



UNIVERSIDAD HISPANOAMERICANA

Faculty of Education

Thesis Submitted to Obtain the Licenciante Degree in teaching English

THE IMPACT OF GAMES AND SONGS AS PART OF CLOUD COMPUTING ACTIVITIES  
IN THE LEARNING VOCABULARY PROCESS WITHIN THE EFL ENVIROMENT IN  
NINE GRADES OF LICEO JOSE MARTI DURING THE I SEMESTER OF 2022

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## TABLE OF CONTENTS

LIST OF GRAPHS .....	V
SWORN DECLARATION.....	VII
LETTER FROM THE TUTOR .....	VIII
LETTER FROM THE READER.....	IX
LETTER OF AUTHORIZATHION FROM THE AUTHOR .....	X
DEDICATION.....	XII
ACKNOWLEDGEMENTS .....	XIII
ABSTRACT .....	XIV
RESUMEN.....	XV
CHAPTER I:.....	1
RESEARCH PROBLEM.....	1
1.1 RESEARCH STATEMENT .....	2
1.1.1 Background of the problem .....	4
1.1.2 Problematization .....	5
1.1.3 Justification of the problem.....	6
1.2 FORMULATION OF THE PROBLEM .....	7
1.2.1 Research question .....	7
1.3 OBJECTIVES OF THE INVESTIGATION .....	7
1.3.1 General Objective .....	7
1.3.2 Specific Objectives .....	8
1.4 SCOPE AND LIMITATIONS .....	8
1.4.1 Scope.....	8
1.4.2 Limitations .....	9
CHAPTER II: .....	10
THEORETICAL FRAMEWORK .....	10
INTRODUCTION .....	11
2.1 HISTORICAL CONTEXT .....	12
2.1.1 Background of the organization or community .....	12
2.2 THEORETICAL- CONCEPTUAL CONTEXT .....	14
2.2.1 Factor A, Independent Variable: English Learning as a Foreign Language.....	14
2.2.2 Factor B, Dependent Variable: Use of games and songs as part of cloud computing .....	14

2.3 VARIABLE DEFINITION:.....	14
2.3.1 <i>Independent Variables</i> .....	14
2.3.2 <i>Dependent Variables</i> .....	14
2.2.1 GAMES AND SONGS IN EDUCATION (EFL).....	14
2.2.1.2 <i>Benefits of games and songs in teaching English as a foreign language</i> .....	18
2.2.1.3 <i>Possible disadvantages of including games and songs in the teaching of English as a foreign language</i> .....	22
2.2.1.4 <i>Methodologies in which games and songs are applied</i> .....	23
2.2.1.5 <i>Compilation of Activities Where Games and Songs Can Be Used to Teach English</i> .....	24
2.2.2 CLOUD COMPUTING .....	28
2.2.2.1 <i>Definition of cloud computing</i> .....	29
2.2.2.2 <i>Characteristics of cloud computing</i> .....	30
2.2.2.3 <i>Advantages and disadvantages of cloud computing</i> .....	32
2.2.2.4 <i>Activities that can be implemented through cloud computing</i> .....	38
2.2.2.5 <i>Vocabulary in the Process of Teaching English as a foreign language (EFL)</i> .....	39
2.2.2.6 <i>Importance of Vocabulary in the process of learning English as a second language</i> .....	40
2.2.2.7 <i>Examples of Activities That Can Be Done to Teach Vocabulary in the EFL Process</i> .....	41
CHAPTER III: .....	46
METHODOLOGICAL FRAMEWORK .....	46
3.1 RESEARCH TYPE.....	47
3.1.1 <i>Applied purpose</i> .....	47
3.1.2 <i>Transversal temporal dimension</i> .....	47
3.1.3 <i>Micro framework of the research</i> .....	47
3.1.3.1 <i>Micro space</i> .....	47
3.1.4 <i>Nature of the research</i> .....	48
3.1.5 <i>Type</i> .....	48
3.2 SUBJECTS AND SOURCES OF INFORMATION.....	48
3.2.1 <i>Participants Subjects</i> .....	48
3.3 SOURCES OF INFORMATION.....	49
3.3.1 <i>Sources</i> .....	49
3.4 SAMPLE SELECTION .....	49
3.4.1 <i>Population</i> .....	49
3.4.2 <i>The Sample</i> .....	50

3.4.3 <i>Probabilistic or non-probabilistic sample</i> .....	50
3.5 TECHNIQUES AND INSTRUMENTS TO COLLECT INFORMATION .....	50
CHAPTER IV: .....	51
ANALYSIS AND INTERPRETATION OF DATA .....	51
4.1 Analysis and Interpretation of Data .....	52
4.1.1 <i>Surveys</i> .....	52
4.1.1.1 <i>Nine Grade Survey Results</i> .....	52
4.1.2 <i>Interviews</i> .....	77
CHAPTER V: .....	82
CONCLUSIONS AND RECOMMENDATIONS .....	82
5.1 CONCLUSIONS .....	83
5.1.1 <i>Regarding the problem formulation</i> .....	83
5.1.2 <i>Regarding the general objective</i> .....	83
5.1.3 <i>Regarding the first specific objective</i> .....	84
5.1.4 <i>Regarding the second specific objective</i> .....	84
5.1.5 <i>Regarding the third specific objective</i> .....	85
5.2 RECOMENDATIONS .....	85
REFERENCES .....	87

## LIST OF GRAPHS

<i>Graphic 1</i> .....	52
<i>Graphic 2</i> .....	53
<i>Graphic 3</i> .....	54
<i>Graphic 4</i> .....	55
<i>Graphic 5</i> .....	56
<i>Graphic 6</i> .....	57
<i>Graphic 7</i> .....	58
<i>Graphic 8</i> .....	59
<i>Graphic 9</i> .....	60
<i>Graphic 10</i> .....	61
<i>Graphic 11</i> .....	62
<i>Graphic 12</i> .....	63
<i>Graphic 13</i> .....	64
<i>Graphic 14</i> .....	65
<i>Graphic 15</i> .....	66
<i>Graphic 16</i> .....	67
<i>Graphic 17</i> .....	68
<i>Graphic 18</i> .....	69
<i>Graphic 19</i> .....	70
<i>Graphic 20</i> .....	71
<i>Graphic 21</i> .....	72

<i>Graphic 22</i> .....	73
<i>Graphic 23</i> .....	74
<i>Graphic 24</i> .....	75
<i>Graphic 25</i> .....	76
<i>Graphic 26</i> .....	77

## SWORN DECLARATION

### DECLARACIÓN JURADA

Yo Adriana Georgina García García, mayor de edad, portador de la cédula de identidad número 603300722 egresado de la carrera de Enseñanza del Inglés de la Universidad Hispanoamericana, hago constar por medio de éste acto y debidamente apercibido y entendido de las penas y consecuencias con las que se castiga en el Código Penal el delito de perjurio, ante quienes se constituyen en el Tribunal Examinador de mi trabajo de tesis para optar por el título de Licenciatura en la enseñanza del inglés, juro solemnemente que mi trabajo de investigación titulado: THE IMPACT OF GAMES AND SONGS AS PART OF CLOUD COMPUTING ACTIVITIES IN THE LEARNING VOCABULARY PROCESS WITHIN THE EFL ENVIROMENT IN NINE GRADES OF LICEO JOSE MARTI DURING THE I SEMESTER OF 2022, es una obra original que ha respetado todo lo preceptuado por las Leyes Penales, así como la Ley de Derecho de Autor y Derecho Conexos número 6683 del 14 de octubre de 1982 y sus reformas, publicada en la Gaceta número 226 del 25 de noviembre de 1982; incluyendo el numeral 70 de dicha ley que advierte; artículo 70. Es permitido citar a un autor, transcribiendo los pasajes pertinentes siempre que éstos no sean tantos y seguidos, que puedan considerarse como una producción simulada y sustancial, que redunde en perjuicio del autor de la obra original. Asimismo, quedo advertido que la Universidad se reserva el derecho de protocolizar este documento ante Notario Público. en fe de lo anterior, firmo en la ciudad de San José, a los 4 días del mes de Mayo del año 2022.

Adriana García

Firma del estudiante

Cédula 6 330 722

## LETTER FROM THE TUTOR

### Carta del tutor

San José, 1 de mayo del  
2022

**Destinatario**  
**Carrera**  
**Universidad Hispanoamericana**

Estimado señor:


La estudiante Adriana Georgina García García, cédula de identidad número 603300722, me ha presentado, para efectos de revisión y aprobación, el trabajo de investigación denominado **THE IMPACT OF GAMES AND SONGS AS PART OF CLOUD COMPUTING ACTIVITIES IN THE LEARNING VOCABULARY PROCESS WITHIN THE EFL ENVIROMENT IN NINE GRADES OF LICEO JOSE MARTI DURING THE I SEMESTER OF 2022**, el cual ha elaborado para optar por el grado académico de Licenciatura en la Enseñanza del Inglés para I y II ciclo. En mi calidad de tutor, he verificado que se han hecho las correcciones indicadas durante el proceso de tutoría y he evaluado los aspectos relativos a la elaboración del problema, objetivos, justificación; antecedentes, marco teórico, marco metodológico, tabulación, análisis de datos; conclusiones y recomendaciones.

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Atentamente,



**Nombre Lic. Jeffry**  
**Montero Nuñez Cédula**  
**identidad 1-1616-0408**  
**Carné Colegio**  
**Profesional 71002**

**LETTER FROM THE READER****LETTER FROM THE READER**

San José, 30 de mayo de 2022  
Universidad Hispanoamericana  
Sede Llorente  
Carrera

Estimado señor

La estudiante Adriana Georgina García García, cédula de identidad número 603300722 me ha presentado para efectos de revisión y aprobación, el trabajo de investigación denominado

"The Impact of Games and Songs as Part of Cloud Computing Activities in the Learning Vocabulary Process within the EFL Enviroment in Nine Grades of Liceo Jose Marti during the I Semester of 2022," el cual ha elaborado para obtener su grado de Licenciatura en la Enseñanza del Inglés.

He revisado y he hecho las observaciones relativas al contenido analizado, particularmente lo relativo a la coherencia entre el marco teórico y análisis de datos, la consistencia de los datos recopilados y la coherencia entre éstos y las conclusiones; asimismo, la aplicabilidad y originalidad de las recomendaciones, en términos de aporte de la investigación. He verificado que se han hecho las modificaciones correspondientes a las observaciones indicadas.

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**DEDICATION**

I dedicate this triumph to God, my husband, my family, friends and last but not least to myself for never giving up throughout this process.

## ACKNOWLEDGEMENTS

For a long time I dreamed of this triumph, and along this hard road there have undoubtedly been many people who have helped me to achieve this goal, first of all I thank God because without him I am nothing, then my beloved husband Tony for his unconditional support, to my brother-in-law Charly for encouraging me, to my mother who has never stopped believing in my abilities, to all my other family members who in one way or another have supported me, to my friends who always encouraged me and my teachers for their training, thank you all very much.

## ABSTRACT

The purpose of this research is to show the important role that cloud computing has in the environment of a classroom for learning English as a foreign language. Using online games and songs (these as part of cloud computing), English teachers can teach their lessons and make learning more enjoyable for their nine grades students at the Liceo Jose Martí.

The government of Costa Rica aims to make its population a bilingual nation and that is why English classes are included in schools from children, but over the years the teaching methods and programs have suffered greatly. changes, nowadays there is greater use of technological resources to teach lessons, such is the case of the Liceo Jose Marti where, with the help of the government, they have equipped their classrooms with the necessary implements to teach lessons.

In addition, this research aims to give details of what cloud computing is and how using it can motivate the enthusiasm and interest of the students, thus causing significant learning in the students. It also talks about the use of online games and songs that can be used to teach lessons in the environment of an English class.

Also, this research will provide more detailed information to the Liceo Jose Marti about the use that students and teachers are giving to cloud computing in the classes, how important and beneficial the implementation of this type of technology has been in English classes and the impressive results that this could provide at the national level if the government provided all institutions with the necessary resources to teach this type of classes.

### **Key words**

Cloud computing / games / songs/ teaching approach

## RESUMEN

El propósito de esta investigación es mostrar el importante papel que tiene la computación en la nube en el entorno de un aula para el aprendizaje del inglés como lengua extranjera. Usando juegos y canciones en línea (estos como parte de la computación en la nube), los profesores de inglés pueden enseñar sus lecciones y hacer que el aprendizaje sea más agradable para sus alumnos de noveno grado en el Liceo José Martí.

El gobierno de Costa Rica tiene como objetivo hacer de su población una nación bilingüe y es por eso que se incluyen clases de inglés en las escuelas desde niños, pero a lo largo de los años los métodos y programas de enseñanza han sufrido muchos cambios, hoy en día existe un mayor uso de los recursos tecnológicos para impartir las lecciones, tal es el caso del Liceo José Martí donde, con la ayuda del gobierno, han equipado sus aulas con los implementos necesarios para impartir las lecciones de inglés.

Además, esta investigación tiene como objetivo dar detalles de qué es la computación en la nube y cómo su uso puede motivar el entusiasmo e interés de los estudiantes, provocando así un aprendizaje significativo en los estudiantes. También habla sobre el uso de juegos y canciones en línea que se pueden utilizar para impartir lecciones en el entorno de una clase de inglés.

