# UNIVERSITY OF EL SALVADOR SCHOOL OF ARTS AND SCIENCES DEPARTMENT OF FOREIGN LANGUAGES



The Proficiency of English Reading Comprehension Level Developed by the Students while Taking English I, in the Bachelor in Chemistry at the School of Natural Sciences and Mathematics, University of El Salvador, Semester I, Year 2019.

## PRESENTED BY:

Marina del Rosario Artero Ruiz

Ruth Marjorie Candelario de Vásquez

Karina Yamileth Ramírez Monge

AR09010

CF07004

RM13131

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## **ADVISOR:**

Lic. Miguel Ángel Mata Chávez

## **COORDINATOR**

Lic. Mauricio salvador contreras Cárcamo

Main Campus, December 9th, 2019

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## GENERAL COORDINATOR OF THE DEGREE PROCESSES

MIGUEL ANGEL MATA CHAVEZ, MSC. ED.

## **ADVISOR**

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## INTRODUCTION

As the 11th edition of the Encyclopedia Britannica says "all existing human speech is one in the essential characteristics..." According to the previous thought, every human speech is important; there is not a language, which can be considered more important than another one because every one of them shows characteristics about the country or the culture in which it is spoken. For the previous reason, every language is beautiful and rich in knowledge.

Nowadays, English is one of the more used languages around the world for their importance in many areas such as technology, science, marketing, etc. This language is learned around the world, in many countries; English is taught to kids, teenagers, adults to help them to be ready for facing reality when getting a job. In El Salvador, people are learning this language to get a better job as the article Why should I learn English states that English will make you more desirable to employers. The previous statement tells us that employers will want to have that person in their company.

The University of El Salvador includes English in its study plans, but English is not included in all the careers. The School of Natural Sciences and Mathematics includes English in four study plans, but reality shows that English is only taught in two of the four bachelors.

One of the skills developed in the four study plans is reading comprehension, in many well-paying jobs this is an essential skill required for being updated, a person who is not good at reading comprehension will be limited to accomplish the goals in his/her duties. Also, there are other duties that the person has to develop such as reading and answering reports and memos; having poor reading comprehension will increase the amount of time that a person

spends in the workplace; this means that reading in English will open doors for greater numbers of possible careers.

This research is focused on the proficiency of the English reading comprehension level developed by the chemistry students. This research project contains the statement of the problem, which mentions the reasons to investigate the effectiveness of reading skills on students, the objectives, and the literature review. Moreover, the methodology explains how this investigation will be developed with details related to the research design. It also makes reference to the population and the instruments that will be used i.e. Questionnaires, reading comprehension tests, interviews, and classroom observational guides. The results obtained in the data collection process will be present and analyze by the researchers.

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"Delight yourself in the Lord, and He will give you the desires of your heart." Psalms 37:4.

First of all, I thank God for giving me life, health, wisdom, strength to finish the major.

Without his help, this achievement would not be possible.

I wish to express my sincere thanks to my family: my mother, my father, my brother and my

sister for their help, support, motivation throughout this stage of my life and taught me to

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Finally, I express my gratitude to all of the professors I had, who taught me during the

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Karina Yamilet Ramírez Monge

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"Commit your works to the LORD and your plans will be established" Proverbs 16:3

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James 1:17 "Every good and perfect gift is from above, coming down from the Father of the heavenly lights, who does not change like shifting shadows." This verse of the Bible describes that every gift comes from the Lord and for me to have the opportunity of studying at the best University of El Salvador and finishing my major, it is an invaluable gift that it is going to be with me every day of my life without a doubt this is an important reason for being so grateful and thankful with the Lord.

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#### CHAPTER 1

#### 1. STATEMENT OF THE RESEARCH PROBLEM

#### 1.1 DESCRIPTION OF THE PROBLEM

English is now considered a global language, with approximately 400 million native speakers. Not only it is spoken by this amount of people, but also over a million more speak English as a second or as a foreign language. English has now considered the language of science as stated in an article published by Harrow House International College (2002). Science is a topic that is important for many governments and countries around the world and for being updated people involve in this field should know English. It is not a secret that during the last few years, the use of the English language in scientific research papers has increased, according to Why English Matters which has been dedicated to teach English since 1995, 98% of scientific articles published today are in English, these scientific articles are related to many fields and one of them is chemistry and according to Korean researcher Kumju Hwang (2007) this is a disadvantage for people who do not speak English; this is a strong reason to learn English for people who want to build a career in Sciences field.

English is not the main spoken language but English globalization has made necessary the teaching of this language in almost every branch. In the School of Natural Sciences and Mathematics of the University of El Salvador, English is part of the study plans of four careers including the bachelor in Chemistry. The Vice Dean of this school, Master Quintanilla said that English is very important for students and looking at the study plans that this school has it, there are one or two English levels on them.

In this case, each subject is included in the career flowchart with a specific purpose to provide students the opportunity to develop those skills that they must have at the end of the bachelors. Reading an article in English is one of the skills that professional should have; for that reason, English I, is included. According to the study plan, students will invest each week six class hours for sixteen weeks; during this period, they will be provided with tools for reaching 80% of the English reading comprehension level.

The purpose of this investigation is to measure the level of comprehension that students develop while taking English I at the School of Chemistry. This study will determine if the course of English I is enough for the students to read, understand and analyze English texts at the level that the flowchart suggests.

Taking into account that there are many variables that affect the learning process at the moment of taking this subject such as teacher updates with the methodology and strategies for teaching English Foreign Languages, the crowded group of students in the classroom. According to Zukey C. in 2006, the reading is an active and hidden process where the reader interacts with the text to obtain the meaning. Due to this, it is a difficult task for a teacher to observe or to have control of the learning process of every student.

Another variable is that the university is open to students that come from different types of English backgrounds, students who have taken extra English courses, and students who come from private or public schools. Distinct backgrounds refer to different English proficiency levels that students bring and how much English they know.

# 1.2 RESEARCH QUESTIONS

# 1.2.1 Main Research Question:

How is the reading comprehension level that students develop while taking English I?

# 1.2.2 Subsidiary questions:

- 1. Can students of chemistry understand general texts in English?
- 2. Would be the scores obtained in the pre-test affected by the English background knowledge that students have?
- 3. What are the strategies that the teacher implements with students to develop the overall reading comprehension process during the semester?

## 1.3 OBJECTIVES

# 1.3.1 General objective:

To measure the level of reading comprehension that students develop while taking English I at the School of Chemistry, University of El Salvador, semester I, the year 2019.

# 1.3.2 Specific objectives:

- 1. To identify if students of Chemistry can understand general texts in English.
- 2. To determine if the English background knowledge that the students have affects the scores in the pre-test.
- 3. To list the number of strategies that the teacher implements to develop the reading comprehension during the semester I.

## 1.4 JUSTIFICATION

This study is important to the field of reading research for several reasons. First, because the University of El Salvador is one of the best places for studying, every year hundreds of students try to be admitted in the career that they want to study for five years or more. Each semester will have different study plans that will guide the students to a new path of learning, and the English reading comprehension path will be included. Reading is crucial and essential for students who want to reach many goals in their study field, vocational training, scholarship, or apply for jobs, they will need to be proficient readers.

From a methodological point of view, this research is important for teachers who are looking for the best way to teach and it is clear that they cannot achieve this if they do not find the correct methodology for sharing their knowledge. Knowing, which is the best methodology is not only a benefit for the teacher but also the University can improve education quality and the students as well as improve their English reading comprehension learning process.

A period of time is set for this research in which many steps will be developed such as class observation, interview, and English tests. Those activities are set but, in the path, unexpected events could appear such as class suspensions, students need more time for developing certain topics, the teacher gets sick, etc. Researchers do not know which events can interfere in the organization of the activities and if this period will be enough to check the methodology of the whole English reading comprehension learning process; added to this, budget issues can be present as well student's willingness to participate in the process.

Researchers are part of the University in which the research project will be conducted for that reason they have some knowledge about how big student groups are in each class, information about the possible methodology that some teachers use. Also, one of the big conveniences is that students' process can be checked during a certain period of time in which they are attending classes. Lastly, this study will have a theoretical value because very few studies have been conducted about this topic and it may be that the methodologies of the previous studies did not explain very well the phenomenon; This last point of view increases the potential of this research process; It may be that the way in which the problem was associated and defined in the past could be different to the way that the problem will be reached in this research, as a consequence the result can be non-identical to the previous ones.

## 1.5 SUMMARY

This study is focused on how effective the proficiency of English reading comprehension level that students develop while taking English I at the School of Chemistry, University of El Salvador, semester I, the year 2019 is. This research work is conducted through a qualitative and quantitative approach. The theoretical part contains previously conducted studies related to the issue with available literature sources focus particularly on English in Natural Sciences. The Chemistry students will Answer questionnaires, and taking reading tests twice. Therefore, the research practitioners will administer a semi-structured interview to the teacher, and an observational guide for checking the teacher's performance. The data will be collected through four different instruments: questionnaires, reading comprehension tests, semi-structured interview addresses to the teacher, and a classroom observational guide. The readings comprehension tests will be scored and the data will be analyzed in an interval scale with the ACTFL guidelines, the statistical procedure will be developed through graphs. The semi-structure interview will be analyzed and described. The classroom observational guide will be analyzed and presented and the questionnaires will be presented as well.

## **CHAPTER 2**

## 2. THE THEORETICAL FRAMEWORK

#### 2.1 INTRODUCTION

According to The Atlantic (2015); over the last few years, English has become the most important language around the world; there are more people who need to learn this language to improve their professional and academic lives. There are several reasons for which countries have begun to adopt English as one of the languages for higher education. One of these reasons is that most of the materials that students would need for their education, such as articles, research, textbooks, educational websites, are in English (Lee, 2010). The second reason for adopting the English language as a medium in education by these countries is, according to the Academic Ranking of World Universities in 2017, that most of the leading academic institutions are located in countries that use English as a first language such as the United States, the United Kingdom, Canada, and Australia (Shanghai Ranking, 2017). The third reason is to prepare students for their future careers in an increasingly global work environment which may use English as a primary language for communication (Briguglio, 2005; Liang & Smith, 2012; Neeley, 2012).

Universities must consider the need to teach English in order to students can develop different skills that are why the schools see the importance to develop the skill which is most necessary for their majors (Gajendra Pal, 2012). By learning a single language, students from the universities especially from Natural Sciences gain access to the vast scientific literature and can communicate with others anywhere in the world. However, the use of English as the

universal scientific language creates distinct challenges that students must develop, states English for specific purposes in 1987. One of the biggest challenges for students that are not native speakers of English is they should learn the language or at least to develop reading skills to understand what they are reading, to have access to the vast information that is in English.

According to Harvie Reading involves cracking the alphabet code to determine the words and thinking about those words to construct meaning. The first entry on the word "read" in Webster's New World Dictionary (1991) defines reading as "getting the meaning of something written by using eyes to interpret its characters" It can be "by using the brain" to that definition.

#### 2.1 ENGLISH IN NATURAL SCIENCES

English language in scientific research papers has become more and more prevalent. According to Why English Matters (2000), 98% of scientific articles published today are in English. And this alone is a key reason why English is so essential when building a career in Science (Language Teaching Center 2012). At the school of Natural Sciences and Mathematics of the University of El Salvador, English is a basic tool to help students to be able to read and understand some scientific articles; that is why objectives of the Chemistry study plan of the English I subject are focused on developing students' reading skills, which helps students to have knowledge of how to read, analyze and understand texts written in English.

