (2009). Teacher-guided interactive multimedia for teaching English in an EFL context. *Journal of Educational Multimedia and Hypermedia*, 18(1), 91-111.
- Underwood, J. H. (1993). The lab of the future: *Using technology to teach foreign language*. *American Association of Community College Journal*, August / September, 33-39.
- Vygotsky, L.S. (1978). *Mind in society: The development of higher processes*. Cambridge, Mass.: Harvard University Press. Cambridge, MA: Harvard University Press.
- Warschauer, M. (2005). Sociocultural perspectives in CALL. In J. Egbert & G. M. Petrie (Eds.), *CALL research perspectives* (pp. 41-52). Mahway, NJ: Lawrence Erlbaum.
- White, L., Spada, N., Lightbown, P., & Ranta, L. (1991). Input enhancement and L2 question formation. *Applied Linguistics*, 12, 416-432.
- Widdowson, H. G. (1983). *Learning Purpose and Language Use*. Oxford: Oxford University Press.
- Winter, G. (2003). A Comparative Discussion of the Notion of 'Validity' in Qualitative and Quantitative Research. *The Qualitative Report*, Volume 4, Numbers 3 & 4



Zhao, L. (2003). *Attitudes of directors of intensive English as a second language programs toward the use of computer-assisted instruction in American universities*. Retrieved from ERIC EBSCOhost.



APPENDIXES

APPENDIX A: Permission from Sagrados Corazones High School

Cuenca, 17 de octubre de 2016

Lcda.
Rosa Orellana
VICERRECTORA DE LA UNIDAD EDUCATIVA SAGRADOS CORAZONES
Su despacho.

De mi consideración:

Reciba un cordial y atento saludo; por medio del presente le solicito de la manera más comedida permitir la aplicación y análisis de dos test de inglés a las estudiantes del segundo de bachillerato los cuales servirán como información anónima en mi tesis de maestría.

Por la favorable acogida a la presente, le anticipo mis sentimientos de consideración y estima.

Atentamente,

Lcdo. Juan C. Calle

31-10-16.

UNIDAD EDUCATIVA PARTICULAR
"SAGRADOS CORAZONES"
 **VICERRECTORADO**
Cuenca - Ecuador



APPENDIX B: Participant Consent Form

Consentimiento para Participar en Investigaciones Académicas

Nombre del Proyecto o Investigación: “CALL: The Impact of Cambridge LMS on the Enhancement of English Grammatical Competence in 12th Grade EFL Students at Sagrados Corazones High School”

Investigador: Lcdo. Juan C. Calle

Teléfono: 0995845376

Email: juankbunbury@hotmail.com

Patrocinador: Unidad Educativa Sagrados Corazones ha aprobado la realización de esta investigación. Para información detallada sobre sus derechos como participante en la investigación, contacte a la Lcda. Rosa Orellana, Vicerrectora de la Unidad Educativa.

Introducción

Ud. está invitado a participar en este trabajo de investigación. Este formulario describe el propósito y naturaleza del estudio y sus derechos como participante en el mismo. La decisión de participar es enteramente suya. Si decide participar por favor sírvase firmar al final de este documento.

Explicación del estudio

Los alumnos participantes en este estudio formarán parte de esta investigación, la cual no afectará de ninguna manera su rendimiento académico en la asignatura del inglés como lengua extranjera.

Confidencialidad

Toda la información recolectada será de carácter confidencial y solo será usada para propósitos de esta investigación, lo que significa que su identidad permanecerá anónima. Cualquier dato publicado de esta investigación no estará ligado de ninguna forma a su nombre.

Participación

El participar en este estudio es estrictamente voluntario. Su decisión de participar o no en el mismo no afectará sus calificaciones de ninguna manera. Si usted cambiase de opinión con respecto a su participación o si tiene alguna pregunta con respecto al mismo, por favor contacte al investigador mediante los datos personales mencionados anteriormente.

Declaración del Investigador

Yo, Juan Carlos Calle Astudillo, he explicado en su totalidad y en detalle el presente trabajo de investigación a los estudiantes y he discutido las actividades y respondido todas las inquietudes y preguntas a los estudiantes.

Consentimiento del participante

He leído toda la información de este formulario de consentimiento. Todas mis preguntas fueron respondidas. Estoy de acuerdo en participar en este estudio de forma voluntaria.