Asimismo, esta investigación brindará información más detallada al Liceo José Martí sobre el uso que están dando estudiantes y docentes al cloud computing en las clases, lo importante y beneficioso que ha sido la implementación de este tipo de tecnología en las clases de inglés y los impresionantes resultados que esto podría brindar a nivel nacional si el gobierno dotara a todas las instituciones de los recursos necesarios para impartir este tipo de clases.

**Palabras clave:**

Cloud computing / juegos / canciones/ método de enseñanza

**CHAPTER I:**  
**RESEARCH PROBLEM**

## 1.1 RESEARCH STATEMENT

Education has a crucial role in the life and development of human beings, this since very early stages of life. Everything is learned, from good manners to multiplication tables, in the same way new languages such as English are learned. Education is important because through its new skills are learned and those that are innate are perfected.

Over the years, a lot has changed in the world of education and the techniques and teaching methods have been modified, more and more technology takes part of the classrooms and little by little the way of teaching has evolved from the classes typical of past decades, to interactive classes where the student has a leading role and where the use of technological resources is very common, behind were the classrooms with only a blackboard and desks, the new classrooms have projectors, computers, screens and access to Internet.

However, now with the internet and mobile technology on the rise, even more technological elements are incorporated into the educational environment. Interactive whiteboards, virtual classrooms and endless electronic resources for conducting research or doing school work are some of the ways in which digital technology has been integrated with schools and universities. (Semana, 2017.par 4)

Today there is a lot of technology that can be used to make the process of teaching and learning fun and rewarding. In an English class not, everything has to be looking for vocabulary in a dictionary. Today, there are smart boards that can be connected to a computer and do multiple things on them, from games that make the class something nice and fun to stories in their digital version from which students can extract vocabulary and learn grammar just to mention something. Also, with the use of technology they can implement the virtual classes that have begun to be used in the last two years due to the covid 19 pandemic.

The use of new technologies is more important today. It is evident that with access to the Internet, each day there is more and more access to different educational resources that can be used to give and receive lessons. According to Pensis 2016, in Costa Rica, 88% of the inhabitants have access to the internet and 94% access the internet through a cell phone, all this according to studies by Sutel and the weekly newspaper El Financiero. This is a great advantage when teachers try to incorporate the use of the internet and technology in the classroom.

The Internet and the access to increasingly intuitive mobile devices has put a paradigm shift in the use of technology. This change is also evident in the field of education, in which more and more things can be done, taking advantage of the network and its possibilities, both in the classroom and outside of it. (Semana, 2017.par 2)

The new plans provided by the Ministry of Public Education (MEP) to English teachers now integrate the use of technology to teach lessons, thus making them more interactive and promoting more and more the development of critical thinking in students. Well, given the importance of mastering the English language these days, it is the duty of teachers to implement in their classes the use of technology that awakens the interest and motivation of their students to learn the English language.

For example, today there are more classrooms where there is at least one television which can be connected to a computer with internet access and makes it possible to play videos that are proposed within the new MEP plans, they can also be played songs, movies or short stories that reinforce the learning of English, all this dynamizes the classes which in turn result in better learning.

In the case of the school on which this research is focused, it has greater technological resources than others in the same region, which is very good for both students and teachers.

### ***1.1.1 Background of the problem***

It is well known that English is recognized as an international language since there are millions of people around the world who speak this language. According to Fernandez (2021) English is the most widely spoken language in the world in 2021, with more than 1,348 million speakers. Approximately 379 of them are native speakers, while the rest have learned this language as a second language. This is why speaking English has become an indispensable requirement for all those who want to compete in the labor market; This is why in Costa Rica this second language is taught from school age since 1995 / 1998.

In 1995, the Program for the Study of Foreign Languages for Development (PROLED) began. In accordance with the document entitled The Educational Policy towards the century XXI: Proposals and Accomplishments, published by the Ministry of Education during the government of José María Figueres Olsen (1994-1998) and being Minister of Public Education Mr. Eduardo Doryan Garrón, it is emphasized in the need to bridge the gap between the private and public education. To achieve this purpose, it then becomes necessary to promote teaching and learning English in the country's public schools, achieve an economic and cultural integration of our country with the national community and also offer better study and work opportunities, with the purpose to seek equal opportunities for all citizens. (Marin,2012)

In Costa Rica and around the world, the fourth industrial revolution is rapidly making its way. This has impacted not only the industry as such, it has also begun to impact the educational

area around the world, although in Costa Rica it certainly does not take the same pace as in first world countries, little by little it is beginning to show in the area of Education.

Costa Rica must begin to invest in technology in the field of education if it wishes to compete and without a doubt from school there must be changes so that new generations can assimilate and adapt to new ways of learning. University careers should also focus in careers that adapt to this new revolution so that their students can compete in the job market.

We cannot close our eyes or stop time, we are moving towards a society of knowledge, skills and abilities. Path to automation, robotization, BIG DATA, artificial intelligence, 3-D printing, biotechnology and quantum computing. In summary, a technological tsunami awaits us that will change our society and educational offers must be oriented to these great changes. (Herrera, 2020)

One of the many innovations that this fourth industrial revolution brings is Cloud computing, and it is in this area that this research will be based.

Regarding this specific issue, it seeks to know the benefits and harms that its implementation will bring in the field of education.

### ***1.1.2 Problematization***

The teaching of English in Costa Rica has evolved from traditional methods to new and better educational methodologies, but it is important to analyze not only the new programs but also the reinforcement in technology that could be done so that the teaching of English can be developed in a better way.

Students between the ages of 14 and 17 are willing to participate and learn English; Using cloud computing can reduce costs in education and also begin to prepare young people for the new changes that are already at the door.

The problem that most public schools in the country present is that they do not have the necessary technology to implement new forms of teaching and learning. With the use of cloud computing, not only students will benefit, but also educational institutions and teachers. If cloud computing is well implemented, the parents of the students could also see the benefits.

### ***1.1.3 Justification of the problem***

This topic is chosen because without a doubt Costa Rica must begin to invest in technology since the country as such is in the midst of this revolutionary change in technology.

Since technology and teaching methods change in a constant way around the world, Costa Rica cannot be left behind, that is why little by little the government of the republic through the Ministry of Education has begun to invest resources in high schools and public schools in order to adapt students to new methods of education, in which technology is becoming more and more relevant.

Technology has come a long way at the educational level, and although there is no doubt that the benefits it brings to the educational sector are too great, Costa Rica still lags behind compared to other countries.

According to Castro 2022 cited by Redactora la Republica, the educational crisis that the country has today is not a product of the strikes that have occurred or even of the pandemic, but rather because of the digital divide that exists.

It is for this reason that it is urgent for the government to invest in the necessary technology that promotes the education of the country, so that public education can be put on a level with the education of other countries such as the United States, to mention one.

Of implementing cloud computing in the English language lessons there are many benefits that this would bring in the quality of learning this language and it should be noted that the use of cloud computing would not only benefit the teaching and learning of the English language but also all subjects.

The cloud computing has many benefits for educational institutions and for students promoting savings with its use, more entertaining classes for students which triggers greater motivation for learning and this in turn makes teachers motivate themselves to create more fun classes but with great learning. that is why this topic is of great importance.

## **1.2 FORMULATION OF THE PROBLEM**

### ***1.2.1 Research question***

What is the impact the impact of games and songs as part of cloud computing activities in the learning vocabulary process within the EFL environment in nine grades of Liceo Jose Marti during the first semester of 2022?

## **1.3 OBJECTIVES OF THE INVESTIGATION**

### ***1.3.1 General Objective***

To analyze the impact of games and songs as part of cloud computing activities in the learning vocabulary process within the EFL environment in nine grades of Liceo Jose Marti during the first semester of 2022

### ***1.3.2 Specific Objectives***

1.To describe the importance and the impact of games and songs as part of cloud computing activities in the learning vocabulary process within the EFL environment in nine grade of Liceo Jose Marti during the first semester of 2022

2.To distinguish technological resources used as tools to teach English Language in students of nine grade of Liceo Jose Marti during the first semester of 2022

3.To identify the challenges of implementing games and songs as part of cloud computing to teach English Language in students of Liceo Jose Marti during the first semester of 2022

## **1.4 SCOPE AND LIMITATIONS**

### ***1.4.1 Scope***

This research seeks to highlight the importance and value of the use of cloud computing technology in education, even more so in these times when the COVID-19 pandemic has caused such an impact on the way in which lessons are taught and received as well as access to teaching materials and resources.

The students of nine grade from the Liceo Jose Marti with this research, will be benefited since they will be able to use the technology, they have at hand to discover new and better ways of learning English, this in a much more fun, relaxed way and where they will not have to invest money in buying books. or photocopies. In turn, teachers will have better control of the class and their lessons will be better internalized by their students.

Without a doubt, the education process is in the midst of the fourth revolution, one that is technological and that without a doubt education has already been achieved by it, therefore

professors must begin to reform the way in which it is taught, using more technology, the Internet and all the new resources that are already on hand today

#### ***1.4.2 Limitations***

For the realization of this investigation there were several problems, which caused that the delivery times of this investigation had to be extended. The situation of the pandemic due to covid 19 undoubtedly hindered the investigation and collection of data such as surveys and interviews, since visits to educational institutions were extremely restricted. In addition to this, a series of acts were recently presented at the Liceo Jose Martí criminal offenses by the students where there were even shootings which made it more difficult to enter the institution and finally a series of personal problems caused problems for the researcher.

Despite everything that was mentioned, the entire investigation could be carried out.

**CHAPTER II:**  
**THEORETICAL FRAMEWORK**

## INTRODUCTION

The present investigation consists of an exploratory study focused on the impact of games and songs as part of cloud computing activities in the learning vocabulary process within the EFL environment in nine grades of Liceo José Martí during the I semester of 2022. This is because technology has been increasingly taking part in the educational environment and therefore is investigated in this regard. The main purpose of the investigation is to provide enough information related to the relationship between the use of games and songs as part of cloud computing and the learning vocabulary process within the EFL environment in nine grades of Liceo José Martí during the I semester of 2022

Learning English as a second language is undoubtedly something very important these days around the world. Here in Costa Rica, the government of the republic has proposed to bilingual the population; for that reason, the Liceo José Martí has invested in computers and the internet to try to provide students with access to these resources that allow them to access content that boosts their four skills. Making use of technology in English classes is very important for the teacher as well as for the student, since through the use of videos, movies and songs (to name a few) you can strengthen speaking, listening, writing and reading English language.

Speaking of Liceo Jose Marti, the four skills have been improved with the use of songs and videos in English, which is why it is considered extremely important that the use of this technology be implemented in all public schools in the country in order to comply with the objective of bilingual zing the population.

As a conclusion, it can be said that with the results of the research, it will be possible to prove the multiple benefits of using games and songs as part of cloud computing

technology to improve vocabulary and also the four skills, not only in the institution where the research is carried out, but in all those where it is possible to invest in the necessary resources to teach this type of lesson.

## **2.1 HISTORICAL CONTEXT**

### ***2.1.1 Background of the organization or community***

The beginnings of the Liceo José Martí were in some classrooms that the Delia school lent them, but later the local government donated a piece of land and that is how in 1956 the José Martí school already had its own facilities and that is how its new history began.

Today this educational institution has more than a thousand students who come from different districts of Puntarenas, many of these districts are very marginalized areas and therefore the student population of the Jose Marti school are young people who live in marginal neighborhoods where the violence, unemployment, drugs and other scourges make students young people with many shortcomings, not only economically but also behaviorally. Many of these young people come from dysfunctional homes and that is why in recent years' violence has increased in the institution. Despite all this, the vast majority of students show a great desire to excel and thus change the course of their lives.

From its creation to today the institution has been growing in infrastructure which allows it to have today a large population of students, teachers and administrative staff.

The institution's mission is to be a pioneering institution in the field of education, providing high quality education.

Our Liceo Diurno José Martí is a prestigious academic educational institution, pioneer, leader and innovator in the areas of technology, sports, art, workshops, languages, recognized at the national level, where we provide vocational services, general basic and diversified education. We offer scholarships, a resource center, laboratories, socio-affective support, guidance, we instill respect, discipline, responsibility, understanding, solidarity, commitment and cooperation for our youth in Puntarenas and its surroundings, with highly qualified personnel to form an integral human being and with initiative. That is why he bears the glorious name of a liberator. (Plan Anual,2019)

The vision of the institution according to the Plan Annual 2019 is “Provide an educational institution with an organized climate that allows the Learner to be fully integrated into the Learning Process, in order to obtain an integral being with a vision of the future”

Without a doubt, for this respectable educational institution, its primary objective is to train, beyond trained students, worthy human beings capable of helping the growth and development of the country.

## **2.2 THEORETICAL- CONCEPTUAL CONTEXT**

**2.2.1 Factor A, Independent Variable:** English Learning as a Foreign Language

**2.2.2 Factor B, Dependent Variable:** Use of games and songs as part of cloud computing

## **2.3 VARIABLE DEFINITION:**

“Variables represents the measurable traits that can change over the course of a scientific experiment” (Agravante,2018)

### **2.3.1 Independent Variables**

According to Form Plus Blog ND experimental research “is a scientific approach to research, where one or more independent variables are manipulated and applied to one or more dependent variables to measure their effect on the latter”. This means that the variables are manipulated by the researcher in order to check their effect on the research.

### **2.3.2 Dependent Variables**

The dependent variable is the condition that you measure in an experiment. You are assessing how it responds to a change in the independent variable, so you can think of it as depending on the independent variable.

Sometimes the dependent variable is called the "responding variable."