According to an interview with the Vice Dean of the School of Natural Sciences responded that knowing English to the students of this school is necessary because sometimes they have

to read books according to the bachelor and those books are in English, so if they have to translate them the students have to know English. On the other hand, it is important because some students look for a scholarship or masters in another country where people speak English, so they have to know how to speak this language. Also, some of the students are invited to events and they are in English. That is why it is essential for the students of this school.

## 2.3 READING COMPREHENSION

The reading skill refers to the ability to understand written texts. It is advisable to develop this skill in the early age of schooling, and comprehension is a cognitive, but also social and intellectual process in which we as teachers need to be flexible for catering students of all capabilities and backgrounds. According to a study made by Tefera Tadesse in 2016 when students comprehend or understand written texts, and combine their understanding with prior knowledge, they are able to perform the following three reading-comprehension skills.

- 1. Literal Comprehension: It is the lowest of the three levels, requires a reader to be able to retell or recall the facts or information presented in a text. In short, identify simple facts presented in written text.
- 2. Inferential Comprehension: It is the next level, refers to the ability of a reader to take in information that is inferred or implied within a text. Shortly, connect the text to other written passages and situations.

3. Critical Comprehension: Critical or evaluative comprehension, the third and highest level in the taxonomy, involves making critical judgments about the information presented in the text. Summarily, Make judgments about the written text content.

To make an emphasis on comprehension which entails three elements: the reader who is doing the comprehending, the text that is to be comprehended, and the activity in which comprehension is a part. But it is known there are more reading skill and according to the article Different Reading Techniques and When to Use Them (2012) there are four main reading techniques that help the reader to have a better understanding of the reading and students should be aware of which technique is most suited, depending on the reading task required by the text. The four main types of reading techniques are the following:

- 1. Skimming
- 2. Scanning
- 3. Intensive
- 4. Extensive

## Skimming

Skimming is reading rapidly in order to get a general overview of the material; it is sometimes referred to as gist reading. Skimming may help in order to know what the text is about at its most basic level. Students might typically do this and determining the main idea from a long selection of material they are not interested to read, or when they are trying to find source material for a research paper and it would help them mentally and quickly shortlist those articles which they might consider for a deeper read.

Skimming can save hours of laborious reading. However, it is not always the most appropriate way to read. It is very useful as a preview to a more detailed reading or when reviewing a selection heavy in content. But when students skim, they may miss important points or overlook the finer shadings of meaning, for which rapid reading or perhaps even study reading may be necessary.

Students can reach a speed count of even 700 words per minute if they train themselves well in this particular method. Comprehension is of course very low and understanding of overall content very superficial.

# Scanning

Scanning involves getting the eyes to quickly scuttle across sentences and is used to get just a simple piece of information. Scanning is reading rapidly in order to find specific facts. While skimming tells you what general information is within a section, scanning helps you locate a particular fact. Something students sometimes do not give enough importance to is illustrations. These should be included in their scanning. Special attention to the introduction and the conclusion should also be paid.

# **Intensive Reading**

It is needed to have the aims clear in mind when undertaking intensive reading. Remember this will be far more time consuming than scanning or skimming. If it needs to list the chronology of events in a long passage, it will be needed to read it intensively. This type of reading has indeed beneficial to language learners as it helps them understand vocabulary by deducing the meaning of words in context. Moreover, it helps with retention of information

for long periods of time and knowledge resulting from intensive reading persists in the longterm memory.

This is one reason why reading huge amounts of information just before an exam does not work very well. When students do this, they undertake neither type of reading process effectively, especially neglecting intensive reading. They may remember the answers in an exam but will likely forget everything soon afterward.

# Extensive reading

Extensive reading involves reading for pleasure. Because there is an element of enjoyment in extensive reading it is unlikely that students will undertake extensive reading of a text they do not like. It also requires fluid decoding and assimilation of the text and content in front of you. If the text is difficult and you stop every few minutes to figure out what is being said or to look up new words in the dictionary, you are breaking your concentration and diverting your thoughts.

Those elements build the process of reading comprehension because it is known reading comprehension skills are important for students to become effective readers; students may develop the ability to understand what they read, where words have context and texts have the meaning which will allow them to become competent and professional. Reading comprehension skills allow students to read proficiently, learn effectively and to conceptualize. These skills are, basically, based on earlier stages of reading development, including oral reading and reading fluency (Grabe and Stoller, 2002).

Notwithstanding, Bloom's taxonomy designed a set of guidelines to help students think critically about a text. It enabled teachers to present a reading comprehension lesson in a way

that enabled students to understand the meaning behind a text by prompting students with questions or think points. Teachers ask students to read a specific text, and from that they must derive the main facts and ideas by organizing, comparing, translating, interpreting, giving descriptions ideas and stating the main that they present. A further taxonomy was later developed which extended the reader's input by specifying four levels of comprehension. "The literal level, which involved the reader to identify, remember or recall details and ideas, the inferential level in which a reader concentrated on main ideas, further details, made contrasts, drew conclusions, generalized and predicted; the critical level in which a reader judged, detected propaganda, analyzed and checked validity; and a final creative level in which the reader was to apply information to a new situation and respond emotionally (G. Winch, P.97 2010)". Although this approach gave teachers an abundant framework and set of strategies to approach reading comprehension, it, however, did not pay enough attention to the social context in which situations occurred, the cultural background of the reader, the text type or what the reader brought to the text.

In addition, there are three types of theories of reading comprehension. They are mental representations, content literacy, and cognitive processes.

## **Mental Representations**

When a reader is reading a text, he/she can create a mental representation of the text that explains how the reader understands the text. A lot of researches supported the many levels of representation that are included in constructing meaning. According to Kintsch (1998), when a reader is reading a text, three various levels of mental representation are created. They

are the surface component, the text-base, and the situation model. The text-based indicates the meaning of the text and they are composed of those parts and connections that arose from the text itself without increasing anything that is not clearly identified in the text. A text-base can be made without any memory of the accurate words or phrases from the text. In a pure text-based, the reader applies previous knowledge to create a more perfect and consistent mental representation. The situation model is a structure that combines the text-base and the related features of the reader's knowledge. In order to create a text-base, some previous knowledge is required for decoding texts in a general way, while the previous knowledge in the formation of a situation model is more specific regarding the content of the text.

## **Content Literacy**

Content literacy is the ability to read, understand, and learn from texts from a particular matter. There are three types of content literacy: general literacy abilities, content-specific literacy abilities, and previous knowledge of content. The general and the content-specific literacy abilities indicate some more general type of knowledge that does not hinge on the detailed content of a particular text. This knowledge is applied to make a text-base in the mental representation. Previous knowledge of content is the knowledge that it is related to the content of a particular text and it is applied to make a situation model in the mental representation. For example, it is not obvious that mathematics makes a necessity for content-specific literacy abilities and reading comprehension in mathematics hinges on more general literacy abilities and previous knowledge. It can be stated that the symbolic language in mathematics is the main cause for the need of content-specific literacy skills (McKenna & Robinson, 1990)

## Cognitive Processes

The application of syntactic and semantic rules together with the activation of more particular previous knowledge occurs automatically and unconsciously. Various cognitive processes are more or less conscious. Perception is defined as highly automatic and unconscious processes. For instance, when we see a dog and directly know it like a dog; we are conscious of the outcome of the process but there aren't any active and conscious thought processes for this identification (Kintsch, 1992). Problem-solving deals with active thinking when we want to remember the name of a person we see and know. Accordingly, when we read a text without having any difficulties in comprehending what we read, the process is related to perception than problem-solving because the process of comprehending is unconscious. This comprehension is located somewhere between perception and problem-solving.

#### 2.5 CRITICAL THEORY

According to: Alvarez, J, and Garcia, H. in 2016, there are three main theories of reading comprehension. These theories are Schema theory, Mental Models, and Preposition Theory. First, Schema Theory defines a schema as the organized knowledge that one already has about people, places, things, and events, as cited in Gunning, 1996. Moreover, the schema theory involves an interaction between the reader's own knowledge and text, incomprehension. In fact, in attempting to comprehend reading materials and students can relate this new information to the existing information they have compartmentalized in their minds. Therefore, based on the Schema Theory, depending on how extensive their "files" become, their degree of reading comprehension may vary. According to the other schema

theories, Students can create a mental model to construct the main idea as they process English texts at the same time they can make use of cognitive strategies which involve manipulation or transformation of the material to be read, they interacts directly with what it is to be learned and is more related to a specific task. Nevertheless, Schema-based suggests that learning takes place when new information is integrated with what it is already known (McLaughlin, 2012). Long before students come to school, they develop schemata (units of knowledge) about everything they experience. Schemata become theories about reality. These theories not only affect the information way when it is interpreted; therefore, affecting comprehension, but also continue to change as new information is received. As the article the relationship between reading comprehension and critical thinking: A theoretical study (2011) stated that the importance of schema theory to reading comprehension also lies in how the reader uses schemata. This issue has not yet been resolved by research, although investigators agree that some mechanism activates just those schemata most relevant to the reader's task. According to Anderson (1994), there are six ways in which schemata function in thinking and in remembering text information. These six ways are:

- Most new knowledge is gained by assimilating new information into an existing structure; therefore, subject matter learning should build on prior knowledge whenever possible.
- 2. The students' existing schemata help to allocate attention by focusing on what is pertinent and important in newly presented materials.
- 3. Schemata allow and direct the inferential elaboration of incoming information and experience.

- 4. Schemata allow orderly searches of memory by providing learners with a guide to the types of information that should be recalled.
- 5. Schemata facilitate the thinking skills of summarizing and editing.
- 6. Schemata permit inferential reconstruction when there are gaps in memory, which means that they help the learner generate hypotheses about missing information.

It is obvious, based on the previous six schemata functions, that prior knowledge plays a significant role regarding establishing connections between thinking critically and processing text information. This connection consequently leads the readers to reach the critical comprehension level.

#### 2.6 READING PROFICIENCY

Based on the bachelor in the chemistry study plan, students have to develop 80% of reading comprehension skills and according to the American Council on the Teaching of Foreign Languages (ACTFL) guidelines students who can understand texts that convey basic information acquire an intermediate level of reading comprehension. This makes the reading descriptions parallel to the other skill level descriptions. Therefore, students have to reach 80% of reading comprehension that the bachelor in Chemistry required.

Talking with the teacher in charge of the English I course at the School of Chemistry; she expressed that students obtain a basic level in English reading comprehension at the end of the semester because they do not have enough time to develop the topics demanded. According to the ACTFL guidelines stated that students who acquire a basic level are at a novice level of proficiency.

The ACTFL Proficiency Guidelines (2012) establish that Reading describes five major levels of proficiency: Distinguished, Superior, Advanced, Intermediate, and Novice. The description of each major level is representative of a specific range of abilities. Together these levels form a hierarchy in which each level subsumes all lower levels. The major levels Advanced, Intermediate, and Novice are divided into High, Mid, and Low sublevels. The subdivision of the Advanced level is new. This makes the Reading descriptions parallel to the other skill level descriptions.