Firma del Representante: _____ **CC:** _____ **Fecha:** _____

Atentamente,

Lcdo. Juan C. Calle

Docente de Inglés

Adaptado de Mackey, A., & Gass, S. M. (2005). Second Language Research. Methodology and Design. New York, NY: Routledge.

APPENDIX C: Research Proposal Approval



MAESTRÍA EN LINGÜÍSTICA APLICADA A LA ENSEÑANZA DE INGLES COMO LENGUA EXTRANJERA

INFORME CONJUNTO DE LECTURA DE DISEÑO DE INVESTIGACIÓN

FECHA DE EVALUACIÓN: Mayo 10, 2016	
APROBADO	<input checked="" type="checkbox"/>
APROBADO CON OBSERVACIONES	<input type="checkbox"/>
NO APROBADO	<input type="checkbox"/>

Lector /a: Sandra Cabrera Arias

Lector /a: Guillermo Pacheco Salazar

Título de la tesis: CALL: The Impact of Cambridge LMS on the Enhancement of English Grammar Proficiency at a B1level in 12th Grade EFL Students at Sagrados Corazones High School in Cuenca.

Maestrante: Juan Carlos Calle

Observaciones

.....

.....

.....

.....

.....

.....

.....

Firma del lector/a

Firma del lector/a

APPENDIX D: Background Questionnaire

CUESTIONARIO PARA ESTUDIANTES



Información Básica

Conteste las siguientes preguntas:

1. Nombre: _____

2. Edad: _____

3. Sexo: F M

4. ¿Qué grado cursa actualmente en la institución?

5. Además de su lengua materna, ¿habla usted otro idioma?

SI NO

6. ¿Cuál actual nivel de conocimiento del idioma inglés de acuerdo a las evaluaciones que Cambridge realiza en su escuela? Marque con una X la opción que considera adecuada a su nivel de inglés.

1.

2. A2

3. B1

4. B2

7. ¿Cómo le gustaría que se enseñe la gramática inglesa?

.....

8. ¿Qué estrategia metodológica o actividad le gustaría que se incluya en las clases de inglés?

.....

APPENDIX E: Pre and Post-Test



PET (B1) Grammar Test 01

Questions

1. The International Red Cross helps to ensure respect for the human being, and to prevent and relieve human_____.
 - A. protection
 - B. enjoyment
 - C. wealthy
 - D. sufferings

2. The Red Cross on white background was the original protection_____declared at the 1864 Geneva Convention.
 - A. poster
 - B. billboard
 - C. symbol
 - D. signal

3. _____is a situation in which large numbers of people have little or no food, and many of them die.
 - A. Disaster
 - B. Famine
 - C. Poverty
 - D. Flood



4. Go _____ this book because it has the information you need.
- A. over
 - B. by
 - C. off
 - D. on
5. Helen has gone out and she will not be _____ till midnight.
- A. off
 - B. along
 - C. back
 - D. away
6. Everything is _____ you. I cannot make _____ my mind yet.
- A. out off / on
 - B. up to / up
 - C. away from / for
 - D. on for / off
7. There is no food left. Someone must have eaten it _____.
- A. out
 - B. up
 - C. off



- D. along
8. The explorers made a fire to _____ off wild animals.
- A. get
 - B. keep
 - C. take
 - D. go
9. If something urgent has _____ up, phone me immediately and I will help you.
- A. picked
 - B. come
 - C. kept
 - D. brought
10. The passengers had to wait because the plane _____ off one hour late.
- A. took
 - B. turned
 - C. cut
 - D. made



APPENDIX F: Grammatical Competence Tests

PET (B1) Grammar Test 02

Questions

1. ASEAN remains ready to further cooperate with _____ United Nations in the ongoing humanitarian efforts for the victims of Cyclone Nargis in Myanmar.
A. a
B. an
C. the
D. X
2. _____ UN leaders appreciate the support, cooperation and leadership that ASEAN has shown in helping the victims of disasters.
A. A
B. An
C. The
D. X
3. The organization hosts cultural activities in _____ attempt to further integrate the region.
A. a
B. an
C. the
D. X



4. ASEAN also works for the _____ of peace and stability in the region.
 - A. promote
 - B. promotion
 - C. promotional
 - D. promoter