(Helmenstine,2019).

## **2.2.1 GAMES AND SONGS IN EDUCATION (EFL)**

Before specifying what is meant by games and songs in teaching, it is imperative to explain what is meant by the teaching-learning process, since both games and songs in teaching are inserted into it.

According to Contreras cited in Meneses (2007), teaching-learning processes are "simultaneously a phenomenon that is experienced and created from within, that is, processes of interaction and exchange governed by certain intentions (...), in principle intended to make learning possible; and at the same time, it is a process determined from the outside, insofar as it is part of the structure of social institutions among which it performs functions that are explained not from individual intentions and actions, but from the role it plays in the social structure, its needs and interests" (p.32).

From this it follows that teaching-learning processes are understood as phenomena that are lived and created from within and are determined from without at the same time. Regarding the internal level, it is due to the symbiosis that occurs within the space where the process takes place. Regarding the external level, it is because education has a social role this is because in today's social structure as in the past, the education of citizens is of vital importance in the growth of nations, in the specific case of learning the English language, it has become of vital importance in society since it is a language that is international and is highly required for almost any job.

In short, the teaching-learning process is, according to Contreras cited in Meneses (2007), an "intentional communication system that occurs in an institutional framework and in which strategies are generated aimed at provoking learning" (p.32).

According to Abreu, Barrera, Berijo and Bonilla (2018), "The teaching-learning process (PEA) is conceived as the space in which the main protagonist is the student and the teacher fulfills a role as facilitator of the processes. Learning. It is the students who build knowledge from reading, contributing their experiences and reflecting on them, exchanging their points of view with their classmates and

the teacher. In this space, it is intended that the student enjoy learning and commit to it for life” (p.611).

From what these authors say, it is possible to make visible the way in which the role of the teacher must be understood today and that the role of the speaker must be understood in another way. Thus, in this way, the teaching-learning process requires a different conception than what was thought until recently of what teaching is and what learning means.

According to Chacón (2008) and González (2008), the game is innate to the human being and this is really useful to achieve the objectives that the teacher proposes in the teaching-learning process. The game makes the action easy educational by motivating the student, thus achieving a better predisposition to intervene in the aforementioned process. However, this can not only be used to prepare the student for their intervention in the teaching-learning process. Also, the game, as a didactic resource, is one that is used as a means to acquire knowledge and/or skills (Ortiz, 2005; Chacón, 2008).

In this second way, the game is understood in this research, that is, by its ability to promote knowledge and/or skills that are intended in the teaching-learning process.

According to Willems (1981) cited by Alvarado (2013), "Music is the most global human activity", and it must be added that both on a personal and social level. Therefore, songs, as part of music, are present in every moment of a person's life. In this way, it helps to develop multiple qualities of the human being at each age stage, which affects the affective, cognitive and social spheres of the individual. This makes it become a very powerful resource to be able to positively interfere in the integral development of the

person. In regards to its potential as a didactic resource in the cognitive field, songs are understood in this research, in other words, for their ability to generate knowledge in the teaching-learning process. As both games and songs are considered in this research as a didactic resource, it is important to specify briefly but concisely what we mean by this.

Regarding the didactic resource, it must first be said that it is a difficult term to specify. However, it can be defined following Morales cited in Vargas (2017), who says that "a didactic resource is understood as the set of material means that intervene and facilitate the teaching-learning process" (p.69). Therefore, in general terms, the didactic resource is any fact, place, object, person, process or instrument that supports the student and the teacher to achieve the learning objectives.

Starting from this, the didactic resource can be understood as a means in the teaching-learning process, since according to an anonymous author (2009) "Resources not only transmit information, but also promote, through their symbolic systems, certain forms to understand and codify reality" (p.1). In other words, the person, whether teacher or student, who approaches and interacts with the teaching resources will not only be able to extract information, but will also be influenced in how they approach reality.

Teaching resources are important, without a doubt, for the teaching-learning process, and it must be said, it is not enough to have a wide variety of teaching resources, but it is important to know how to use them at the right time to maximize the knowledge that is intended to be built. This is because, according to Pérez (2010), "The diversity of teaching resources is important, as well as putting them to good use at the right time" (p.1).

In order to maximize the benefits of teaching resources, it is equally important to know their functionality. According to Vargas (2017), the functionality is: "a) provide information, b) meet an objective, c) guide the teaching and learning process, d) contextualize students, e) enable communication between teachers and students, f) bring ideas closer to the senses, g) motivate students" (p.69).

In Costa Rica, the Ministry of Public Education (MEP) is in charge of ensuring education. It proposes in its programs the method of the four skills to teach students the English language, since it promotes speaking, reading, listening. writing as an integral method in which the use of games and songs can be included to teach the English language.

#### ***2.2.1.2 Benefits of games and songs in teaching English as a foreign language***

Relying on Rubio and Conesa (2013, p169-185), it must be recognized that conventional methods in teaching English as a foreign language have been monotonous and, therefore, unpleasant for learners, since the teaching process -learning to which they are subjected is an unnatural and demotivating process for them. This has meant that enthusiasm for learning English as a foreign language has been stifled.

To innovate this teaching-learning process of English as a foreign language, the use of games is proposed, since, according to Lengeling and Malarcher (1997, p.42), the benefits of these can be grouped into four general areas:

a) Affective benefits: games reduce the affective filter, encourage a creative and spontaneous use of the language, promote communicative competence, motivate and are fun.

b) Cognitive benefits: games are used for reinforcement, are useful for revision and extension, and focus on grammar in a communicative way.

c) Dynamic benefits: the games focus on the students, the teacher acts as a facilitator, they build class cohesion, encourage the participation of the whole class and promote healthy competition.

d) Benefits of adaptability: the games are easy to adjust for age, level and interests, use all four skills and require minimal preparation on the part of the students.

Therefore, not every game is suitable for the class of English as a foreign language. In order to be beneficial in the teaching-learning process, a game must be used as a didactic resource for the class itself, as a motivation to develop it or as an evaluation method, but not for the simple fact of playing.

According to Tyson (1998: p 1), a serving game should be fun, involve friendly competition, keep all students engaged and interested, require students to use language that is challenging but not too difficult, give students the opportunity to learn, practice or review language-specific material and encourage students to focus on the use of the language rather than their own. In contrast, a game that doesn't work is one that is only used to fill time, one that takes too long, one that is demeaning or discouraging for "losers", one that is too easy or too difficult for the age of the student and their level of competence, which it allows only a few students to participate for a long time, while the rest just watch and are not graduated in some way.

Therefore, to obtain the benefits of the game it is necessary that it works and, for the latter, according to Bello (1990, p139-157), the following must be considered:

a) What is the approach of the game and the way of grouping the students for each activity (group or individual), that is, the organization of the activity.

b) Be clear about what material will be used for each type of game and what language will be used for interaction in the game as basic structures that help start, develop and finish the game. These structures must be shown and explained to the students before starting the game so that they become familiar with this vocabulary and know how to use it in a useful and conscious way.

c) Pay attention to the different game modalities that could be classified according to the objective they pursue.

Songs are also a resource that can lead us to innovate in the English as a foreign language class, because it is a very popular instrument and can facilitate the English language teaching-learning process.

Based on Chacón (2009, p. 2-3), songs serve in a very advantageous way to initiate new structures in contexts with meaning, to reinforce the structures that learners already know, to increase vocabulary and review it to learn better to pronounce it and to practice all the skills in a different way than the traditional one. In the words of John M. Feierabend, the use of songs in the classroom has the following advantages:

a) Exposure to word families: in this way you will have an idea of the general sound patterns of English and its writing system.

b) Exposure to the language: they can take the form of the language unconsciously while singing the song.

- c) The acquisition of vocabulary and rhythm: they can build their vocabulary banks and learn to appreciate the rhythmic pattern of English.
- d) Exposure to the language used in a more creative way.
- e) Exposure to cultural phenomena: most songs are composed of expressing one's own experience or feelings towards a certain person or a particular thing or incident. They are living expressions of the traditions, cultural phenomena, and values of the countries from which they come. Then teachers can expose them to the cultures of different countries and encourage them to compare other cultures with their own. In today's knowledge society, this is vitally important.

In order to take advantage of all the benefits of songs as a didactic resource for the teaching-learning process of English as a foreign language, Cesteros (2004, p.256-258) names some interesting guidelines such as:

- a) In the preparation of the listening it is convenient to explain the linguistic elements, that is, an introduction and analysis of the lyrics is necessary for it to be understood.
- b) Make an exploration of the previous knowledge of the students about the singer, type of music, theme and comment on them.
- c) Next, a first listening will be carried out, to later carry out the proposed activity that presents very clear instructions, such as activities such as pointing, marking, reconstructing omitted words, writing, etc.
- d) Repeating the listening to confirm understanding.

e) Accompany the sound stimuli with the visual ones to increase motivation in this type of activity.

***2.2.1.3 Possible disadvantages of including games and songs in the teaching of English as a foreign language***

Regarding the possible disadvantages of games in teaching English as a foreign language, according to Molina, the following can be mentioned:

a) We are presented with situations in which the students will want to play well and in others they will not.

b) The student could stop trying at the slightest difficulty.

c) Due to the culture of competition, the pedagogical value of the game could be lost and remain in mere competition or in the mere achievement of the objective.

d) Each game does not work for all students, since each one learns differently.

According to Rodríguez (2005), the use of songs as didactic resources also implies several disadvantages. Among which she considers the lack of the necessary equipment, either because they do not have or because they are damaged or because there are not enough of them at the same time, which means that the class has to be developed without this didactic resource or that hinders the good listening to the songs, in addition to the placement of the tables, the acoustic insulation of the classroom, among others.

In addition, she expresses the selection of the songs as a disadvantage because, in the author's words, "all the motivating component that a song can suppose for a student, can

potentially represent the opposite for another who does not like a certain type of music, performer or group” (2005: p.808).

The last drawback that can be mentioned is the time spent, which the teacher often does not have, in the search for songs that fit the theme established in the programming, as well as in the preparation of exercises.

#### ***2.2.1.4 Methodologies in which games and songs are applied***

As has been shown, there are benefits to both the game and the songs for teaching English as a foreign language, but these teaching resources must be inserted into a methodology. Here is the problem: many authors and educators agree on the need for English for learners and on the importance of games and songs, but they do not agree on what is the most effective methodology for the teaching-learning process of English. English as a foreign language.

However, for the purposes of this research, it is based on the types of learning that Medellín (2008) proposes, in which games and songs can be used as teaching resources. These are three: incidental learning, intentional learning and explicit instruction.

As for the first, this is given by casual listening and reading of the language, in many cases in songs, television programs and/or movies; According to Medellín (2008) "they are a great opportunity to expand the vocabulary of the learners, because basically the students found by themselves in contexts of their own interest".

As far as the second is concerned, it is the formation of vocabulary in the student by a tutor. This can be confused with explicit instruction.

Regarding the third, it is the one in which the teacher evaluates the vocabulary needs of the learners, designs the methodology that allows maximizing the opportunities for vocabulary learning and develops direct instruction (the teacher presents the learner with information) or indirect (the teacher provides the information).

### ***2.2.1.5 Compilation of Activities Where Games and Songs Can Be Used to Teach English***

Arias and Castiblanco (2015), in their degree work to opt for the bachelor's degree in basic education with an emphasis on humanities and languages called "The game as a pedagogical strategy for learning vocabulary and developing oral skills in English", collect various games and songs that can be used to teach English. These are transcribed below:

#### a. Pass a sound.

Description: Students are asked to form a circle, in order to build a feeling of sharing and listening. Then, they are asked to transmit a sound or a word or phrase. Close attention is required in order to copy exactly what the other person is saying or doing.

#### b. Simon Says

Description: Students are given instructions that they must follow. Example:  
 “Simon says put your hands up...”

Variation: Students write an action in their notebook. The teacher chooses two of them; one reads and the other acts.

#### c. Jog! Jog!

Description: An action is said and the students must repeat it continuously while performing it.

Example: Teacher: (starts jogging around the room) Jog! Jog! Jog! etc. Learners: (jogging) Jog! Jog! Jog!

d. Random sounds

Description: While the students are with their eyes closed, leaning back in their seat, sounds will be played and they will listen carefully. Then, they will write single words or phrases of what they have heard and later they will comment on it in pairs.

e. Strip of a picture

Description: A part of a picture is given to each student. They must describe in words what they can distinguish from the image. After formulating a hypothesis, they must look for the missing part(s) that other classmates have and verify if what they had described coincides with the assembled image.

f. Scrambled sentences.

Description: The teacher gives cards containing isolated words to the students, which make up a sentence. Then, they must organize them correctly and later whoever has it right, will go to the board, order it and read it aloud.

g. Role plays and simulations.

Description: This type of game is used when you have extensive knowledge about the subject that is going to be emphasized. The teacher proposes real-life situations (going

shopping) and by pairs (or the number that is prudent) roles are assumed (salesperson, customer...) to recreate short presentations.

h. Mime and guess

Description: To carry out this game, a student is asked to imitate an adjective. The rest of the students must try to guess what he or she is imitating with a limit of approximately 2 minutes. The class can be divided into two teams. Example: Mimer: (mimes' action). Learner 1: Are you tired? Mimer: (shakes head, continues miming) Learner 2: Are you lazy? Mimer: (shakes head, continues miming) Learner 3: Are you bored? Mimer: Yes!

i. Sentence race.