### DISTINGUISHED

At the Distinguished level, readers can understand a wide variety of texts from many genres including professional, technical, academic, and literary. These texts are characterized by one or more of the following: a high level of abstraction, precision or uniqueness of vocabulary; density of information; cultural reference; or complexity of structure. Readers are able to comprehend implicitly and inferred information, tone, and point of view and can follow highly persuasive arguments. They are able to understand the unpredictable turns of thought related to sophisticated topics.

#### **SUPERIOR**

At the Superior level, readers are able to understand texts from many genres dealing with a wide range of subjects, both familiar and unfamiliar. Comprehension is no longer limited to the reader's familiarity with the subject matter, but also comes from a command of the

language that is supported by a broad vocabulary, an understanding of complex structures and knowledge of the target culture. Readers at the Superior level can draw inferences from textual and extralinguistic clues. Superior-level readers understand texts that use precise, often specialized vocabulary and complex grammatical structures. These texts feature argumentation, supported opinion, and hypothesis, and use abstract linguistic formulations as encountered in academic and professional reading. Such texts are typically reasoned and/or analytic and may frequently contain cultural references.

# ADVANCED

At the Advanced level, readers can understand the main idea and supporting details of authentic narrative and descriptive texts. Readers are able to compensate for limitations in their lexical and structural knowledge by using contextual clues. Comprehension is likewise supported by the knowledge of the conventions of the language.

Advanced-level readers are able to understand texts that have a clear and predictable structure. For the most part, the prose is uncomplicated, and the subject matter pertains to real-world topics of general interest.

#### **INTERMEDIATE**

At the Intermediate level, readers can understand information conveyed in simple, predictable, loosely connected texts. Readers rely heavily on contextual clues. They can most easily understand information if the format of the text is familiar, such as in a weather report

or a social announcement. Intermediate-level readers are able to understand texts that convey basic information such as that found in announcements, notices, and online bulletin boards and forums.

## **NOVICE**

At the Novice level, readers can understand keywords and cognates, as well as formulaic phrases that are highly contextualized. Novice-level readers are able to get a limited amount of information from highly predictable texts in which the topic or context is very familiar, such as a hotel bill, a credit card receipt, or a weather map. Readers at the Novice level may rely heavily on their own background knowledge and extra-linguistic support (such as the imagery on the weather map or the format of a credit card bill) to derive meaning.

## **CHAPTER 3**

## 3. METHODOLOGY

#### 3.1 RESEARCH APPROACH

Nowadays, in methodological research, there is a wide range of well-established methods and techniques used in data collection, which help in conventional research. This study was conducted under the two approaches: the qualitative approach to have a better understanding of the English learning process through the description of the level of reading comprehension developed by the students while taking English I; The qualitative approach is represented by the techniques used such as the observation and the interviews administered to the course under study. On the other hand, the quantitative approach allowed the researchers to provide trustworthy information about the educational issue in the bachelor in Chemistry by administering questionnaires and reading comprehension tests which responses were numerical results.

#### 3.2 TYPE OF STUDY

This study was descriptive research, according to Fox, W. & Bayat, M.S.(2007) in their book "a Guide to managing research" point that "aimed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely that was not possible without employing this method." Hence, these studies are really correlational or observational and involve gathering data that describe events, organizes, tabulates, and describes in a completely way the situation that it is observed in the field. This study was descriptive because it involves the observation of the studied phenomenon without influencing or manipulating the variables in any way. Besides that,

Case study was used for this research project because this method is the most appropriate way of gathering information required for this research, the goal of the research was well defined and clearly established parameters that were followed and applied. Case studies have been increasingly used in education; the technique has been applied in a variety of instructional situations and it has been used to develop critical thinking. (Boisjoly&DeMichiell,1994)

#### 3.3 RESEARCH DESIGN

Even though this study was not experimental, the design used to collect the information was pre-test and post-test design because this was the most appropriate way of gathering the information required for this research. According to the Encyclopedia of Research Design, 2010, the basic premise behind the pre-test and post-test design involves obtaining a pre-test measure of the outcomes of interest prior to administering some treatment, followed by a post-test of the same measure after the treatment occurs. The most important purpose of this design was comparing scores and measuring change resulting from the test one and test two.

### 3.4 POPULATION AND SAMPLE

It is necessary to indicate that this study took place in English, at the school of Chemistry, the University of El Salvador, Semester I, the year 2019. The population was 116 students from the school of Chemistry, and the sample taken was 50 students chosen by a simple random sample from this group.

"A simple random sampling is also called as an unrestricted random sample, which may now be defined as one in which each and every individual of the population has an equal opportunity of being included in the sample and also the selection of one individual/unit is in no way dependent upon the selection of another individual and unit". Khan, J.A(2008 page 81). This states that every student could be part of the sample for the investigation having the same chance for answering the pre-test, post-test, and questionnaires during the period of time that the research project took place.

## 3.5 DATA GATHERING PROCESS

# Research techniques and instruments

# 3.5.1 Research techniques

This study dealt with some research techniques such as interviews, surveys, observation, and tests. These techniques were the key factors to obtain the data of the research and subsequent analysis. The individual techniques used to obtain the data was connected to a specific analysis and interpretation process.

## 3.5.2 Research instruments

This research was based on four types of instruments, which are described below:

## > Questionnaire instrument

It is important to note that continuous assessment and understanding of the student's background is necessary (Peregoy and Boyle 2001). This instrument about the English background was designed by the research practitioners and consisted of six items that students answered by choosing the most appropriate response to their experience in the English learning field. By using the questionnaire, the students provided information about how many of them had studied English before starting the course at the University.

## > Reading test

The students answered a previous-existing reading comprehension test to measure their English level previous to the course. This instrument was administered to the students of the bachelor in Chemistry at the beginning and at the end of the semester I as a pre-test and a post-test, in order to describe the assumptions and understanding about the students' development reading skills while took English I. The reading test contained 1014 words divided into 3 paragraphs; after students read the paragraphs, they were requested to answer 17 multiple-choice questions in order to determine their understanding of the whole text.

# > Classroom observational guide

This instrument was designed by the research practitioners and it was used to collect information about how the professor manages the English reading comprehension class. Some of the major strengths of using classroom observation were: allow the practitioners to study the process of the investigation in natural settings, provide more details and precise evidence than other sources. This classroom observational guide included three important aspects to observe, the first one was class planning, this section had three different items. The second one was regardless of students' participation which included two different questions, and the last aspect included three questions related to the methodology that the teacher used in the classroom. This information was important to make conclusions about the role that the teacher played in the English reading process. These important questions helped to provide a better understanding of the teacher classroom development because the descriptions of instructional events that were provided by this instrument were found to lead a better understanding of models for improving teaching.

## > Interview

This instrument had the purpose of collecting information about the methodology that was used to teach English reading comprehension in Chemistry bachelor. This interview was answered by the professor in charge of the group after the researcher practitioners obtained information from classroom observation. This instrument compromised a series of questions divided into six sections: Teacher's opinion about why the program of the bachelor only focuses on reading comprehension; point of view about the achievement of the reading development that the students acquire when they finish the course, another aspect that it is included in how the teacher motivates the students to read, the strategies used by the teacher to encourage reading, the management of large groups, and the last aspect to ask it is about the methodology uses in class.

#### 3.6 EXPECTED RESULTS

Most of the time when a research project gets to the end, it provides results to the community involved, researchers, school, etc. These results can be the ones that the researcher practitioners expect from the beginning or these results can give them a surprise and show opposite results. In this project is focused on English Reading comprehension level develops by students in the Chemistry bachelor, and the results that the research practitioners expect are the followings:

✓ After administering the reading post-test, students will have obtained a better control of reading comprehension because of the strategies that they have put in practice during the course.

- ✓ Students who finished their high school studies in a private institution will have gotten better results in the pre-test than students who finished their high school studies in a public institution.
- ✓ Students that graduated from private school are not supposed to get low grades in the tests.
- ✓ Students who will answer that they apply different habits for learning English will get better results in the post-test due to the period of time that they invest in their learning English process.

#### **CHAPTER 4**

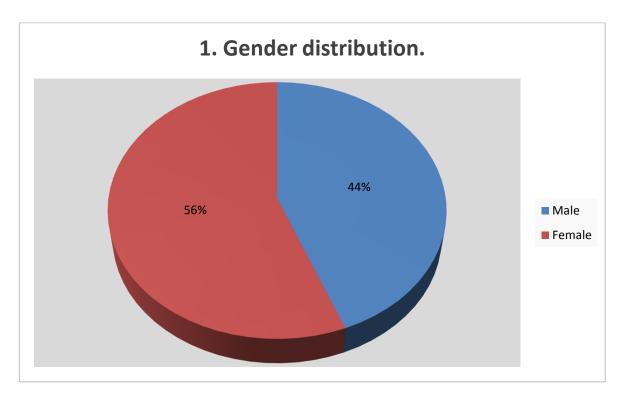
#### 1. DATA ANALYSIS AND INTERPRETATION

#### 4.1 BACKGROUND QUESTIONNAIRE

This instrument was designed for the purpose to inquire students' background before taking English I course at University of El Salvador. The information collected with this instrument was processed throughout Microsoft Excel. This program was useful for the data analysis process and the results. This questionnaire consisted of six items which students answered by choosing the most appropriate respond. Each item was analyzed and presented in statistical graphics to show the percent of each answer. The results are the following:

#### 1. Gender

Gender	Responds	Percentage
Male	22	44%
Female	28	56%
Total	50	100%



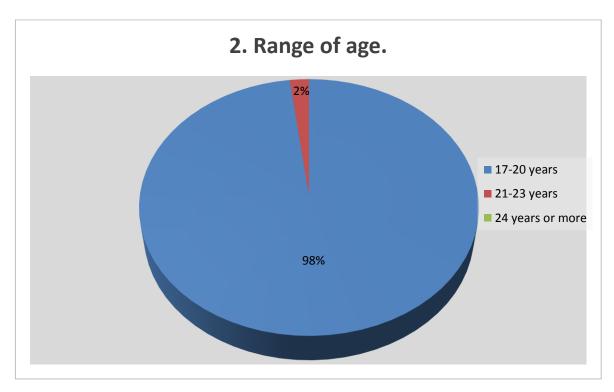
Graph # 1

# Analysis

Based on the sample which were fifty students from the Chemistry Bachelor; the results show that 44% were male and 56% were female making the total of 100% of the sample took for this research project.

# 2. Age

Range of age	Responds	Percentage
17-20 years	49	98%
21-23 years	1	2%
24 years or more	0	0%
Total	50	100%



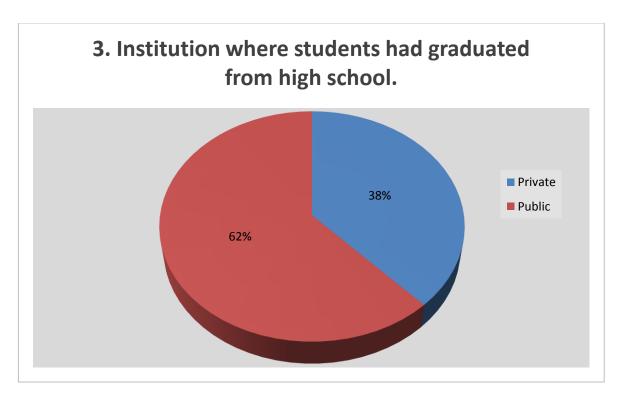
Graph #2

### **Analysis**

It is observed that most of the students were in the range from seventeen to twenty years old obtaining 98%, the remaining 2% is made up of students who were twenty-one to twenty-three years old; the last item shows that any student was twenty-four and more years old making 0% of the pie chart.