5. The Association of Southeast Asian Nations, commonly referred to as ASEAN, is a geo-political and _____ organization.
 - A. economy
 - B. economic
 - C. economics
 - D. economical

6. The motivations for the birth of ASEAN were the desire for a _____ environment.
 - A. stable
 - B. stability
 - C. stably
 - D. stabilize

7. ASEAN is an organization on the Southeast Asian region that aims to _____ economic growth, social progress, and cultural development.
 - A. account



- B. include
 - C. accelerate
 - D. respect
8. The Association of Southeast Asia which consists of 10 countries located in Southeast Asia was _____ on August 8, 1967 by Indonesia, Malaysia, the Philippines, Singapore, and Thailand.
- A. found
 - B. founded
 - C. invented
 - D. discovered
9. ASEAN has emphasized cooperation in the "three pillars" of security, socio cultural and economic _____ in the region.
- A. organization
 - B. production
 - C. integration
 - D. establishment
10. ASEAN has planned equitable economic development and reduced poverty and _____ disparities in year 2020.
- A. socio-politic
 - B. socio-cultural
 - C. socio-linguistic



PET (B1) Grammar Test 03

Questions

1. The Governments of ASEAN have paid special attention _____ trade.
 - A. to
 - B. on
 - C. for
 - D. with

2. The goal the ASEAN Vision 2020 aims _____ creating a stable, prosperous and highly competitive ASEAN economic region.
 - A. for
 - B. on
 - C. at
 - D. up

3. _____, I will give him the report.
 - A. When he will return
 - B. When he returns
 - C. Until he will return
 - D. No sooner he returns

4. _____ the firemen arrived to help, we had already put out the fire.



- A. Until
 - B. No sooner
 - C. By the time
 - D. After
5. I have earned my own living _____ I was seven.
- A. since
 - B. when
 - C. while
 - D. as soon as
6. We saw many beautiful birds _____ in the lake.
- A. when we are fishing
 - B. while fishing
 - C. while fished
 - D. fishing
7. _____, Peter came to see me.
- A. While having dinner
 - B. While I was having dinner
 - C. When having dinner



- D. When I am having dinner
8. _____ my homework, I went to bed.
- A. After I had finished
 - B. After finished
 - C. Finished
 - D. After had finished
9. _____ the dance, Jerry said good-bye to his girlfriend.
- A. Before left
 - B. Before he leaves
 - C. Before leaving
 - D. Before he will leave
10. Jones _____ after everyone _____.
- A. speaks / will eat
 - B. will speak / has eaten
 - C. is speaking / eats
 - D. has spoken / will have eaten



APPENDIX G: Learning Styles Questionnaire



Index of Learning Styles Questionnaire

Richard M. Felder
Barbara A. Solomon
North Carolina State University

The location of this application has been changed. Please update your bookmark or link.

PRIVACY POLICY:

Your response data and learning style profile are not stored or sent to anyone other than you. They cannot be recovered once you have submitted the completed form and received the results.

DIRECTIONS:

Please provide us with your first and last name, which will be printed on the report of results that will be returned to you. (Note the Privacy Policy above if you are concerned about confidentiality.) You may only choose one answer for each question, and you must answer all questions before you can submit the form. If both answers to a question seem to apply to you, choose the one that applies more frequently throughout all your courses. When you have selected answers to all 66 questions, click on the "Submit" button at the end of the form.

Full Name

Enter name

1. I understand something better after I
 - try it out.
 - think it through.
2. I would rather be considered
 - realistic.
 - imaginative.
3. When I think about what I did yesterday, I am most likely to get
 - a picture.
 - words.
4. I tend to
 - understand details of a subject but may be fuzzy about its overall structure.
 - understand the overall structure but may be fuzzy about details.
5. When I am learning something new, it helps me to
 - talk about it.
 - think about it.
6. If I were a teacher, I would rather teach a course
 - that deals with facts and real-life situations.
 - that deals with ideas and theories.
7. I prefer to get new information in
 - pictures, diagrams, graphs, or maps.
 - written directions or verbal information.
8. Once I understand
 - all the parts, I understand the whole thing.
 - the whole thing, I see how the parts fit.
9. In a study group working on difficult material, I am more likely to
 - jump in and contribute ideas.
 - sit back and listen.
10. I find it easier
 - to learn facts.
 - to learn concepts.
11. In a book with lots of pictures and charts, I am likely to