Description: The group is divided into 2 teams and each one is given a set of words identical to those of the other. The teacher calls out one of those words and the students who have it must stand up, go to the board, write a short sentence with their word and read it aloud. Point is given to whoever has it well written.

j. Follow the clues.

Description: The teacher gives clues to his students and according to these, he must find a hidden image, place or object.

k. Interviewing my classmate

Description: A student must ask his classmate questions, according to certain images and mark his answers, assuming a specific role (doctor, salesman...).

In addition to all these games that have been mentioned above, in which the use of technological resources such as computers, televisions, internet or radio recorders can also be introduced, there are many other online games or applications in the cloud with which a teacher can teach part of their English lessons and thus motivate the interest of their students. Some of those games and applications are:

- a. YouTube: With the use of this application, you can watch movies, songs, short stories and many other activities.
- b. The hanged man: with this online application the teacher can teach vocabulary in a very entertaining way to his students, since by guessing the word letter by letter the students have fun while they learn new words
- c. Kahoot: This is another application where the teacher prepares the vocabulary lesson or review of something seen in advance and in the form of a question, the students solve the questionnaire online, obtaining points for the one who answers it the fastest. In this way, with a simple game of questions students have fun and learn.
- d. Crossword puzzles: this is a classic to learn vocabulary, the teacher creates the crossword puzzle with the words he wants to teach or review and the students can solve it online.

These four mentioned are not the only ones but they are the most used by teachers, there are also many pages that allow the teacher to use their games, an example is [eslgamesplus.com](http://eslgamesplus.com) where you can find many games to learn English while playing.

### **2.2.2 CLOUD COMPUTING**

According to Gutiérrez (2016) as stated by Gutiérrez and García (2019), Information Technologies (IT), later called New Information and Communication Technologies (NICT), until reaching what we know today as Information and Communication Technologies. (TIC), are terms that refer to a wide variety of technological resources, developed from the study and application of computing and its interrelation with other branches of science; all of them have to do with obtaining data, computer equipment (hardware), for its processing; its transformation into information, its storage, its exploitation, its sending and reception to and from distant places, using the Internet for this, in addition to the large number of services that can be obtained through its use and that are known as Web services, which are also makes mobile computing possible through the use of mobile devices and applications.

Cloud computing is circumscribed in this technological development that has emerged from this study and application of computing and that makes use of the internet in various technological devices and applications. It has all the capacity to contribute to quality education and, therefore, to collaborate in the teaching-learning process of English as a foreign language. Especially at this time when the educational transformation has been accelerated by the virtuality of classes forced by the pandemic, in which the role of the student and the teacher is being defined, in which the former ceases to be so passive in the process. of teaching - learning and the second becomes a facilitator that mediates knowledge for the student.

### ***2.2.2.1 Definition of cloud computing***

The fourth industrial revolution has been changing the world panorama, services have been automated, before, for example, for any banking procedure, no matter how simple it was, the client had to travel to the closest branch of the bank, these types of problems today are something of the past since with a computer or smart cell phone anyone can make payments or carry out transactions from one bank to another.

Cloud computing is one of the aspects that are part of the fourth industrial revolution; according to Miguélez (2020), a very simple way to explain it is through the use of email, because nobody has to download any application that affects the functioning of the computer and even so you can send and receive information without having to pay anything because everything is in the cloud.

According to Cabral (2018) cited by Gutiérrez and García (2019), the word "cloud" is handled as an internet metaphor. As specified by the Cloud Security Alliance cited by Gutiérrez and García (2019) "it describes the use of a series of services, applications, information and infrastructure made up of reserves of computing resources, networks, information and storage. These components can be rapidly orchestrated, provisioned, deployed and dismantled, and scale to dimensional functions to offer utility-type services", that is, referring to the dynamic, flexible and scalable nature of the resources that are generated on top of the information and its benefits, associated with the Internet and that can be displayed in various ways.

Consequently, cloud computing refers to "servers from the Internet commissioned to attend requests at any time, being able to enjoy access to information or services through

an Internet connection from any mobile or fixed device located anywhere" (Cabral, 2018 cited in Gutiérrez and García, 2019).

Cloud computing, according to Gutiérrez and García (2019), "is represented by three models known as: Software as a Service (Software as a Service SaaS), Platform as a Service (Platform as a Service - PaaS), and Infrastructure as a service (Infrastructure as a Service - IaaS). So, cloud computing is a service that is software, platform, and infrastructure.

Now, in the field of education, which is the one on which this research is based, how does cloud computing affect this? Are the benefits more than the damages? The researchers point more to the benefits that the implementation of cloud computing entails in education, since there is a marked reduction in costs, the work can be done collaboratively, access to these works is simple and an active communication can be maintained.

There are many utilities of cloud storage in the field of education, for example a teacher can archive all his plans, worksheets and exams in the cloud, which would take up a lot of space on the computer; According to Miguélez (2020), one of the greatest benefits of cloud computing would be to avoid overloading computers, which is undoubtedly a very important benefit.

#### ***2.2.2.2 Characteristics of cloud computing***

The characteristics of something allow us to know in greater detail the functionality of it. For this reason, in general terms, according to Hernández and Flórez (2014), the characteristics of cloud computing are the following:

- a) A la carte self-service: A consumer does not need to interact with a human provider to unilaterally stock up on computing capabilities.
- b) Wide network access: Capabilities are available on the network and accessed through standard mechanisms.
- c) Pooled resource reservations: The provider's computing resources are pooled so that they can be used by multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically allocated and reallocated based on demand. the consumers.
- d) Speed and elasticity: Capacities can be supplied quickly and elastically, in some cases automatically, in order to perform the corresponding resizing quickly.
- e) Supervised service: Cloud systems control and optimize the use of resources automatically using an evaluation capability at some level of abstraction appropriate to the type of service.
- f) It is self-repairing: In the event of a failure, the last backup of the application automatically becomes the primary copy and a new one is generated from it.
- g) It is scalable: The entire system and its architecture are predictable and efficient. A level of services is established that creates new instances according to the demand of existing operations, reducing waiting and bottlenecks.
- h) Virtualization: Applications are independent of the hardware on which they run. The user is free to use the platform he wants in his terminal; his work will retain its characteristics under another platform.

i) It has a high level of security: Different clients can share the infrastructure without compromising their security and privacy; This is taken care of by the provider system that is responsible for encrypting the data.

j) Availability of the information: It is not necessary to save the edited documents on the computer or on their own physical media, since the information will be on the Internet, allowing access from any device connected to the network with the required authorization.

Cloud computing is that tool that today allows teachers to plan more fun classes where the use of the computer allows students to play games while they learn and make use of the content that the teacher provides them without the need to print or download documents, interact with your classmates and give your opinions more freely.

### ***2.2.2.3 Advantages and disadvantages of cloud computing***

In general terms, according to Hernández and Flórez (2014), it could be said that an advantage of cloud computing is that "it is not necessary to have a computer with the best features, however, a device is necessary. with internet access; This is because the user does not carry out any complex process and the files can be saved in the cloud".

In addition, another advantage lies in the fact that "the servers where the programs used are found are in charge of the complicated tasks that were previously carried out locally. With the use of Cloud Computing there is no need for the user to know the infrastructure behind it, since it becomes an abstraction, "a cloud" where applications and services can easily grow, be more efficient, reliable and transparent" (Hernández and Flórez, 2014).

Including these advantages of cloud computing that have already been explained, regarding Landazuri (2018), Martinez and Gutiérrez (2018) and Suárez (2013) cited in Gutiérrez and García (2019), they list the following advantages:

a) Proven integration of web services: This technology can be integrated more easily and quickly with the rest of your business applications, whether they are developed internally or externally.

b) Provision of world-class services: Its infrastructure provides greater adaptation capacity, complete disaster recovery.

c) You do not need to install any type of hardware or software: It is simple and requires less investment to start working.

d) Faster implementation and with less risk: Your applications in cloud computing technology are available in a matter of weeks or months.

e) Customization Capability: Retain customizations even after updates.

f) Greater options for business users: Allows direct and easy customizations and reporting for business users.

g) Automatic updates that do not negatively affect IT resources: It does not force you to decide between updating and keeping your work, because customizations and integrations are automatically preserved during the update.

h) Allows the massification of so-called smart devices.

i) It allows citizens to access all kinds of information wherever they are, as long as they have a smart device and internet services.

In addition to the benefits that were mentioned, others can be mentioned that positively affect the field of education such as cost reduction, collaborative work, objective availability and active communication, which are explained below.

a. Costs reduction

In any educational institution the use of cloud computing would bring with it a reduction of costs in paper and ink since the exams, books or worksheets to mention a few should not be printed; this money that the institution saves can be used to meet other needs or to invest in technological resources.

Cloud computing encompasses all the computing resources that can be distributed to applications and devices as needed. This process optimizes the use of computing resources and delivers better efficiency and utilization, leading to lower costs for power and facilities. Cloud computing also uses less of your physical resources so there is no hardware to power and maintain, and cash flow can be redirected to other areas. (KJ Tecnología, 2017. Par4,5)

The student population of the Liceo Jose Martí, as mentioned before, comes from different marginalized areas, where unemployment is a serious problem faced by many families, given this many times the students do not have money to photocopy books or the material to work in the class ,with the implementation of cloud computing, teachers can open a drive in the cloud and place in it the work that students will have to do that day or perhaps upload a book that they have to read and thus avoid spending money on students taking photocopies, this without doubt it is undoubtedly a great benefit of cloud computing.

Besides this in high schools, whenever grades are delivered at the end of each semester, the institution must incur paper and ink costs to print said documents, with the use of cloud computing the educational institution can upload the grades of its students to the cloud, parents can access them and thus reduce costs.

#### b. Collaborative work

Collaborative work is one in which several come together to perform a task together, in the case of education it is when a work or research is assigned to be carried out in groups. The cloud computing allows these works to be carried out online, which Each student adds content that they consider relevant and when finished the teacher can review the final product. This is a method that many university students use and that can also be put into practice at the high school level.

With collaborative work in the cloud, students are taught or reinforced teamwork and to respect and value the contribution of others, in addition, it avoids that only one member assumes the responsibility of carrying out the work as often happens.

Because cloud computing allows students to instantly access and store homework- and test-related materials on remote servers, their backpacks are lighter and they can work from wherever there's an internet connection. They can also collaborate with classmates on group assignments without having to be in the same room.

Consequently, more and more students are trading notebooks and binders for iPads and laptops, and more teachers are using online platforms to assign and track homework. (Gottsegen, 2019)

In addition to these benefits that were mentioned, cloud computing allows the teacher to share their ideas without interruptions, give feedback to their students and they in turn can share their ideas without fear of being judged.

c. Objective availability

With the information in the cloud, both the students and the teacher have access to it from anywhere and at any time. Recorded classes can be re-watched by students to clarify doubts or re-read the instructions that the teacher gave as many times as needed.

One of the biggest obstacles for teachers is time. The cloud offers many solutions that give teachers more time to focus on instruction. Since students and teachers can access materials from anywhere, teachers can spend less time making copies.

Teachers will no longer have to deal with the frustration of misplaced materials and assignments as the cloud holds all this information. Instead of carrying home stacks of papers and notebooks for grading, teachers can grade and offer feedback on assignments from their device. The cloud also streamlines the process for gathering missing and late work from absent students.

Teachers can save all their lesson plans and assignments to the cloud. From there, they can share them with other teachers and administrators and receive feedback on them. This makes lesson planning from year to year simpler and allows for educators to shift plans easily. If by chance a teacher's laptop fails, all the information will not need to be recreated as the cloud will retain it. Districts and administrators can also organize and share important information and policies with

all personnel easily through the cloud. The cloud gives users the flexibility to work from anywhere. (Vandis, 2019)

Undoubtedly, teachers would save a lot of time by having the information they require in the cloud and that time they save can be invested in effective lesson time, for their part, students can have access at all times to all materials, tasks and projects that the teacher has assigned, also the educational institutions could have access to the teacher's plans and even the parents could access all the materials and verify that their children carry out the tasks and projects that have been assigned to them.

#### d. Active Communication

Undoubtedly, with cloud computing, communication between the teacher, the students, the parents and the institution are favored since it is not necessary to attend a parent meeting in person because the institution can send the information that is required by means of an email. The teacher can also chat with his students and give them instructions for any work they are going to do.

Although communication may be more efficient, there will always be a certain degree of resistance to change. Some teachers or parents may have difficulties adapting to this new technological era; For their part, for public educational institutions in Costa Rica, it could be a challenge to obtain sufficient resources to be able to immerse themselves in this change, but beyond all this, the great value of cloud computing cannot be denied.

In contrast, of the disadvantages of cloud computing pointed out by Martinez and Gutiérrez (2018) cited in Gutiérrez and García (2019), the ones it presents in the educational field are the following:

a) Lack of control over resources: The client does not have complete control over resources and even over their information once it is uploaded to the cloud.

b) Dependency: The client becomes dependent both on the provider and on his internet connection.

c) Integration: The integration of resources available through cloud computing infrastructures with systems developed in a traditional way is not easy.

As is evident from the list that has been made of the advantages and disadvantages of cloud computing, the number of benefits it has is greater than the problems it presents. Therefore, it can serve as a good resource for the teaching-learning process of English as a foreign language.

#### ***2.2.2.4 Activities that can be implemented through cloud computing***

According to Sánchez, Tamayo, Katrib and García, "blogs (bitácoras), wikis, forums, among others, are already de facto standards for all network users." Since the use of the cloud as a form of teaching is varied, activities such as the creation of temporary links with specific activities depending on the topic being developed can be developed from this, up to the confession of pages with simple implements such as to have a small space to listen to an audio or read a text or to make different associations.