### 3. Institution where the students had graduated from high school.

Institution	Responds	Percentage
Private	19	38%
Public	31	62%
Total	50	100%



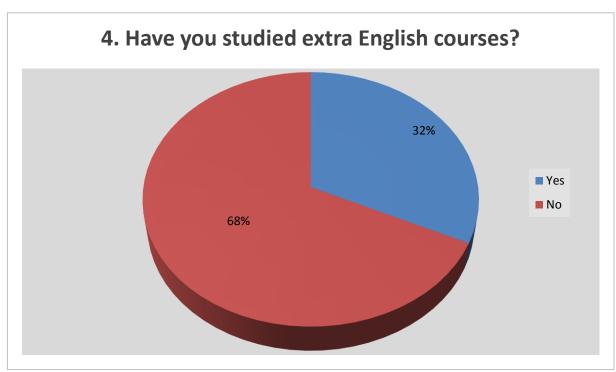
Graph #3

# **Analysis**

The pie chart reveals that 62% of students had graduated from public school, and the balance of 38% had graduated from private school.

# 4. Have you studied extra English courses?

English courses	Responds	Percentage
Yes	16	32%
No	34	68%
Total	50	100%



Graph #4

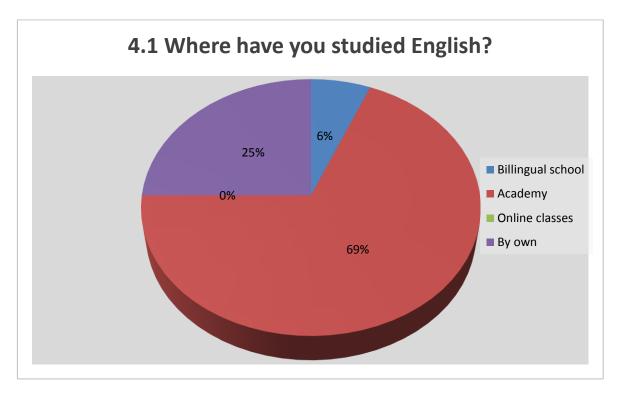
# **Analysis**

It is observed that 32% of students have studied English before taking the course at the University, the rest of them made up of 68% who have not studied an extra English course.

#### 4.1 Where have you studied English?

English courses	Responds	Percentage
Billingual school	1	6%
Academy	11	69%
Online clases	0	0%
By own	4	25%
Total	16	100%

From the students whom previously answered with a "yes", had to provide additional information related where they studied an extra course.



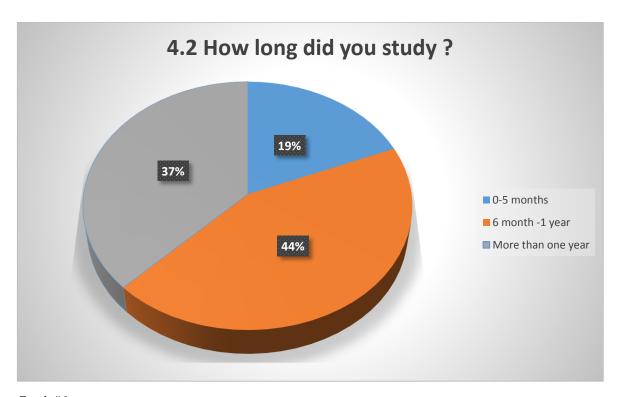
Graph #5

#### **Analysis**

From 16 students who answered they studied an extra English course before taking English I at School of Chemistry, 69% studied in an academy, 25% studied by their own, 6% in a bilingual high school, and no one studied online.

### 4.2 How long did you study?

Time frame	Responds	Percentage
0-5 months	3	19%
6 months -1 year	7	44%
More than one year	6	37%
Total	16	100%



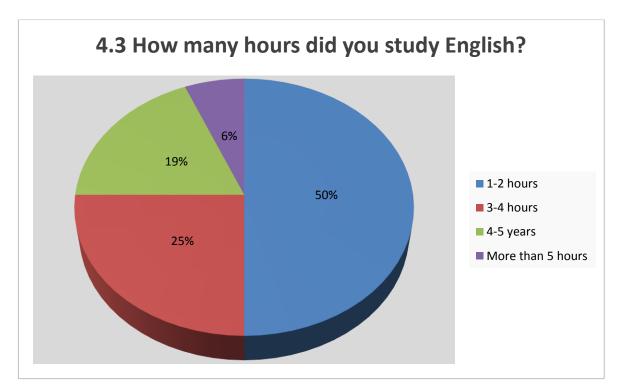
Graph #6

### **Analysis**

The results indicate that 44% of students have studied English around six months to one year, 37% more than one year and 19% responded the have studied less than five months.

#### 4.3 How many weekly hours did you study English?

Study Time	Responds	Percentage
1-2 hours	8	50%
3-4 hours	4	25%
4-5 hours	3	19%
More than 5 hours	1	6%
Total	16	100%



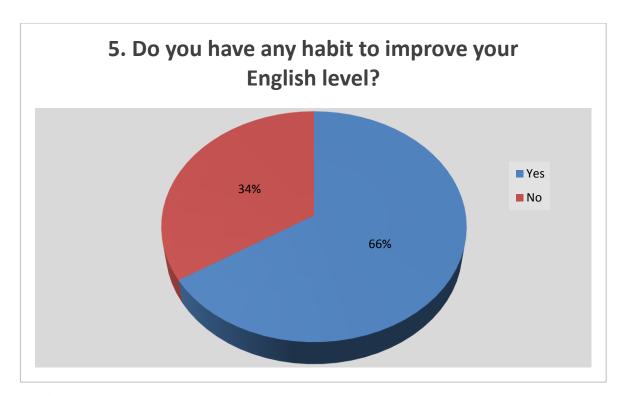
Graph #7

#### **Analysis**

As the pie chart shows, 50% of students answered they spent from one to two hours during the week, 25% answered they studied English from three to four hours, 19% answered that they studied from four to five hours, and 6% answered that they studied more than five hours during the week.

# 5. Do you have any habit to improve your English level?

Habits to improve English	Responds	Percentage
Yes	33	66%
No	17	34%
Total	50	100%



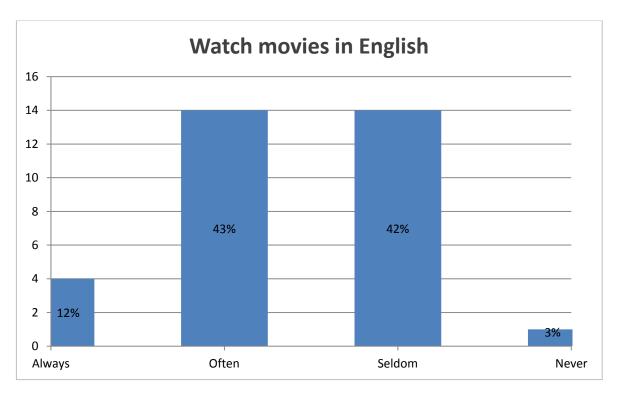
Graph #8

# **Analysis**

It is noticed that 66% of the students answered that they have habits and the rest 34% answered that they do not have any habit to improve their English skills.

### 6. If your answer was yes write a check on the following habits.

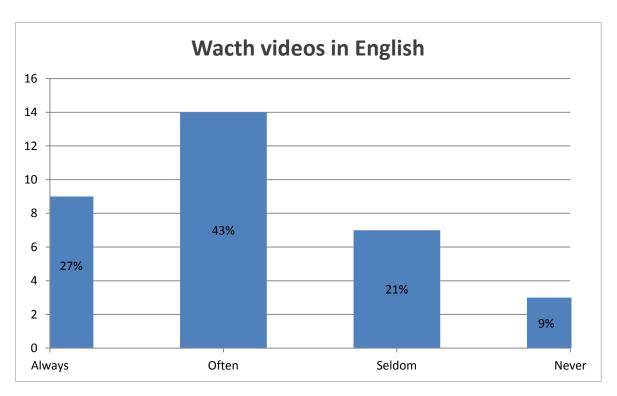
Habits	Always	Often	Seldom	Never	Total
Watch movies in English	4	14	14	1	33
Watch videos in English	9	14	7	3	33
Read in English	3	11	14	5	33
Study the topics taught in classes every day.	0	12	16	5	33
Practice with their classmates	2	3	14	14	33



Graph #9

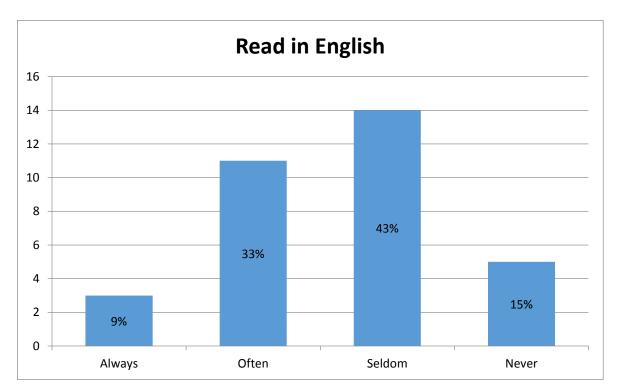
### **Analysis**

The graph shows that 12% of students always watch movies in English in order to improve their English level. Whereas, 43% of them stated that they often watch movies in English. 42% answered they rarely practice this habit, and the remaining 3% expressed that it never happens.



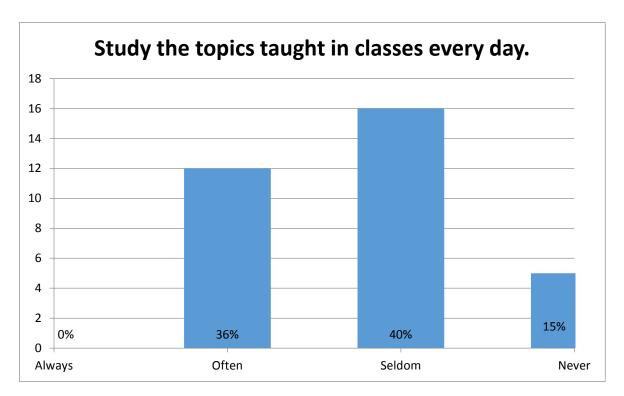
Graph #10

This item provided the input that 27% of the students responded that they always watch videos in English, 43% answered they often practice this habit, 21% of them answered they rarely watch videos. Meanwhile, 9% expressed they never put in practice this habit to improve their English level.