APPENDIX H: LMS Online Platform Features Gallery

The screenshot shows the registration page for the Cambridge Learning Management System. On the left, there is a registration form with fields for 'I am a:' (set to 'student'), 'First name', 'Last name', 'Age' (with options for '13 or younger' and '14 or older'), 'Date of birth', 'Username', and 'Email address'. A 'Register' button is highlighted with a red box. On the right, the dashboard shows 'Unit Progress Tests', 'Unit Speaking Tests', and 'Competency Tests', each with a 'My Progress' indicator at 0% and a 'Show all' button highlighted with a red box.

The screenshot shows the 'My Admin' interface for a school administrator. The top navigation bar includes 'Help', 'My Admin', 'My Teaching', 'My Learning', 'Reports', and 'Notifications'. The main content area is titled 'My Admin' and shows 'London School of English' with 'Organization Tools' expanded. A 'School Code: None' section has a 'Join a School' button. Below this, there are tabs for 'Manage Classes', 'Manage Class Groups' (highlighted with a red box), 'Manage Users', and 'Manage Products'. A 'Create Group' button is also highlighted with a red box. A table lists existing class groups:

Name	Date Created	Number of Classes	
My groups	06 January, 2016	0	Edit

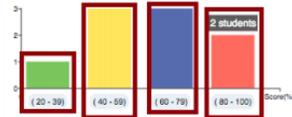
The screenshot shows a table for user management. The table has columns for 'Lock', 'Display Name', 'From date', 'To date', and 'Email'. The 'From date' and 'To date' columns contain calendar icons. The 'Email' column has a dropdown menu with 'No' selected. At the bottom, there is an 'Edit by' field with a radio button selected for 'USER' (highlighted with a red box) and a 'Save' button.

Lock	Display Name	From date	To date	Email
<input type="checkbox"/>	adriana del pilar poloche guzman	- [calendar]	- [calendar]	No
<input type="checkbox"/>	JHONATHAN 6C PRIM SANCHEZ MARIN	- [calendar]	- [calendar]	No
<input type="checkbox"/>	Li anna	- [calendar]	- [calendar]	No
<input type="checkbox"/>	Paul Peroverzev	- [calendar]	- [calendar]	No
<input type="checkbox"/>	Ricardo Rocha	- [calendar]	- [calendar]	No



Student Overview

Scores Progress



Students' Details

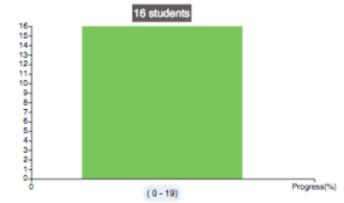
Student Performance

Student Name	Username	Score	Progress	Time Spent	Last Accessed
Student Three	demostudent3	54 %	5 %	03:21	29 Sep, 2015 15:22
Student Four	demostudent4	74 %	2 %	00:34	29 Sep, 2015 10:29
Student Five	demostudent5	51 %	2 %	00:52	27 Sep, 2015 14:09



Student Overview

Scores Progress



Students' Details

Student Performance

Student Name	Username	Score	Progress	Time Spent
--------------	----------	-------	----------	------------



Score Details Time Details

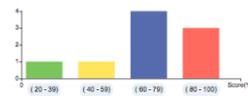
Title	Status	Score	Progress
Course			
Unit 1 Making friends	Completed	60 %	100 %
Unit Aims	Completed		100 %
Before you begin	Completed	50 %	100 %
Before you begin: Making friends	Completed	50 %	100 %
Lesson A Getting to know you	Completed	61 %	
Lesson B Things in common	Completed	65 %	
Vocabulary notebook	Completed	63 %	100 %

Close

- Student Performance
- Score & Comment

to know you

Scores Progress



Students' Details

Student Performance Scores and Comments

Student Name	Username	Score	Teacher Score	Progress	Comment
Student Three	demostudent3	53 %	<input type="text"/>	100 %	<input type="text"/>
Student Four	demostudent4	78 %	<input type="text"/>	100 %	<input type="text"/>
Student Five	demostudent5	38 %	<input type="text"/>	100 %	<input type="text"/>