In addition to this, it has been discovered that spaces such as blogs, wikipedias, conversation forums, are used to provide information, add long-term links or invite the student to participate in a specific activity where they must develop the topic seen. more extensively. These can be activities that can be implemented through the use of cloud computing.

The forums also created on the web with a search filter for the student, intranet, were developed more to keep an order of the development of those carried out by the students where the students themselves can share their positions according to the activities developed and create a correction space. and group contribution to improve learning.

In the forums and blog, activities of different kinds are usually developed, from the basic ones of having a let's listen to a piece of reading to having things a little more complicated like a small roulette as part of the space where the students must turn and starting from the word that come out, they must create a sentence in English.

#### ***2.2.2.5 Vocabulary in the Process of Teaching English as a foreign language (EFL)***

Regarding the teaching of vocabulary, there have been two clearly defined positions. On the one hand, Krashen (1985) cited by Lebrón (2009) believes that language and, therefore, its vocabulary is acquired unconsciously. This happens through Acquisition: a subconscious process identical to that used to learn the mother tongue and Learning: a conscious process that gives rise to knowledge about the language. On the other hand, there are those who believe that explicit knowledge is accompanied by enough practice to become implicit over time.

From the first, it follows that the teaching-learning process of English as a foreign language and its vocabulary leads the learner not to automate the language and to acquire the vocabulary subconsciously.

From the second position follows the position that the vocabulary is taught explicitly through the teaching-learning process of English as a foreign language.

However, there is an integrating position, which is the one that is accepted in this research. Ellis (1997) cited by Lebrón (2009) states that to learn a word well, several processes are necessary that are logically, psychologically and pedagogically separable: one unconscious and implicit and the other conscious or explicit.

According to this, it can be concluded that the two processes that intervene in the teaching-learning process complement each other and, consequently, both must be used for teaching English as a foreign language, if it is intended to facilitate the learning of the lexicon as much as possible. by the learning people.

#### ***2.2.2.6 Importance of Vocabulary in the process of learning English as a second language***

The teaching of the lexicon in the pedagogical practice is a challenge for the teacher of English as a foreign language, because "In the teaching/learning process of lexical knowledge, several competences are included, within them, grammar" (Siqueira, 2007).

According to Siqueira (2007), through grammatical competence, the student learns norms, rules and functions of the elements of the language that belong to the written code of the language. In this lies the importance of vocabulary in the teaching-learning process of English as a second language.

The integrative position on the teaching of vocabulary points out the importance of vocabulary, because "Although the unconscious has a lot to do with learning a word, the inclusion in our classrooms of some method of direct instruction is also necessary. of vocabulary" (Lebrón, 2009).

For this reason, according to Allen (1983) cited in Lebrón (2009), “the treatment of the vocabulary of a language, therefore, must be integrated into the language class in a systematic way. We cannot forget that on many occasions we find students who, after several years of studying a certain language, still have not acquired many of the words that are necessary for them to communicate in that language”. In other words, in each class of English as a foreign language the teaching of vocabulary must be integrated, even because there may be lags in the learning of some students.

#### ***2.2.2.7 Examples of Activities That Can Be Done to Teach Vocabulary in the EFL Process***

Siqueira (2007) generates four proposals for activities to teach Spanish as a foreign language, namely: word association, intrusive word, dictionary and Tutti Frutti. These are proposed in this research as examples of activities to teach vocabulary during the teaching-learning process of English as a foreign language. Therefore, they are transcribed below:

1: Word Association.

Objective: Vocabulary practice and memory training. Level: All.

Procedure: Students sit in a circle. One of them is chosen to start the game. The student chooses a subject and the first word. All the other participants in the game must add theirs within the same semantic field of the first word said: book, pencil, eraser, blackboard, marker, eraser, mechanical pencil, etc. Then the students must write a note to someone asking them to buy, lend, give, give, etc., some of the objects worked on in the activity.

2: Intrusive Word.

Objective: Recognition of vocabulary, practice of auditory discrimination and identification of thematic area. Level: Basic and intermediate.

Procedure: The teacher prepares in advance a list of ten words each containing the vocabulary studied in the classroom during classes. The teacher slowly reads the first list while the students listen, but they cannot take notes. Then the teacher reads the list again quickly, without pausing between words. Finally, the teacher reads the same list one last time, changing one or two words, and the students have to identify and write the intruding list(s). Then the students have to identify to which thematic area the words that are not intrusive belong.

Example:

Words:

A) Hair, eyebrows, eyelashes, lips, cheeks, teeth, chin, ear, forehead, eyes.

B) Sofa, bed, bookcase, wardrobe, oven, stove, table, chair, armchair, cabinet.

C) Potato, carrot, green beans, cabbage, cauliflower, garlic, cabbage, lettuce, sweet potato, corn.

intrusive words:

A) fingers, foot

B) refrigerator, pillow

C) onion, bell pepper

3: Dictionary.

Objective: Composition of paragraphs and coherence and textual cohesion.

Advanced level.

Procedure: The teacher selects various paragraphs from newspapers, magazines or books. In each paragraph, leave one or more words blank. The paragraphs with the gaps will be rewritten on strips folded and put in a bag. In another bag, the teacher puts the missing words with at least two more meanings. The students, arranged in small groups, remove the paragraphs and as many words as there are gaps from the bags. Students from each team can trade the words. The team that fills in the most blanks, in a time determined by the teacher, wins.

Variation: The sentences stay with the teams and the words stay with the teacher who draws one word at a time and reads it. The team that needs it must say a synonym or an antonym of the drawn word so that they have the right to have it and use it in their paragraph.

#### 4: Tutti Frutti.

Objective: To promote mental agility and vocabulary memory and practice. Level: Intermediate and advanced.

Procedure: All students have pencil and paper. Each paper has columns so that students can fill them in as determined by the teacher and the other participants. You can put the sections you want. A suggestion would be: Tools, female proper names, male proper names, hygiene material, body parts and household utensils. Everyone plays at the same time for three minutes. The teacher controls the time. One student always chooses the initial letter and says it out loud to the others. From this moment on, everyone must fill in

the columns with as many words as possible that begin with the chosen letter. After three minutes, students take turns reading aloud the words they wrote on the paper. Each word is worth one point. The rarest and most unique are assigned two points. The student with the highest number of words wins.

Variation: The sentences stay with the teams and the words stay with the teacher who draws one word at a time and reads it. The team that needs it must say a synonym or an antonym of the drawn word so that they have the right to have it and use it in their paragraph.

Villalobos created a workshop called “let's sing and learn English”. In this he states that "there are three phases or moments to develop activities with songs in the classroom, these are: pre-songs activities, while-songs activities, post-listening to songs activities". It then lists and briefly explains some examples, which are also transcribed here as examples of activities that can be done to teach vocabulary in English.

Phases to develop activities with songs in the classroom

Examples:

1: Pre-songs activities

a) Listen and clap: Vocabulary flashcards are distributed among the students, when they hear theirs, they must clap and show it to the whole class.

b) What's without my bag? (What's in my backpack) consists of putting cards, dolls, real objects into a bag according to the vocabulary of what is being studied, the children must put their hand in and try to guess what it is.

c) Jump, run and fly to the flashcard: we put flashcards on different walls of the classroom. We use action words that the class knows, examples dance run, swim, fly, to perform a variation of the game. We say “Jump to the blue one”, Dance to the yellow one” if we were reviewing the colors.

d) Repeat after me: the teacher names flashcards or real objects out loud, if what he says is true, the students will repeat it, if not, they will shut up.

## 2: While-songs activities

a) “Head and shoulders, Knees and toes”: it is sung while pointing to the part of the body that is being said.

## 3: post-listening to songs activities

### a) Play time and post song activities

b) In order: put the flashcards about characters, objects, animals, etc., in order, as they have been appearing in the song, or put the “song cards” (cards about song sequences) in order.

c) Mine (Mimic): represent the song only with gestures while listening is listening.

d) Making a mask (make a mask or mask) especially if vocabulary of feelings and animals is reviewed.

e) Imagination drawing: from a doodle or lines, the children must make a drawing about the song.

f) We make mobiles based on the characters and vocabulary of the song learned to hang them on the ceiling or the wall of the classroom.

**CHAPTER III:**  
**METHODOLOGICAL FRAMEWORK**

### **3.1 RESEARCH TYPE**

#### ***3.1.1 Applied purpose***

According to Rus (2020), research is applied when it seeks to solve a problem or problems in a concrete and practical way.

This problem arises from the need to implement technology of the quantum revolution in education, in this case cloud computing, its advantages and disadvantages if it can be applied in education.

#### ***3.1.2 Transversal temporal dimension***

According to Barrantes (2003) cited by Chinchilla et al “a cross-sectional investigation is located in a specific time and studies in this time specific aspects of the subjects”

Due to its character, this research is transversal. It locates the research at the beginning of the problem, that is to say, 2021, and drives takes the investigation along the situation till the first semester of 2022.

#### ***3.1.3 Micro framework of the research***

##### ***3.1.3.1 Micro space.***

The space of an investigation refers to how much the researcher is going to cover or delve into the subject; in the case of this investigation the space is micro because a small sample is taken to be investigated.

According to Chinchilla et al (2018) “the framework or micro space of the research refers to a part, an element, a subtopic or a micro-space, about which the researcher will do his research”

#### ***3.1.4 Nature of the research***

The present research because of its nature can be categorized as mixed. For the investigative purpose teachers’ and student’s opinions are very important and they serve as the primary source of information regarding the subject. The researcher would apply a questionnaire to collect appreciations, opinions, perceptions, judgments and feelings regarding the topic in discussion.

#### ***3.1.5 Type***

This is participatory descriptive research. The researcher highly valued the opinions and attitudes of teachers and students. To collect the information, teachers and students responded to a questionnaire.

### **3.2 SUBJECTS AND SOURCES OF INFORMATION**

#### ***3.2.1 Participants Subjects***

The participants are those to whom surveys or interviews are applied, from which the information is collected and then analyzed by the researcher.

The main informants are the teachers and students to whom the questionnaires and interview are applied.

### **3.3 SOURCES OF INFORMATION**

#### ***3.3.1 Sources***

The primary resource on which this research is based are all the surveys and interviews that were conducted with students and teachers. All this information is given from their point of view. Surveys were also conducted with teachers who do not work for the institution in question. which the investigation is carried out with the aim of obtaining more points of view about cloud computing in the field of education.

Secondary sources in this investigation are all the information that was obtained from books, magazines and information that was found online that was of vital importance for this investigation.

### **3.4 SAMPLE SELECTION**

#### ***3.4.1 Population***

According to Arias et al 2016 “The study population is defined as a set of cases, determined, limited, and accessible, that will constitute the subjects for the selection of the sample, and must fulfill several characteristics and distinct criteria”. For this investigation the population

The population of this research are 90 students from the English workshops of sections 9-1,9-2,9-3,9-4,9-5 and 9-8 from Liceo Jose Marti to whom a survey was applied, 2 of these 90 ninth graders were interviewed personally; A survey for teachers was also applied to the teacher who facilitated their groups to be surveyed and interviewed, but in addition this survey for teachers was applied to 17 teachers from Puntarenas and other places of the country.

### ***3.4.2 The Sample***

According to Lopez 2004 the sample “It is a subset or part of the universe or population in which the investigation will be carried out”.

The sample for the investigation are 81 students of the English workshops that completed the survey, 2 of those 81 students were also interviewed personally moreover 18 teachers answered the survey that was carried out.

### ***3.4.3 Probabilistic or non-probabilistic sample***

According to Lopez (2004) who cites Pineda (1994, p.114), probabilistic sampling is the most recommended because it gives each participant in the population the same probability of being selected.

This study is non-probabilistic since, despite the fact that there were more students who could be surveyed or interviewed, due to disposition issues, they could not be surveyed.

## **3.5 TECHNIQUES AND INSTRUMENTS TO COLLECT INFORMATION**

In relation to the tools and instrument that were used for this investigation, these consist of 81 ninth grade students surveyed, two students interviewed personally and 18 English teachers surveyed.