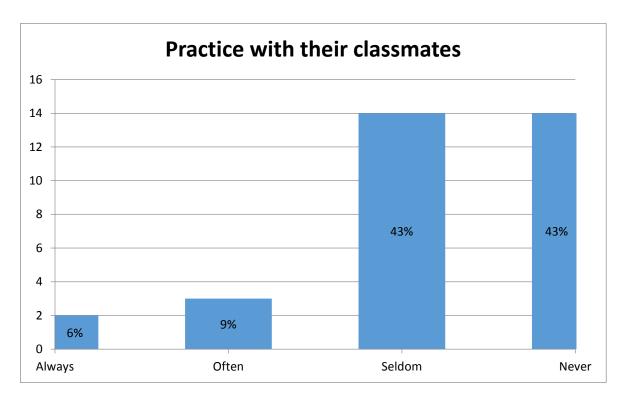
Graph # 11

It is observed that 9% of students answered they always read in English, 33% responded they often practice it, 43% expressed they rarely do it, and 15% answered they never read in English.



Graph #12

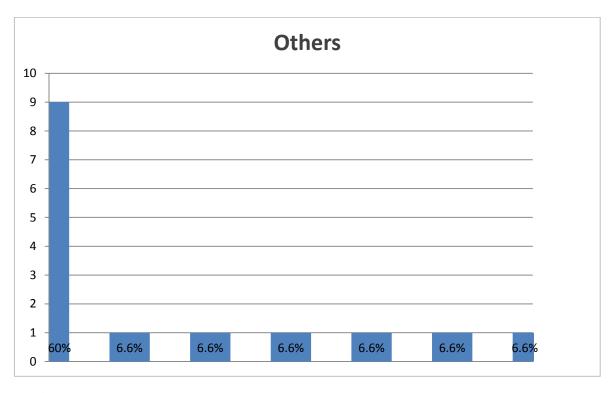
From the 33 students whom answered yes; 36% expressed they review what they often studied during the class. Whereas, 49% of students responded they rarely do this. As a negative answer, the 15% of them never studied at home.



Graph #13

This graph shows 6% of the students always practice English with their classmates, 9% of them expressed they often practice this habit, 43% rarely do it and 43% of students responded they never practice with their classmates.

Others		
Listen to music in English	9	60%
Practice with my Friends	1	6.60%
Use of dictionary	1	6.60%
Use of translator	1	6.60%
Aplications	1	6.60%
Write poems and short stories	1	6.60%
Study books to learn English	1	6.60%



Graph # 14

From students who answered they practiced other strategies to improve their English level, 60% of them expressed they listened to English music, 40% made up the strategies such as practice with their friends, use of dictionary, translator, applications, writes poems and short stories, study English books to improve their English level divided into 6.6% each strategies.

#### 4.2 READING COMPREHENSION TEST

#### Analysis pre-test and post-test

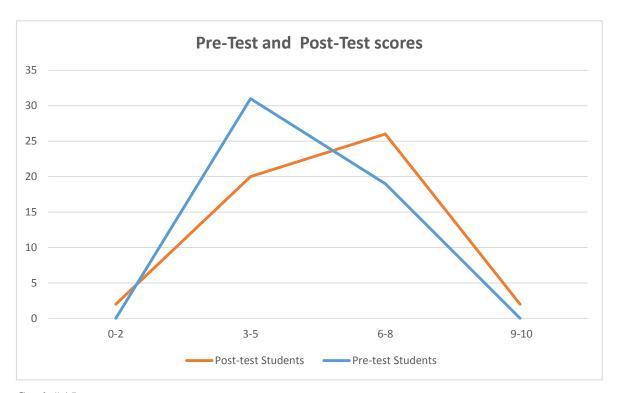
As Garvie (1990) states tests are considered to be a fundamental part of the academic judgment of a student. In this Research Project, in order to gain more data on the performance and learning reading skills of students of Chemistry during the semester I and following Garvie's recommendation, two reading comprehension tests were implemented by the research practitioners. Although the same reading test was administered twice, once at the beginning as a pre-test and the other one at the end of the semester as a post-test to determine if the participants understood in regards to their reading level.

The first reading test was administered in March and the second one in June. Even though, the students had a period of time of around sixteen weeks, which included nearly forty-five sessions with the teacher and classmates to improve their reading skills, learn vocabulary, study English grammar, etc.; Some of them obtained lower grades in the post-test than in the pre-test. It could be mention that one of the main reasons to explain this result is that they probably did not do their best because this grade was not included in their academic record at the University of El Salvador.

Hinting the time that students had to do the pre-test and the post-test, it was one class hour; however, some students finished before the required time probably due to the following reasons: They had studied extra English courses, had read books as habit of learning a new language, have left the class earlier or they were not interested in obtaining good grades because these grades were not included in their academic grades record.

Considering the previous reasons some of them obtained better results in the post-test and some of them did not but they showed an improvement in their grades. The results were collected and scored in order to measure the grades in the pre-test and post-test, and then they were analyzed in an interval scale to show in which interval most of the student's grades were assigned. The researchers were able to determine that students had a noticeable improvement in reading comprehension skills.

<b>Pre-test</b>		Post-test			
			Interval	Numbers of	
Interval scale	Numbers of students	Percentage	scale	students	Percentage
0-2	0	0%	0-2	2	4%
3-5	31	62%	3-5	20	40%
6-8	19	38%	6-8	26	52%
9-10	0	0%	9-10	2	4%



Graph # 15

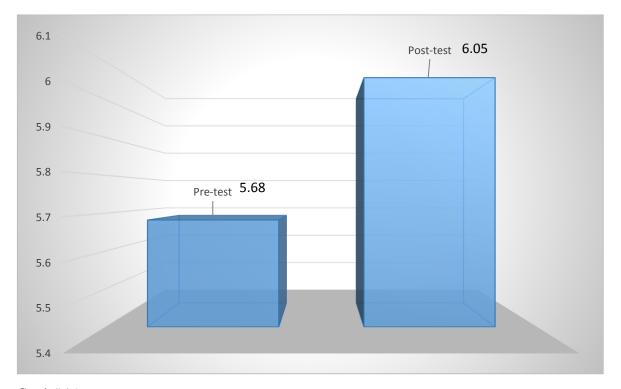
It is observed in the pre-test that 62% of the students had grades from 3.0 to 5.9 and 38% had grades from 6.0 to 8.9. However, in the post-test 4% of students had grades from 1.0 to 2.9, 40% had grades from 3.0 to 5.6, 52% of students had grades from 6.0 to 8.9 and 4% of students had grades from 9.0 to 10. Some students had low grades in the pre-test but their grades increased in the post-test.

- The students that had graduated from public institution.
- The students that had graduated from private school.
- The students that have studied extra English courses.
- The students that practiced some habits to improve their English such as: watch movies in English, watch videos in English, read in English, study the topics taught in classes every day, practice with their classmates and others.

N°	STUDENT'S NAME	PRE-TEST	POST-TEST
1	STUDENT 1	5.2	6.4
2	STUDENT 2	4.7	3.5
3	STUDENT 3	5.2	6.4
4	STUDENT 4	6.4	6.4
5	STUDENT 5	6.4	2.9
6	STUDENT 6	6.4	8.4
7	STUDENT 7	4.7	5.9
8	STUDENT 8	4.1	6.4
9	STUDENT 9	4.1	6.4
10	STUDENT 10	6.4	6.4
11	STUDENT 11	3.5	5.9
12	STUDENT 12	6.4	6.4
13	STUDENT 13	5.8	3.5
14	STUDENT 14	5.8	7.6
15	STUDENT 15	5.2	5.9
16	STUDENT 16	5.2	4.1
17	STUDENT 17	5.8	5.9
18	STUDENT 18	7	7.6

19	STUDENT 19	5.8	5.9
20	STUDENT 20	4.7	6.4
21	STUDENT 21	4.7	5.2
22	STUDENT 22	6.4	7
23	STUDENT 23	7	7.6
24	STUDENT 24	7.6	6.4
25	STUDENT 25	3.5	5.2
26	STUDENT 26	8.2	7
27	STUDENT 27	6.5	6.4
28	STUDENT 28	8.8	9.4
29	STUDENT 29	7.6	4.7
30	STUDENT 30	4.1	5.2
31	STUDENT 31	4.1	4.7
32	STUDENT 32	4.7	4.7
33	STUDENT 33	5.9	2.3
34	STUDENT 34	7.6	7.6
35	STUDENT 35	7	5.9
36	STUDENT 36	4.7	7.8
37	STUDENT 37	4.7	5.2
38	STUDENT 38	5.3	7
39	STUDENT 39	3.5	5.2
40	STUDENT 40	6.5	9.4
41	STUDENT 41	4.7	7
42	STUDENT 42	5.9	4.7
43	STUDENT 43	4.1	5.2
44	STUDENT 44	8.8	6.4
45	STUDENT 45	4.1	3.5

46	STUDENT 46	4.1	7
47	STUDENT 47	4.7	6.4
48	STUDENT 48	4.7	6.4
49	STUDENT 49	7.6	7
50	STUDENT 50	8.2	8.8
	AVERAGE	5.68	6.05

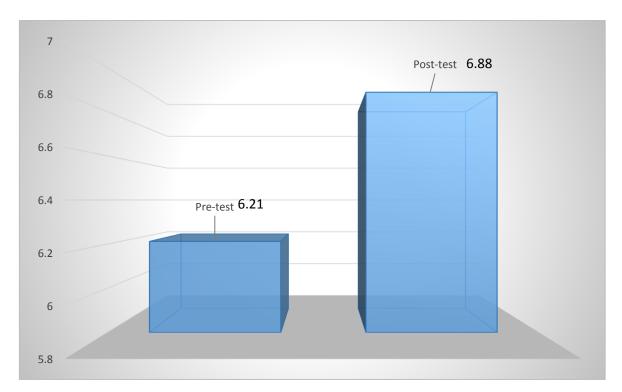


Graph # 16

The graph shows that in the pre-test students obtained an average grade of 5.68 and in the post-test students obtained an average grade of 6.05. Showing in the post-test it is showed that students had a level improvement.

# The students that have studied extra English courses.

	Students who have taken extra English co		
N°	STUDENT'S NAME	PRE-TEST	POST-TEST
1	STUDENT 6	6.4	8.4
2	STUDENT 7	4.7	5.9
3	STUDENT 8	4.1	6.4
4	STUDENT 14	5.8	7.6
5	STUDENT 15	5.2	5.9
6	STUDENT 20	4.7	6.4
7	STUDENT 22	6.4	7
8	STUDENT 23	7	7.6
9	STUDENT 28	8.8	9.4
10	STUDENT 29	7.6	4.7
11	STUDENT 34	7.6	7.6
12	STUDENT 42	5.9	4.7
13	STUDENT 47	4.7	6.4
14	STUDENT 48	4.7	6.4
15	STUDENT 49	7.6	7
16	STUDENT 50	8.2	8.8
	AVERAGE	6.21	6.88



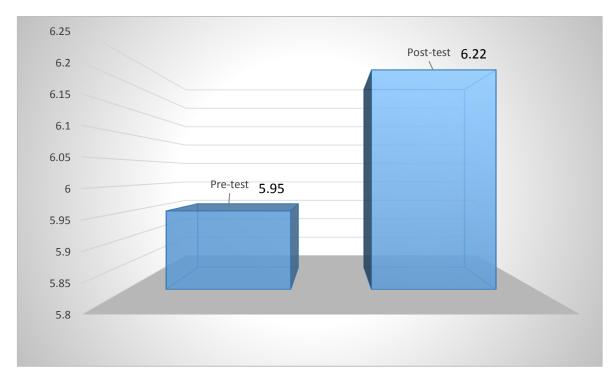
Graph # 17

It is observed that students who have taken extra English courses have obtained better results as the graph shows that the average in the pre-test was 6.21 and in the post-test was 6.88.