**CHAPTER IV:**  
**ANALYSIS AND INTERPRETATION OF DATA**

## 4.1 Analysis and Interpretation of Data

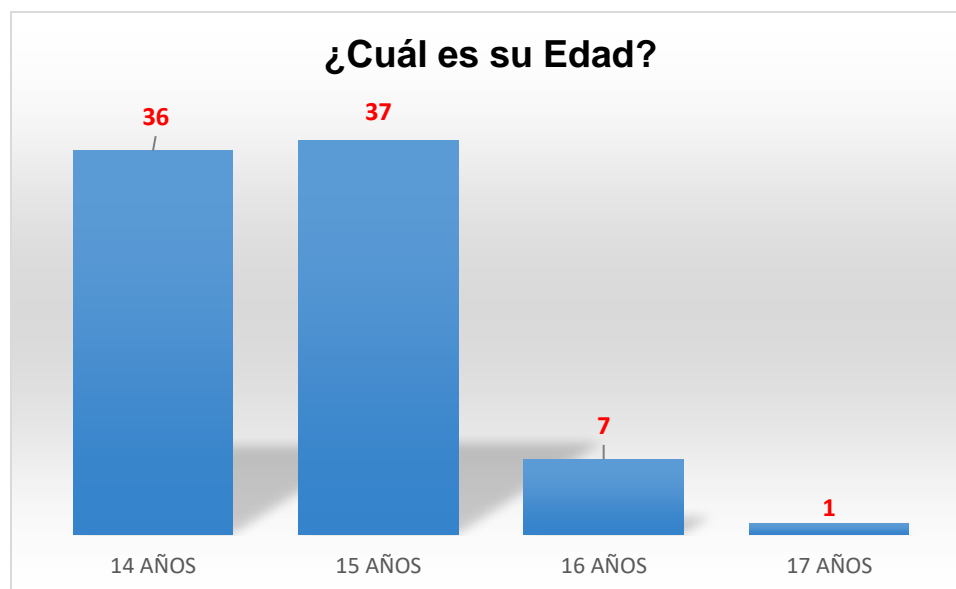
### 4.1.1 Surveys

The survey for both, students and teachers, consisted of open and closed questions. The instrument that was applied to the students was through an online form, the link of said form was provided directly to the students and the doubts that they had were resolved. presented with respect to it. For its part, the survey that was carried out with the teachers was also done through an online form. In addition, it should be said that the interviews that were carried out with two students and the professor who facilitated the groups were carried out face to face using the established protocols.

#### 4.1.1.1 Nine Grade Survey Results.

##### *Graphic 1*

*What is your age?*

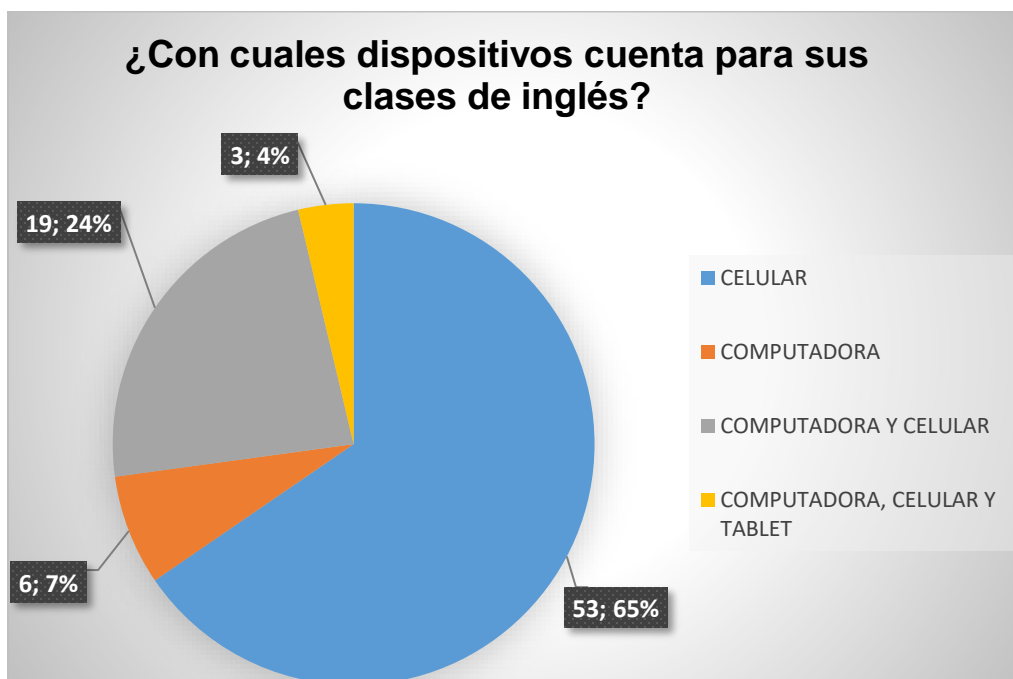


Source Adriana García G (2022)

**Results Question 1:** In the result of this question, 36 students are 14 years old; 37 students are 14 years old; 7 students are 16 years old, and only one of the students is 17 years old.

**Graphic 2**

*Which devices do you have for your English classes?*



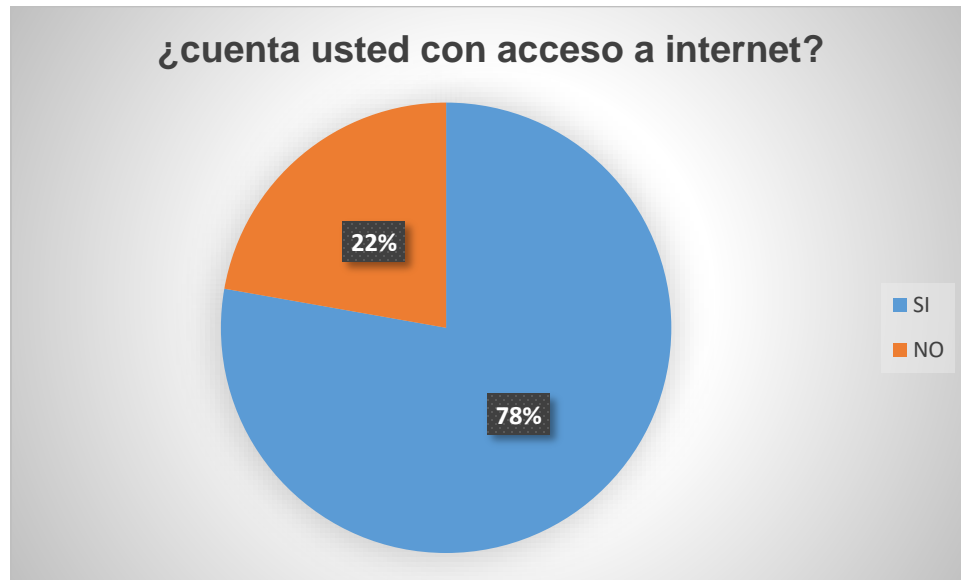
Source Adriana García G (2022)

**Results Question 2:** In the result of this question, it can be seen that more than half of the students surveyed (fifty-three) have at least one cell phone to use for educational purposes, it is also seen that 6 of the students only have a computer, while others (nineteen) have a computer and cell phone at the same time and only three of the students surveyed have a computer, cell phone and tablet.

This shows that all the students surveyed have at least one device to be used as a complement in their English learning.

**Graphic 3**

*Do you have internet access?*

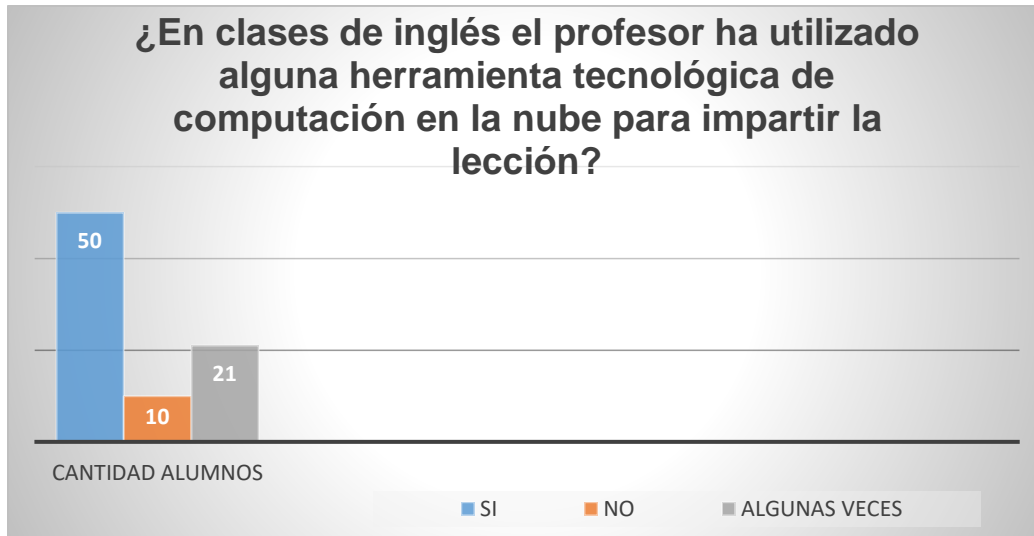


Source Adriana García G (2022)

**Results Question 3:** The result of this question shows that seventy-eight percent of the students surveyed have internet access, while twenty-two percent do not have internet access, this shows that despite the fact that the world is in the middle of the technological era, many of them still students lack basic elements today for learning such as internet access.

**Graphic 4**

*In English classes, the teacher has used a cloud computing technology tool to teach the lesson?*

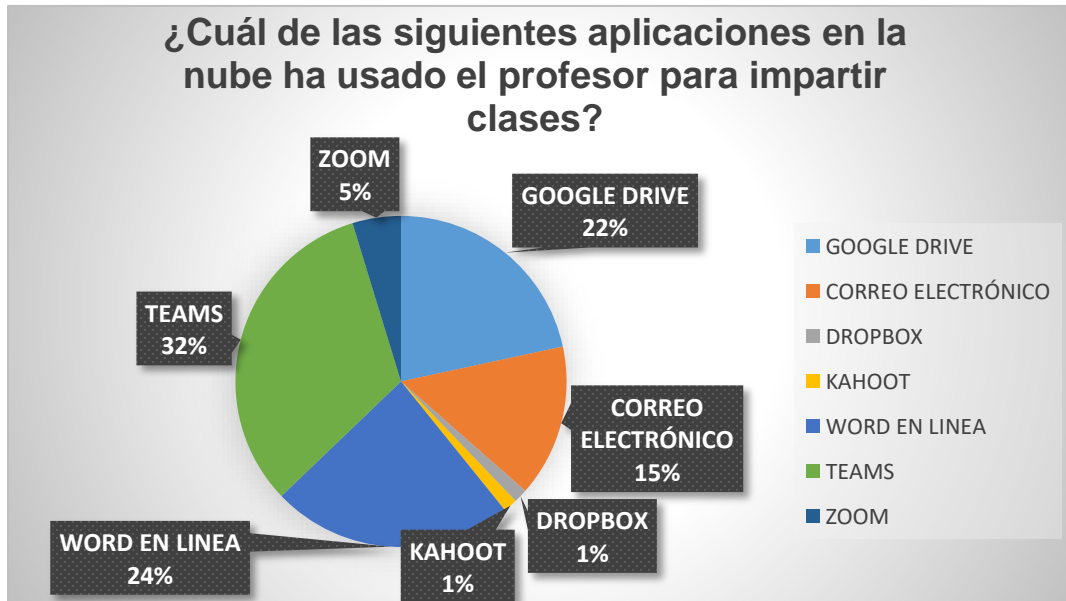


Source Adriana García G (2022)

**Results Question 4:** the result of this question shows that fifty of the students surveyed admit that the teacher has used cloud computing to teach their classes, twenty-one of the students say that sometimes and only ten say that they have not. This shows that cloud computing cloud is a tool used to deliver lessons.

**Graphic 5**

**Which of the following cloud applications has the teacher used to teach classes?**

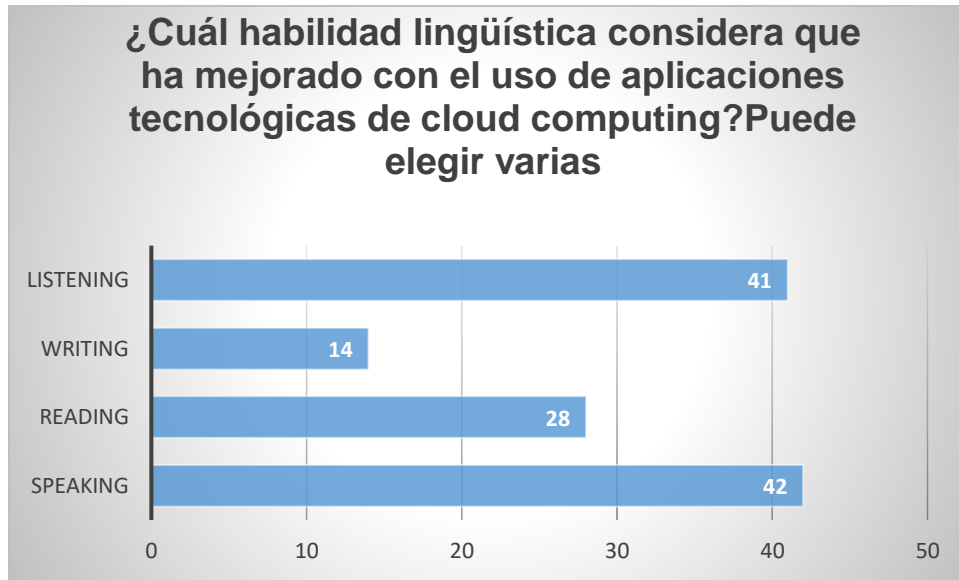


Source Adriana García G (2022)

**Results Question 5:** It is evident that teams is the application that is most mentioned by students with thirty-two percent of times mentioned, followed by Word online with twenty-four percent, then followed by google drive with twenty-two percent, follow email at fifteen percent, then zoom at five percent, and lastly kahoot and dropbox at one percent mentions each. It can be concluded that teams are the cloud computing application that has been used the most with students.

**Graphic 6**

*Which language skill do you think has improved with the use of cloud computing technology applications? You can choose several.*

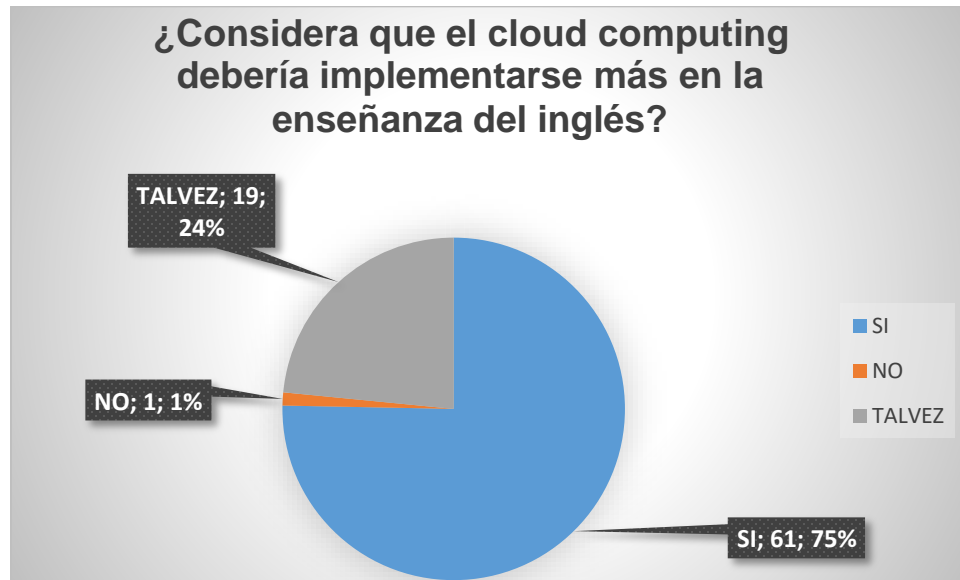


Source Adriana García G (2022)

**Results Question 6:** It can be seen that speaking and listening are the skills that students feel have improved the most with the use of technological applications of cloud computing, speaking was mentioned forty-two times, listening forty-one times, reading twenty-eight times and writing fourteen times. This clearly shows that cloud computing is a good tool to be used by teachers

**Graphic 7**

*Considers that Cloud computing should be implemented more in the teaching of English?*

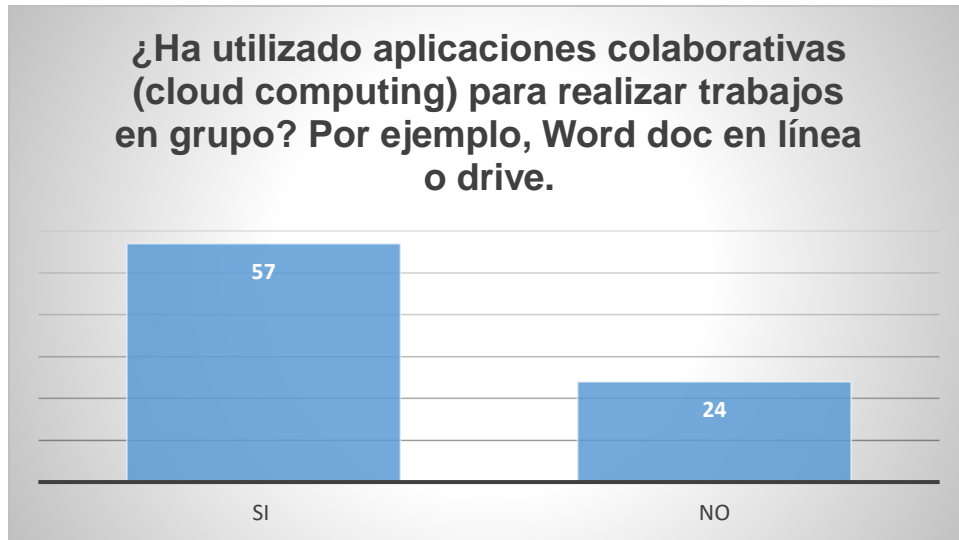


Source Adriana García G (2022)

**Results Question 7:** It can be seen that the vast majority of students consider that cloud computing tools should be used more in teaching English, since seventy-five percent of students said yes, 24 percent said maybe and only one percent said no, this shows that according to the students' perception this is a good learning strategy.

**Graphic 8**

*Has used collaborative applications to carry out group work, for example word doc or drive?*

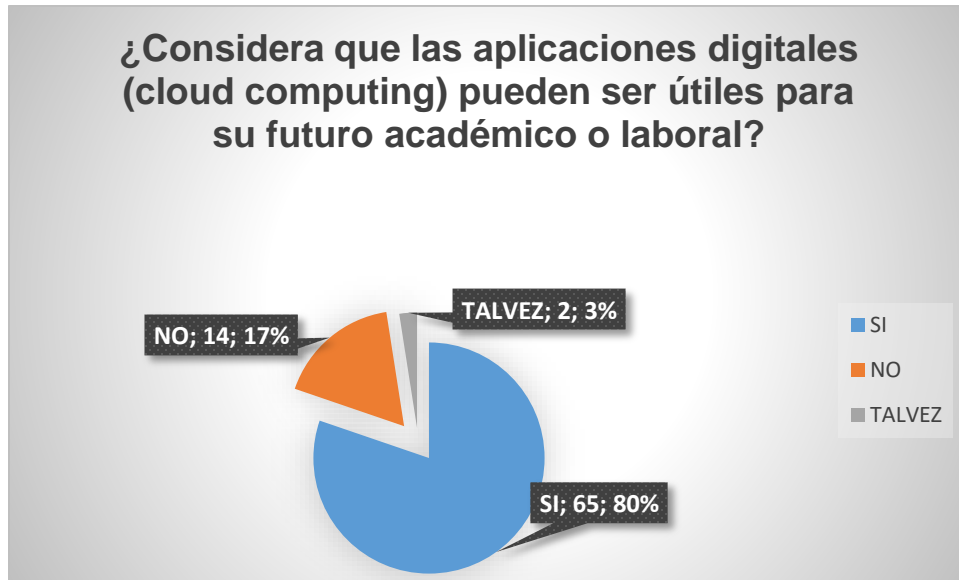


Source Adriana García G (2022)

**Results Question 8:** This result shows that fifty-seven students declare that they have worked in a group using collaborative cloud computing applications such as the online Word doc and twenty-four of the students said that they have not used it. collaboratively, which is another benefit of cloud computing.

**Graphic 9**

*Considers that the digital applications of Cloud computing can be useful for their academic or work future?*

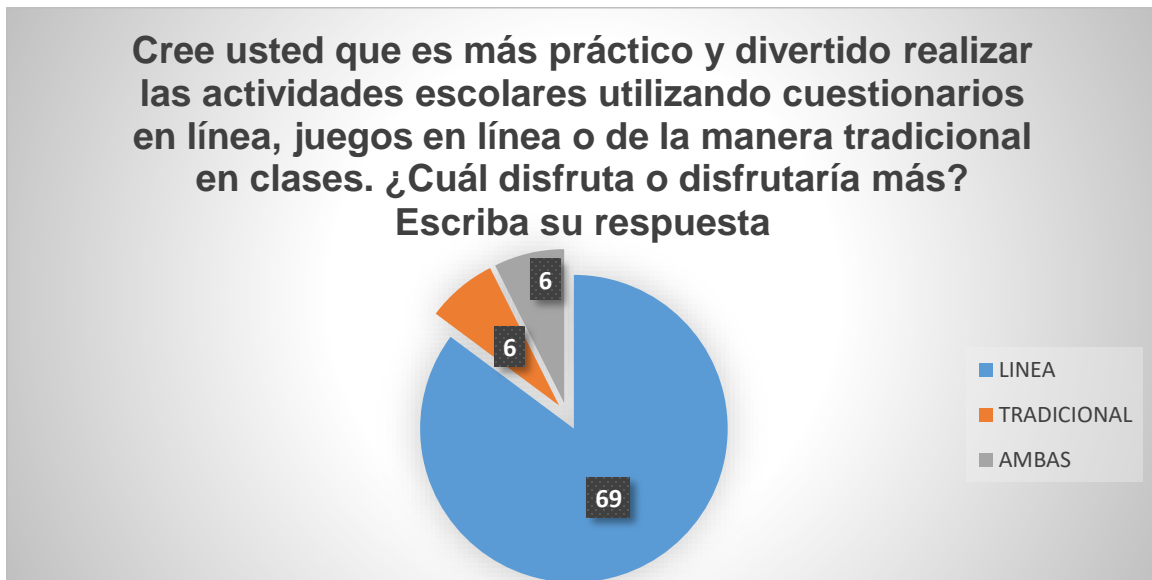


Source Adriana García G (2022)

**Results Question 9:** Eighty percent of the students believe that the use of digital cloud computing applications can be useful in their future, three percent believe that it may help them and fourteen percent believe that it will not be useful. This shows that the majority of students believe that the use of online digital applications (cloud computing) will serve them well in the future.

**Graphic 10**

***Do you think it is more practical and fun to carry out school activities using online quizzes or online games or in the traditional way in class, which one do you enjoy or would enjoy more?***

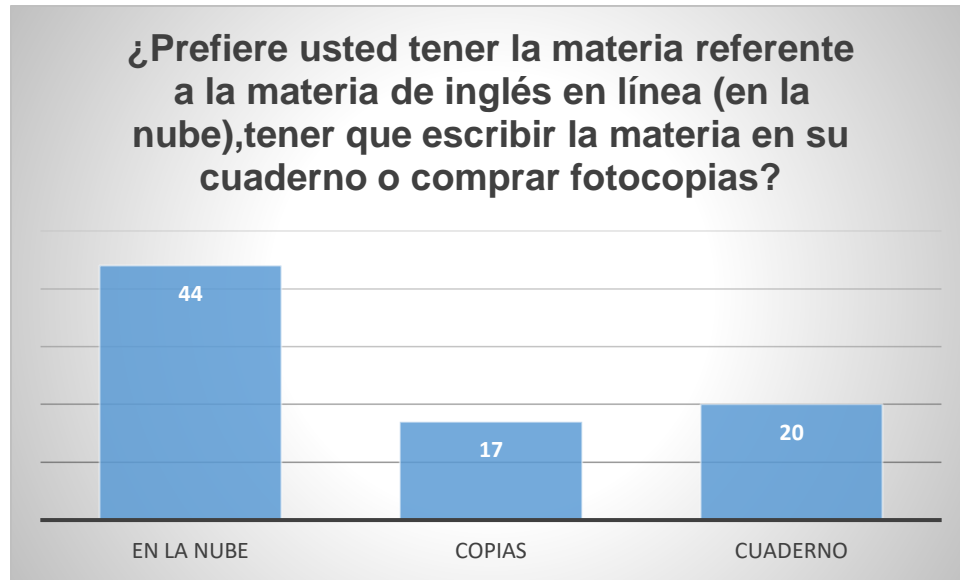


Source Adriana García G (2022)

**Results Question 10:** It is clearly seen that the majority prefer school activities that are carried out online since sixty-nine of the students said this, six students answered that they preferred the traditional way and six students said that they liked both ways. It can be concluded that technology is taking more and more ground and today most students believe that it is more fun and practical to do online school activities provided by cloud computing such as games or quizzes.

**Graphic 11**

*Do you prefer to have the material related to your English class online (in the cloud) or to have to write the material in your notebook or buy photocopies?*

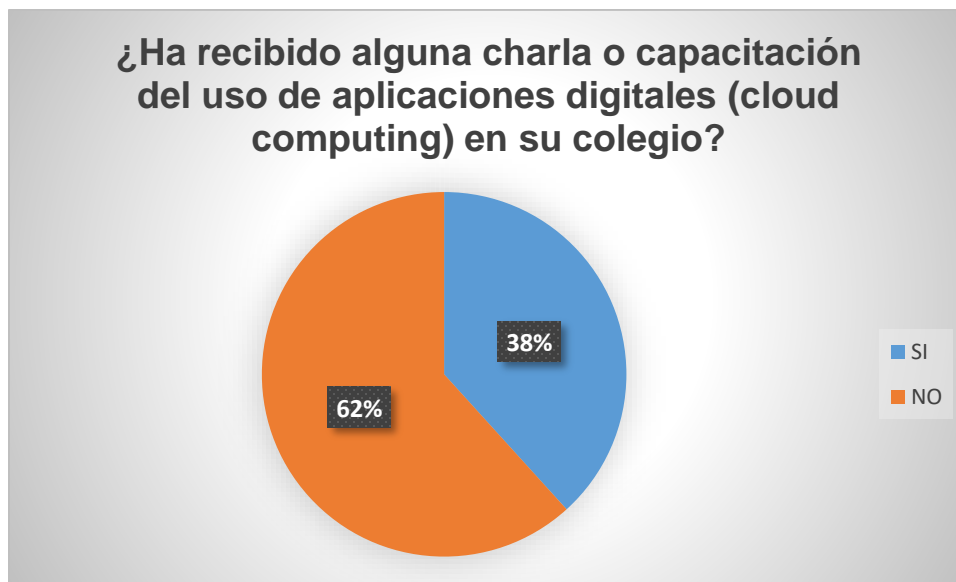


Source Adriana García G (2022)

**Results Question 11:** The result shows that forty-four students would prefer to have the material (notes and others) online, twenty students prefer to use their notebooks and seventeen students prefer to buy photocopies. This proves that the majority of students are willing to enter the world technology and advance.

**Graphic 12**

*Have you received any talk or training on the use of digital applications of Cloud computing in your school?*



Source Adriana García G (2022)

**Results Question 12:** It is seen that sixty-two percent say that they have not received training on the use of digital applications and thirty-eight percent say yes. This shows that despite the time of the pandemic where great use was made of the cloud computing and even face-to-face classes have overlooked the importance of training in the use of online applications so that students are more willing to be part of this new technological era.