The students that practiced some habits to improve their English such as: watch movies in English, watch videos in English, read in English, study the topics taught in classes every day, practice with their classmates and others.

	STUDENTS WHO PRACTICED SOME HAB ENGLISH LEVEL	ITS TO IMP	ROVE THEIR
N°	STUDENT'S NAME	PRE-TEST	POST-TEST
1	STUDENT 3	5.2	6.4
2	STUDENT 5	6.4	2.9
3	STUDENT 6	6.4	8.4
4	STUDENT 7	4.7	5.9
5	STUDENT 10	6.4	6.4
6	STUDENT 11	3.5	5.9
7	STUDENT 12	6.4	6.4
8	STUDENT 13	5.8	3.5
9	STUDENT 14	5.8	7.6
10	STUDENT 15	5.2	5.9
11	STUDENT 16	5.2	4.1
12	STUDENT 17	5.8	5.9
13	STUDENT 20	4.7	6.4
14	STUDENT 23	7	7.6
15	STUDENT 26	8.2	7
16	STUDENT 27	6.5	6.4
17	STUDENT 28	8.8	9.4
18	STUDENT 29	7.6	4.7
19	STUDENT 30	4.1	5.2
20	STUDENT 32	4.7	4.7
21	STUDENT 34	7.6	7.6

22	STUDENT 35	7	5.9
23	STUDENT 36	4.7	7.8
24	STUDENT 37	4.7	5.2
25	STUDENT 39	3.5	5.2
26	STUDENT 40	6.5	9.4
27	STUDENT 41	4.7	7
28	STUDENT 42	5.9	4.7
29	STUDENT 44	8.8	6.4
30	STUDENT 46	4.1	7
31	STUDENT 48	4.7	6.4
32	STUDENT 49	7.6	7
33	STUDENT 50	8.2	8.8
	AVERAGE	5.95	6.22



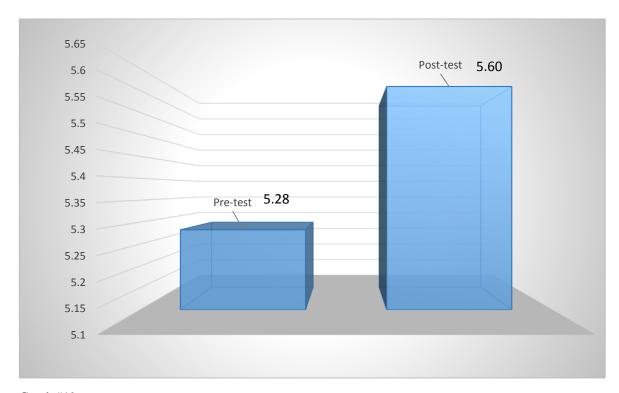
Graph #18

It is observed that students who practiced some habits to improve their English level obtained an average of 5.95 in the pre-test and obtaining an improvement of 6.22 in the post-test.

Students that finished their high school in a public school and they have not taken extra English courses

Students that finished their high school in a public school and they have not taken extra English courses

cou	rses		
N°	STUDENT'S NAME	PRE-TEST	POST-TEST
1	STUDENT 1	5.2	6.4
2	STUDENT 2	4.7	3.5
3	STUDENT 3	5.2	6.4
4	STUDENT 4	6.4	6.4
5	STUDENT 9	4.1	6.4
6	STUDENT 10	6.4	6.4
7	STUDENT 11	3.5	5.9
8	STUDENT 12	6.4	6.4
9	STUDENT 13	5.8	3.5
10	STUDENT 16	5.2	4.1
11	STUDENT 17	5.8	5.9
12	STUDENT 19	5.8	5.9
13	STUDENT 21	4.7	5.2
14	STUDENT 26	8.2	7
15	STUDENT 27	6.5	6.4
16	STUDENT 30	4.1	5.2
17	STUDENT 33	5.9	2.3
18	STUDENT 36	4.7	7.8
19	STUDENT 37	4.7	5.2
20	STUDENT 38	5.3	7
21	STUDENT 41	4.7	7
22	STUDENT 43	4.1	5.2
23	STUDENT 45	4.1	3.5
	AVERAGE	5.28	5.60
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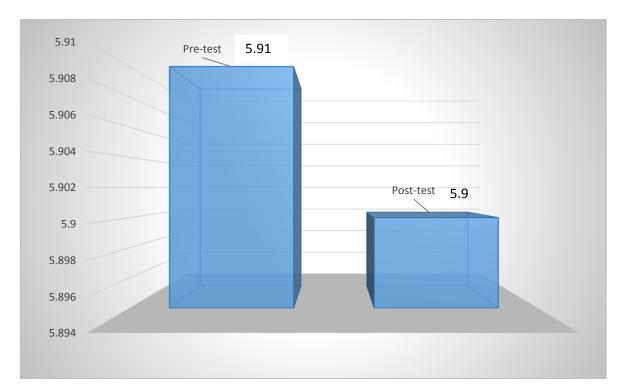
Graph #19

The graph shows that students who graduated from public institution and they have not taken extra English courses in the pre- test had an average of 5.28 and in the post-test obtained an average of 5.60 having an improvement of 0.32.

Students who graduated from a private high school and they have not taken extra English courses

Students who graduated from a private high school and they have not taken extra English courses

N°	STUDENT'S NAME	PRE-TEST	POST-TEST
1	STUDENT 5	6.4	3.5
2	STUDENT 18	7	7.6
3	STUDENT 24	7.6	6.4
4	STUDENT 25	3.5	5.2
5	STUDENT 31	4.1	4.7
6	STUDENT 32	4.7	4.7
7	STUDENT 35	7	5.9
8	STUDENT 39	3.5	5.2
9	STUDENT 40	6.5	9.4
10	STUDENT 44	8.8	6.4
AV	ERAGE	5.91	5.9



Graph #20

It is observed that students who graduated from private institution and they have not taken extra English courses in the pre-test had an average of 5.91 and in the post-test obtained an average of 5.9.

#### 4.3 CLASSROOM OBSERVATIONAL GUIDE

#### Classroom observational guide analysis

This instrument was designed by the research practitioners and the main objective was to collect information about how the professor manages the English reading comprehension class. The goal of this objective was reached by the practitioners because the teacher was in her teaching natural setting (the classroom) providing and giving details and precise evidence than other sources could have brought. Three important aspects to observe and analyze were included:

#### Class planning.

Regardless of class planning, the agenda for the class was stated on the whiteboard, the teacher wrote the topics which were: The verb to be for simple past and talk about activities you did in the past. These topics were well developed by the teacher during the two hours' class, she stayed focus in the topics not talking or teaching about others topics; Even the amount of students and the lack of teaching resources such as Computer or projector were not an obstacle for not having a good class, she brought her own teacher resources, for example, a tablet and speaker to play the audios for some exercises in the student's book. Since some pages with information were used to highlight or clarify some points of the topics and pasted them on the whiteboard.

#### Student's participation.

The second one was regardless of students' participation during the class; it was clear that the teacher motivated students to not be afraid to participate and make mistakes, she encouraged them to participate asking for volunteers, calling by their names, and playing some games such as hot potato. Also, during the class, the students were asking questions about vocabulary such as Spanish words that they wanted to know in English, these words were related to the topic: activities you did in the past. The teacher provided the meaning for words in English but she encouraged them to have a dictionary in their cellphone or electronic device. At the moment of answering, she didn't use antonyms or synonyms to avoid the mother tongue in the classroom. Grammar questions related to the topic: the verb to be for simple past were not asked by them; at the moment of listening and reading a dialogue in their student's book, they did not ask about sentence meaning in the paragraph.

#### Methodology.

This was the last aspect to check in the classroom, which activities or strategies she put in practice with them. Different kind of strategies such as to start clapping and then the students clapped three times, this strategy was used at the end of one activity and let students know that they are moving to a new one or to call their attention when some of them were talking. It was included in her methodology to bring pieces of paper to highlight or clarify the

information by doing this the student's attending were captivated to bring special attention to that information. Activities such as hot potato and move two markers at the same time as the whole class was made to motivate the student's participation. Another strategy that she used in the classroom was to paste some pages on the whiteboard to highlight or clarify some points of the topics and these pages remained the whole class there to let students know that information. One of the most important activities was the listening part, this activity is crucial for the English learning process and this teacher knows this fact; for that reason, she brought to the class a speaker for them to listen, learn the pronunciation and answer questions about the audio that the students book contained. Before playing the audio for the listening part the teacher asked the students if they have an idea or opinion about the dialogue that they will listen to, by doing this she was putting in practice skimming. Mechanical reading was put in practice; she provided authentic material from a book related to their study field which was about "the cell" she asked them to write about what they understood in the paragraph. In every class, it was important to notice the teacher talking time because teachers should allow students to speak, ask doubts or check their performance while they develop activities. For this research project during the observation class period was observed that students talking time was less than a teacher talking time because most of the time the teacher was explaining the topic, grammar, explaining activities and so on.

The information that was collecting in the three previous aspects was determined to make conclusions about the role that the teacher played in the English reading process; it helped to provide a better understanding of the teacher classroom development since the beginning it was clear that class preparation was done by the teacher. Regardless to the second point about student participation, it can be said that the teacher encouraged them to participate and for the last aspect about methodology, it can be mention that even the circumstances, big student group, not enough desks, and the lack of teaching resources the teacher included different activities and strategies to have a good class and catch student attention.

#### 4.4 INTERVIEW RESULTS

The following are the results of the analysis of the semi-structured interview. The teacher in charge of the group was interviewed with the purpose of getting first-hand information concerning the methodology used for teaching English reading.

Questions were distributed into six sections in order to obtain better results for the analysis. The categories were the following: English reading program focuses, opinion on the achievement of the reading development, motivation to read, strategies to encourage reading, management of large groups, and methodology. The total of the questions which were asked was eight.

The questions, which were asked to the teacher, were divided into categories in order to facilitate the gathering of the information that it was essential for this research to acquire a better understanding of how English I is taught in Chemistry bachelor.

Among the drawbacks, it is important to mention that meetings with the teacher became a constraint due to the fact that she is at the University just in the class hours for not being part of the official staff of the University.

However, the researcher practitioners believed that this information would be beneficial since the teacher has been working for years with Chemistry students; for that reason, her information is fundamental for this research project.

Different types of questions were asked to the teacher the first one regardless of the English reading program focus, for this question she mentioned that even when the program is just focused on reading, she tries to apply different techniques for them to develop other's skills. Related to the English level that the students acquire at the end of the course, she answered that based on her experience they acquire a basic level. It is clear that for developing reading skills, it is necessary to motivate students to read for this reason they have reading comprehension practices in their books or materials that she downloads from the internet or books. Some of the strategies used in class are hot potato, play music, have a tour around the University, make sentences, the teacher mentioned that she assures that the students have a good learning process to reach this, they work using worksheets, audios activities for getting new vocabulary. In the last aspect, she said that Learning student's names and have a WhatsApp group with them are two important aspects that she highlighted when she was asked about the methodology that she puts in practice in the classroom.

# **Interview Report**

# English reading program focus.

• Could you explain the reasons why the English I program only focuses on the development of reading?

When this question was asked, she said that according to the program English I, it is focused only on the reading skill but in real life is not just focused on that, because she tries to apply different techniques in order to make students develop other skills not only reading. She thinks that it is essential that they achieve different skills not only reading, but that is also why she tries to teach them a lot of vocabulary and grammar.

To validate this information, it can be highlighted that during the observation time period the teacher developed other skills such as listening and grammar.

# Opinion on the achievement of the reading develops.

• In your experience of teaching English, I, which English level do you consider that the students develop?

Based on her experience, she mentioned that at the end of the course the students obtain a basic level, even when the classes are not enough to develop every topic that they are supposed to study; According to the program she has to teach 5 hours but she is doing an

extra effort and she teaches 6 hours per week in order to help them; even though, the University only pays to her 5 hours. Posttest results showed that students obtained six as an average grade, that result gives an idea that students have basic English knowledge during this course.

#### **Motivation to read**

• According to the program, reading plays a very important role in the fulfillment of objectives. How do you motivate your students to read?

With this question the teacher answered that she always tries to encourage students to read, every week students have a reading comprehension practice, also in every lesson contains a reading practice; moreover, they take four mechanical reading in the semester.

In the student's book, they have twelve different readings but some students want to go beyond because they want to learn about others topics; for this case, she looks for other topics related to the career such as the use of tobacco, how to plant a different kind of coffee. Sometimes, she prepares the reading practice by looking on the Internet or books related to grammar topics that they are studying. Even though, when the School of Chemistry does not provide her any materials, she always is looking for the appropriate material related to the study field; in one of the class observations, it was noticed that the teacher provided authentic material to the students.

# Strategies to encourage reading

• We have observed that you have 116 students in the class, would you briefly comment with us about which strategies do you use to promote student's participation?

The teacher expressed that she usually uses different dynamics such as hot potato, and play music. She tries to make the class fun not bored because some of the students are shy and they do not want to participate but putting in practice these kinds of activities she thinks they not only have fun but also, they learn, so she always tries to encourage them to speak.

In one of the classes that the research practitioners were presented, when the teacher asked directly or ask about something the students were willing to participate due to the environment the teacher provides to the class.

• Could you please us tell us which strategies do you use to encourage reading skill in the students?

Asking this question the teacher answered that at the beginning or at the middle of the semester they have a tour around the university for example: when they are studying the topic "there is and there are", they draw a map and make sentences using things that the University has, example: there is a swimming pool, there are many buildings. The purpose is to have many activities not only the traditional (In the classroom with books or notebooks). By doing

these kinds of activities, the learning process is better because they understand easily and the teacher notices that in the improvement of their grades.

# **Management of large groups**

• Since you have an extended group, could you tell us what do you do for the students to have a good learning process?

The teacher said that she uses whatever she considers useful. She tries to use new vocabulary to develop different skills, she uses a lot of worksheets, and they listen to the audio for the reading practice in every class. She is able to check student's improvements when she talks with them outside of the classroom and they look motivated at the moment of answering.

# Methodology

• Could you describe which type of methodology you normally use in the classroom?

The teacher responded that she learns the names of students and when she makes activities and calls them by their names, the students feel surprised that she knows their names. Every time that the class was observed by the research practitioners, it was noticed that she always called every student by their names, even when the class was overcrowded with a lot of students this aspect was not an obstacle to learn their names.

Taking advantage of the technology they use a WhatsApp group; which she uses to send a list of verbs, new vocabulary in order to keep in touch and encourage them every day.

WhatsApp group has advantages for her such as checking if they are learning because when they write an answer she can identify if they are using a translator or not; another advantage is that when they cannot attempt to the class, she uploads homework assignments.

• How do you manage the reading mistakes to facilitate the learning process?

The teacher provides different activities that she puts into practice with the students. The first one is that they listen to the audio reading practice; second, they read together; third, they make a glossary every week, and the last one is to write sentences. It was noticed that when the teacher followed the previous reading steps some of the students made mistakes and the teacher mostly correct them in Spanish.

# 4.5 FINDINGS

# ANSWERS TO RESEARCH QUESTIONS

# 1. How is the reading comprehension level that students develop while taking English

**I**?

According to the data collected through the Pre-test and post-test, a background questionnaire, observational guide, and the interview. It can be said that students from English I at the School of Chemistry obtained a basic level of English reading comprehension at this level students are able to have a limited amount of information from highly predictable texts in which the topic or context is very familiar.

As stated in the English program students should achieve 80% of reading comprehension during the semester I, but the results showed that 80 percent was not achieved by the group. The reason behind this could be because this study was not part of their academic record of the university, they did not have enough time to improve their reading comprehension skill, and the semester started three weeks later because they did not have an assigned classroom. Those factors probably affected the learning process of students as the data analysis showed.

However, some students had good results due that some of them had had the opportunity to learn English by other resources, as they mentioned they had taken extra English courses and practiced habits to improve their English such as Read English books, watch movies, listen to music, etc.

# 2. Can students of chemistry understand general texts in English?

According to the study plan of chemistry bachelor, students invested sixteen weeks in the English I course; during that period, they should have been provided with tools for reaching 80% of the English reading comprehension level that the study plan required. The English I is included in the flowchart with the purpose students develop a reading comprehension related to their study field. Reading articles in English is one of the skills that professionals should have; for that reason, students took this course. At the end of the semester, the researcher practitioners analyzed the pre-test and post-test because that instrument was elaborated with the purpose of measure the level of comprehension students had. The instrument contained three different levels of reading comprehension (advanced, intermediate and basic) from different topics and it helped to measure the capacity students had to understand general texts in English.

Concluding the students had acquired a basic level through the learning process showing they did not develop the capacity to understand complex words in texts and that made them do not understand general texts because they were focused on texts related to their field.

# 3. Would be the scores obtained in the pre-test affected by the English background knowledge that students have?

In the University of El Salvador students with two different English backgrounds could be found, students who studied previously in a private school and students who graduated from public school; for that reason, the results could be different in the pre-test. Taking into account the previous reason the researcher practitioners assigned the students in three different groups, the first one was related to the students that finished their high school in a

public school and they have not taken extra English courses, this group obtained an average grade in the pre-test of 5.28. In the second group, students who graduated from a private high school were included and they obtained an average of 5.91 in their pre-test. The second group result showed a little improvement of 0.63 above the first group result. This little improvement gives the idea that the student's background affected their grades. Even though the group of students that show the best average was the third group which included students that had taken extra English courses, in this group were counted in students that came from public school and private school and the result provided an idea that taking extra English courses helped students to improve their English knowledge because they acquired an average of 6.21 which was the highest average of the three groups.

In conclusion, according to the data collected the English background affected the pre-test score that the students obtained.

See graphs #17, 19 and 20 in chapter 4, data analysis and interpretation, page 58, 63, and 65.

# 4. What were the strategies that the teacher implements with students to develop the overall reading comprehension process during the semester?

To improve or develop reading skills in English students, it is necessary that the teacher in charge of the class takes into account many strategies such as scanning, skimming, inferring, clarifying, questioning, guess the meaning, intensive and extensive reading to mention some of them. Besides the motivational aspect should be included in the class to have success at the moment of implementing the strategies.

In this English course, it was noticed by the researcher practitioners that the motivational aspect was included at the moment of applying a reading technique; for example, when they had to listen and read a dialogue before playing the audio for the listening part the teacher asked to the students to see the pictures and asked if they have an idea or opinion about the dialogue, by doing this she was putting in practice inferring strategy. In another class, skimming was observed at the moment that the teacher requested the students to read a paragraph and answer questions that the paragraph included. Also, mechanical reading was put in practice; she provided authentic material from a book related to their study field which was about "the cell" she asked them to write what they understood about the paragraph.

To sum up, three strategies were observed that the teacher applied in the classroom with the students to teach them to read or improve their English reading skills during this course.

# **CHAPTER 5**

#### 5. CONCLUSION AND RECOMMENDATIONS

# **5.1 CONCLUSION**

Nowadays most University teachers think that students come to the University with basic English knowledge and abilities to understand the English language but this study shows that students enter the university with a lack of English knowledge. In the best of the scenery, some of them know this situation and decide to take extra English classes before to start the bachelor but there are some students do not have the opportunity to take English classes as a consequence, they start their studies with the knowledge acquired in the school and high school. At the University, English teachers notice that it is not easy for the students to assimilate the language and be competent in the four macro English skills (listening, speaking, writing and reading).

At the University of El Salvador English is taught as a foreign language, but in some schools such as Chemistry this language is taught to develop the English reading comprehension skill and it is known that reading comprehension is more than decoding shapes and figures as many teachers and students think; comprehension occurs when the students know and understand what skills and strategies are necessary and appropriate for the type of text that they have; after they should know how to apply the strategies to accomplish the reading process and reach a high level of English reading comprehension. Therefore, the research practitioners studied how is the English reading comprehension level developing by the students of chemistry at the same time this study was focused on the proficiency of English reading comprehension level developed by the students of Chemistry.

Findings in the post-test showed that students had a little improvement in their English reading comprehension; it is important to mention that students who have studied extra English courses obtained better results in the pre-test as in the post-test than students who have not taken extra English courses.

We also concluded to lower the level required in the syllabus since it is too high.

According to the ACTFL guidelines which stated that students who acquire a basic level of English reading proficiency are at a novice level. The final results demonstrated that students did not achieve the level that the Chemistry bachelor's English program required to have a better reading comprehension level developing the novice level of proficiency. Even though there is not a doubt they showed an improvement in their scores. It can be concluded that the improvement relies on the condition of taking extra courses before they take the course.

# **5.2 RECOMMENDATIONS**

- Teachers need to develop better effective activities and strategies for students to become more competent and confident readers. In order to foster students' interests, teachers need to involve students in text selecting, by providing them with several types of texts since the beginning of the semester, this type of texts should be added in a book that includes specifically texts related to their major and reading strategies information.
- Teachers should encourage students more to respond to texts both personally and critically for reaching this purpose the students should be immersed in different literary genres for raising their curiosity in reading texts that they feel close and interested in both study and pleasure. To encourage students to read could be a big challenge because some of them probably have not developed any reading skill.
- The authorities of the school of Chemistry should look for alternatives to avoid crowded classroom because this aspect makes difficult for any teacher to have good classroom management. The students were sitting so close not giving space for the teacher to walk between them to have interaction, the previous aspect can cause a negative effect on students while the learning process is taking place because if they do not have a good environment, they cannot receive the English class without any issues and have an excellent learning process. Therefore, more English teachers

should be hired in the school of Chemistry due to the students who attend the English class.

• The authorities of the school of Chemistry should stablish the English subject as mandatory due to the importance and the need of learning English for students to have a better development while they are studying and after they finishing their studies, also they should be under obligation to read and translate chemistry books written in English.

# **CHAPTER 6**

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# **CHAPTER 7**

# 3. APPENDICE

# ANNEX 1

# UNIVERSIDAD DE EL SALVADOR FACULTAD DE CIENCIAS Y HUMANIDADES DEPARTAMENTO DE IDIOMAS EXTRANJEROS



# CUESTIONARIO PARA LOS ALUMNOS DE LA CARRERA DE LA LICENCIATURA EN QUIMICA

#### Tema:

El dominio en el nivel de comprensión lectora en Inglés desarrollado por los estudiantes mientras cursan Inglés I, en la Licenciatura de Química en la escuela de Ciencias Naturales y Matemáticas, Universidad de El Salvador, Semestre I, Año 2019.

**Objetivo:** Indagar en el conocimiento previo de la lectura en el Idioma Ingles que los estudiantes de Química han desarrollado antes de cursar Ingles I.

Instrucciones: Responda y marque las siguientes interrogantes.
 Genero 1.M\_\_\_\_\_\_2.F\_\_\_\_\_

- 2. Marque el rango de edad en el cual usted se encuentra.
  - 1) 17-20 años
  - 2) 21-23 años
  - 3) 24 años y más
- 3. La institución donde se graduó de bachiller es
  - 1. Privada\_\_\_\_\_ 2. Publica\_\_\_\_\_

1.Si	2. No
si su respues	sta es No pase a la pregunta # 5
4.1 ¿Dónde l	na estudiado?
a) Escue	ela bilingüe b) Academia c) Clases en línea d) Por su cuent
4.2 ¿Periodo	de tiempo durante el cual ha estudiado?
1) 0-5 m	eses
2) 6 mes	es- 1 año
3) Más d	e un año
4.3 ¿Cuántas	s horas a la semana usted se dedica a estudiar?
1) 1-2 h	oras
2) 3-4 h	oras
3) 4-5 h	oras
4) Más	de 5 horas
¿Práctica alg	un habito de estudio para el aprendizaje del idioma Inglés?
1.Si	2. No

6- Si su respuesta es sí, marque que hábito o cuales hábitos de estudio, usted práctica y con qué frecuencia los practica para mejorar el aprendizaje del idioma Inglés.

		Siempre	A menudo	Raras veces	Nunca
0	Ver películas en Inglés.				
0	Ver videos en Inglés.				
0	Leer en Ingles				
0	Cada día estudiar lo aprendido en clases.				
0	Practicar con sus compañeros.				
0	Otros				

# UNIVERSITY OF EL SALVADOR SCHOOL OF ARTS AND SCIENCES DEPARTMENT OF FOREIGN LANGUAGES



# **Reading Comprehension Test**

# **Objective:**

To characterize the proficiency of English reading comprehension level developed by the students while taking English I.

Student's name:		
Date:	_	
Time:		
Pre-test	Post-test	

# Reading I

# Instruction: Read the text carefully and underline the best answer for each question.

# Postcodes

In many countries, a postcode is part of your address. A postcode is a sequence of letters and numbers. There is usually a different postcode for each street or area. In the UK, a postcode is a sequence of six or seven letters and numbers. It is written at the end of an address. The first one or two letters tell you the city or area where a person lives. For example, a postcode for Manchester starts with the letter M and a postcode for Oxford starts with the letters OX. In the US, there's a zip code at the end of an address. A zip code is a sequence of five numbers. A US address usually has two letters to show the state and then the zip code. For example, NY 10001 is in New York City and IL 60601 is in Chicago, Illinois.

1.	A zip code is a sequence of five numbers. A US address usually has two letters to state and then the zip code. For example, NY 10001 is in New York City and 60601 is in Chicago, Illinois.  A postcode is part of
	a) an email address. b) a telephone number. c) an address.
2.	A UK postcode is a sequence of
	a) letters and numbers. b) five numbers. c) six or seven letters.
3.	The first letters of a UK postcode tell you
	a) the state. b) the country. c) the city or area.
4.	The postcode OX3 4PP is for an address in
	a) Oxford. b) Manchester. c) Oklahoma.
5.	A postcode or zip code is usually written
	a) at the end of an address. b) after your name. c) at the start of an address
6.	A US zip code is
	<ul><li>a) six numbers.</li><li>b) five letters and numbers</li><li>c) five numbers.</li></ul>
7.	The two letters before a zip code are for
	a) the country. b) the state. c) the area

# **Reading II**

# Instruction: Read the text carefully and underline the best answer for each question.

"Heavier than air flying machines are impossible,' said the well-known scientist Lord Kelvin in 1895. Thomas Watson, the chairman of IBM in 1943, was wrong too when he said that he thought there would be a world market for only five or so computers. Predictions can, of course, be wrong, and it is very difficult to predict what the world will be like in 100, 50, or even 20 years from now. But this is something that scientists and politicians often do. They do so because they invent things and make decisions that shape the future of the world that we live in.

In the past they didn't have to think too much about the impact that their decisions had on the natural world. But that is now changing. An increasing number of people believe that we should live within the rules set by nature. In other words, they think that in a world of fixed and limited resources, what is used today will not be there for our children. We must therefore look at each human activity and try to change it or create alternatives if it is not sustainable. The rules for this are set by nature, not by man.

- 8. What was Lord Kelvin suggesting?
- a) It is difficult to make accurate predictions.
- b) It would be possible for people to fly.
- c) It would be impossible for people to fly.
- d) There would only be a few computers.
- 9. Which of the following statements is true (according to the text)?
- a) Lord Kelvin and Thomas Watson were good friends.
- b) The world does not have unlimited natural resources.
- c) Our children will not make predictions about the future.
- d) Itis easy to predict what the world will be like 20 years from now.
- 10. "shape" (line 6) is closest in meaning to:a) dob) createc) look atd) move
- 11. The article suggests we should live in a \_\_\_\_\_ way.
- a) selfish
- b) sustainable
- c) predictable
- d) scientific
- 12. Choose the best title for the article.
- a) Predictions and more predictions!
- b) Politicians and scientists
- c) A sustainable future for our children
- d) New inventions.

# **Reading III**

# Read the text below. For questions 13 to 17, choose the best answer (a, b, c or d)

Many hotel chains and tour operators say that they take their environmental commitments seriously, but often they do not respect their social and economic responsibilities to the local community. So is it possible for travelers to help improve the lives of locals and still have a good holiday? The charity, Tourism Concern, thinks so. It has pioneered the concept of the fair- trade holiday. The philosophy behind fair-trade travel is to make sure that local people get a fair share of the income from tourism. The objectives are simple: employing local people wherever possible; offering fair wages and treatment; showing cultural respect; involving communities in deciding how tourism is developed; and making sure that metal have minimal environmental impact. Although there is currently no official fair-trade accreditation for holidays, the Association of Independent Tour Operators has worked hard to produce responsible tourism guidelines for its members. Some new companies, operated as much by principles as profits, offer a fantastic range of holidays for responsible and adventurous travelers.

- 13. Tourism Concern...
- a) helps tourists who have had bad holidays.
- b) is a philosophy.
- c) is a charity and fair-trade organization.
- d) has a chain of hotels.
- 14. Which of the following is NOT one of Tourism Concern's objectives?
- a) Good pay for local people.
- b) Showing respect for local cultures.
- c) Saving tourists money.
- d) Protecting the local environment.
- 15. According to the text, fair-trade travel is all about...
- a) making money for charity.
- b) money from tourism going to local people.
- c) travelers getting a good deal.
- d) a great cultural experience.
- 16. According to the text, there are \_\_\_\_\_ companies that are operated on principles as well as profits.
- a) a few
- b) no
- c) some old
- d) many
- 17. Choose the most appropriate title for the article.
- a) Holidays from heaven
- b) Cheap adventure holidays
- c) Fair-trade holidays
- d) Great holiday deals

# ANNEX 3

# UNIVERSITY OF EL SALVADOR SCHOOL OF ARTS AND SCIENCES DEPARTMENT OF FOREIGN LANGUAGES



# Classroom observational guide

# Topic:

The proficiency of English reading comprehension level developed by the students while taking English I, in the Chemistry bachelor at the school of Natural Sciences and Mathematics, University of El Salvador, Semester I, Year 2019.

# **Objective:**

Collect information about how the professor manages the English reading comprehension class.

Classicolii Obsel valioliai Galac	
:	-
:	_
Length of Lesson:	
	_
Room:	
	: Length of Lesson:

Classroom Observational Guide

1. Class planning

	Observed	Not observed	Comments
Objectives are stated			
Focus of objectives			
Use of materials since the beginning of the class or at what phase?			

# 2. Student's participation

1. What types of questions were asked by the students?
-Vocabulary questions
- Sentence meaning in a paragraph
-Grammar questions
Others
2. In which way the teacher answered the question make by the students?
Use of antonyms
Use of synonyms
Spanish
Others
3. Teacher's methodology
3. A variety of activities and questioning techniques were used to make sure of the students learning process?
Yes No
Which types?
4. What kind of reading techniques was used by the teacher?
A-Skimming
B-Scanning
Others
5. Did the teacher show knowledge at the moment of answering?
Yes No

6. Was there any anticipated event about the classroom management?	
Yes No	
If it is yes, what and how did the teacher deal with it?	

# UNIVERSITY OF EL SALVADOR SCHOOL OF ARTS AND SCIENCES DEPARTMENT OF FOREIGN LANGUAGES



# Interview about teaching English at School of Chemistry.

# **English Teacher**

# **Bachelor of Chemistry**

**Objective:** Collect information about how English reading comprehension is taught in Chemistry bachelor regardless to the methodology that is used in classes by the professor.

Good morning. We are students from the Foreign Language Department, we are doing our graduation work and we would like to have an interview with you about English subject in this bachelor.

# **English reading program focus**

• Could you explain to us the reasons why the English I program only focuses on the development of reading?

# Opinion on the achievement of the reading develop.

• In your experience of teaching English I, which English level do you consider that the students develop?

### Motivation to read

• According to the program, reading plays a very important role in the fulfillment of objectives. How do you motivate your students to read?

# Strategies to encourage reading

• We have observed that you have 114 students in the class, would you be so kind to comment with us about which strategies do you use to promote student's participation?

• Could you please tell us which strategies do you use to encourage the reading skill in the students?

# Management of extended groups

- Since you have an extended group, could you tell us what do you do for the students to have a good learning process?
- Do you think it is difficult for you to manage the class due to the number of students?

# Methodology

- Could you describe which type of methodology you normally use for developing in the classroom?
- How do you manage the reading mistakes to facilitate the learning process?

# **ETHICAL CONSIDERATIONS**

Research ethics involve requirements on daily work, the protection of dignity of subjects and the publication of the information. In this research, students from English I from Chemistry bachelor and the teacher in charge of this group were informed about the investigation process. The researcher practitioners gave to the teacher in charge of the group to have the permission to study that English group, asked to the teacher if the researcher could record her during the interview.

Individuals can make informed decisions in order to participate in research voluntarily only if they have information on the possible risks and benefits of the research. Free and informed consent needs to incorporate an introduction to the study and its purpose as well as an explanation about the selection of the research subjects and the procedures that will be followed.

According to this, students were selected in a randomly way.

Another issue is the one that is related to confidentiality and anonymity which is closely connected with the rights of beneficence, respect for the dignity and fidelity. Students were informed about every process. In order to protect them, they have to inform about their rights as a student from School of Chemistry, and everything were confidential that is why only their last names were presented in the report.