**Question 13:** ¿Que actividades en donde se utiliza recursos tecnológicos le llaman la atención en las clases de inglés? Escriba su respuesta.

**Results Question 13:** From the responses of the students, it can be extracted that the activities they enjoy the most are those in which they watch videos, play online and use the computer or their cell phones.

#### ***4.1.1.2 English Teachers Survey Results***

The survey was conducted to the teacher who facilitated their groups and also to other English teachers in the country.

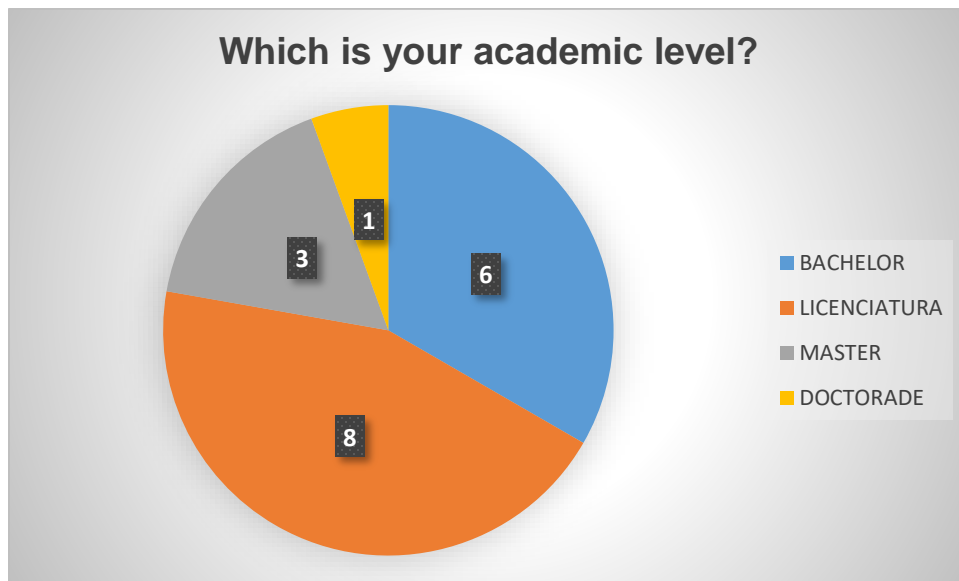
#### ***Graphic 13***

***How many years of teaching experience do you have?***



Source Adriana García G (2022)

**Results Question 1:** seven of the teachers surveyed have more than eighteen years of teaching experience, four of them have between one and five years, five of these teachers have between six and eleven years and two teachers have between twelve and seventeen years of experience as teachers. This shows that all of them have enough experience to be able to give an objective opinion on the subject in question.

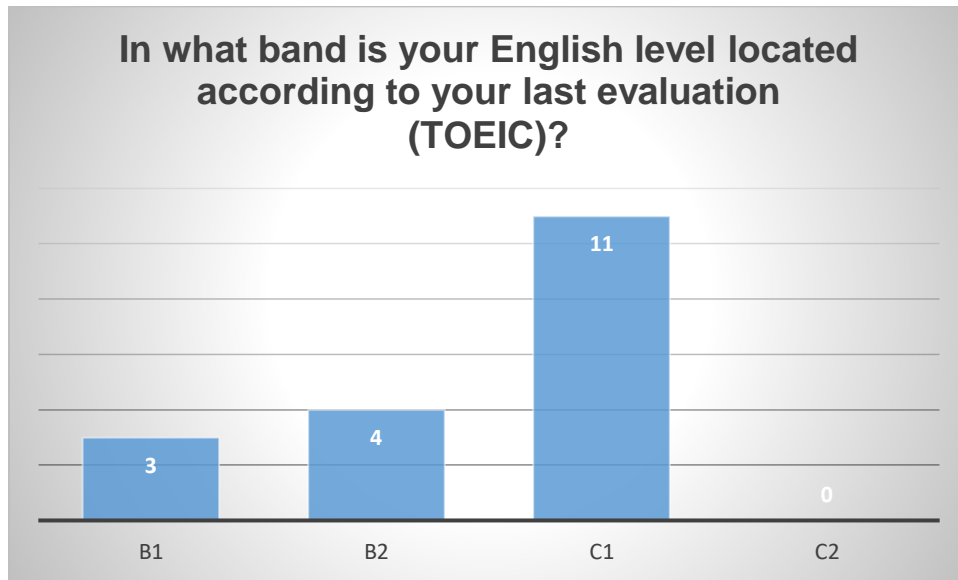
**Graphic 14****Which is your academic level?**

Source Adriana García G (2022)

**Results Question 2:** Six of the professors have a bachelor's degree, eight have a licenciatura degree, three of them have a master's degree and one have a doctorate.

**Graphic 15**

***In what band is your English level located according to your last evaluation (TOEIC)?***

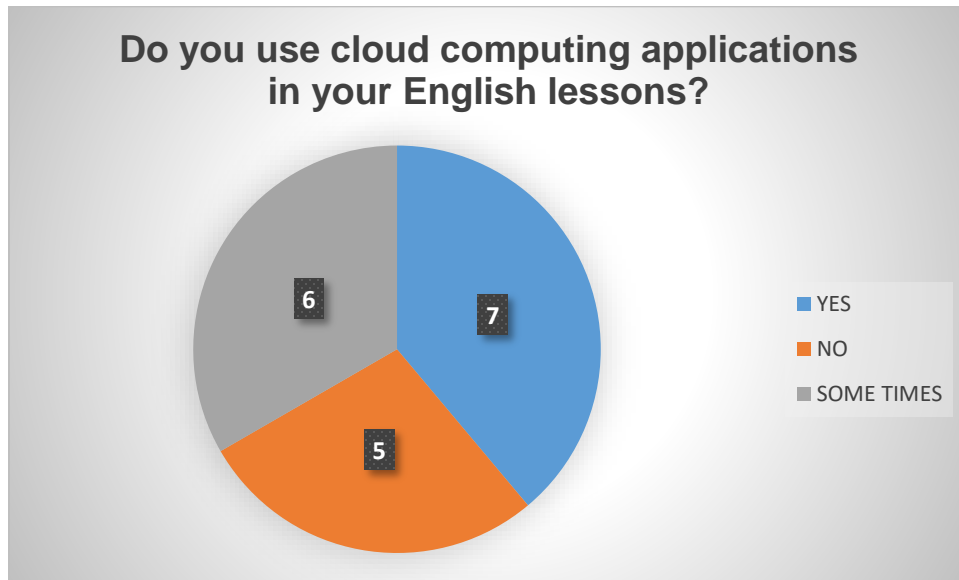


Source Adriana García G (2022)

**Results Question 3:** Three teachers have B1 level, four have B2 level, eleven have C1 level and none of them have C2 level.

**Graphic 16**

*Do you use cloud computing applications in your English lessons?*

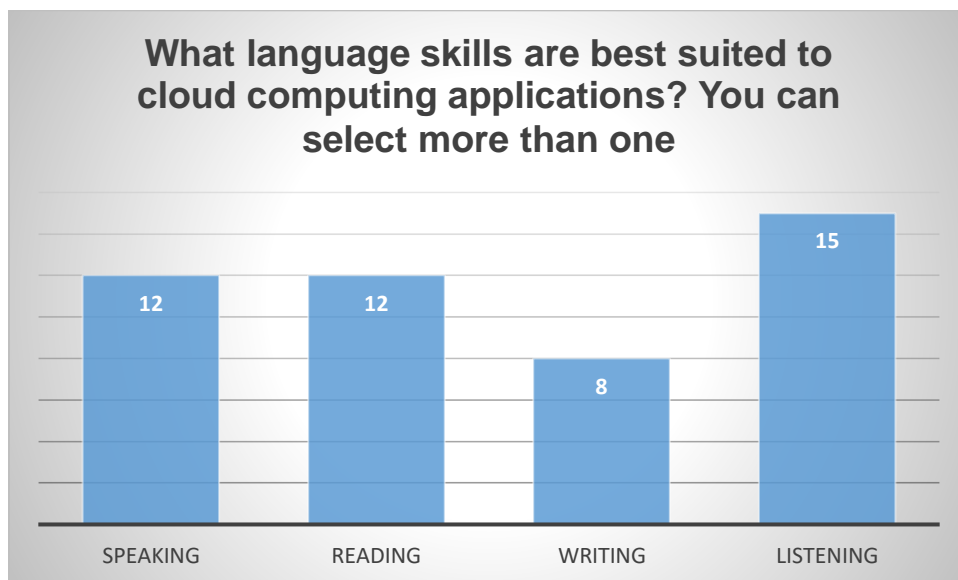


Source Adriana García G (2022)

**Results Question 4:** Most of the teachers (seven) said that they do use cloud computing in their classes, five of them said that they do not use cloud computing and six said that they sometimes use it. This shows that despite being in full swing of the fourth industrial revolution some teachers have not adapted to this change.

**Graphic 17**

*What language skills are best suited to cloud computing applications?*

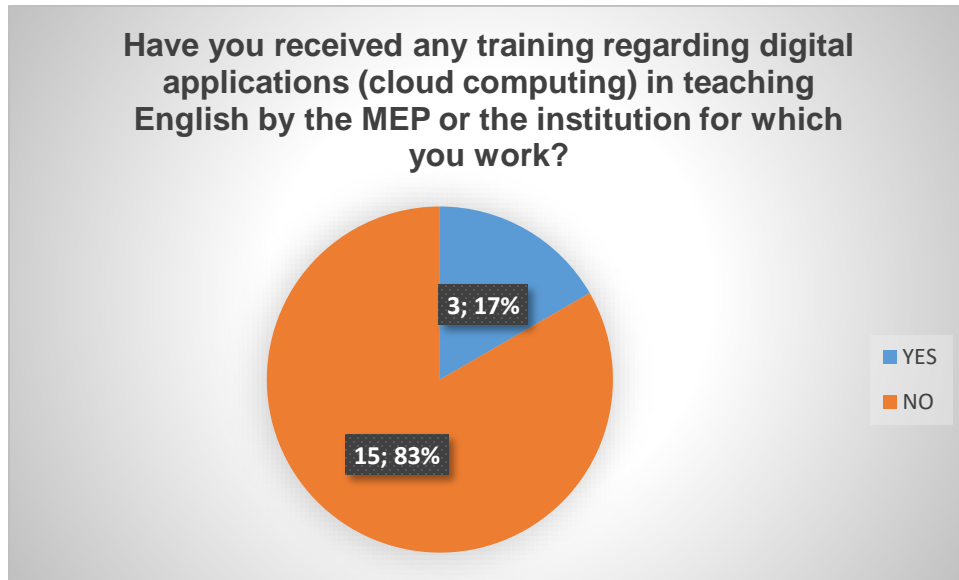


Source Adriana García G (2022)

**Results Question 5:** Listening is mentioned fifteen times, speaking and reading are mentioned twelve times each and writing is mentioned only eight times by the teachers surveyed. This makes it clear that for the teachers surveyed the listening skill is the best adapted for use. of cloud computing.

**Graphic 18**

*Have you received any training regarding digital applications (cloud computing) in teaching English by the MEP or the institution for which you work?*

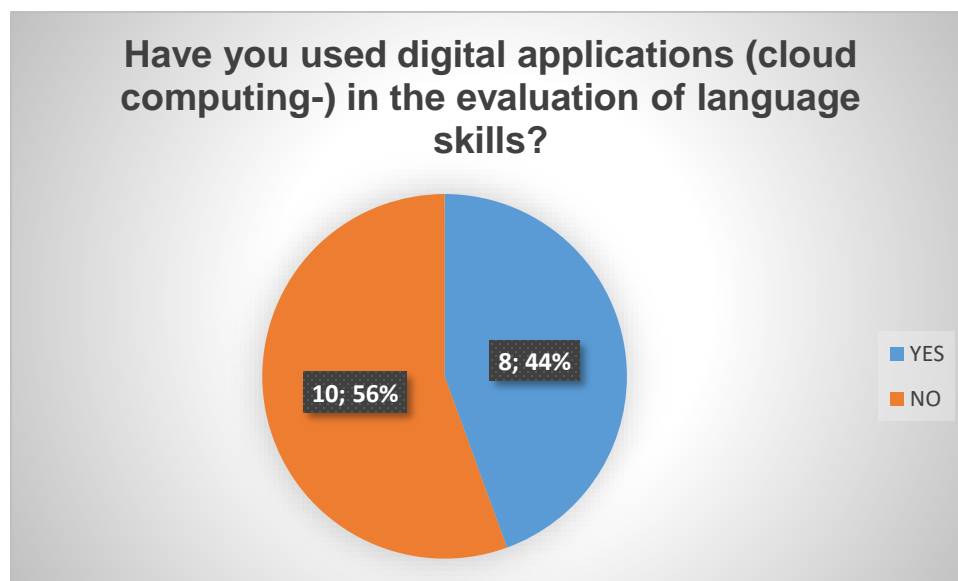


Source Adriana García G (2022)

**Results Question 6:** Only three of the teachers surveyed say they have received training to be able to use digital applications, while the remaining fifteen teachers say they have not received training to use digital applications, this shows that despite technology being a valuable resource that can be used to teach classes, teachers are not yet trained to use these resources.

**Graphic 19**

*Have you used digital applications (cloud computing-) in the evaluation of language skills?*

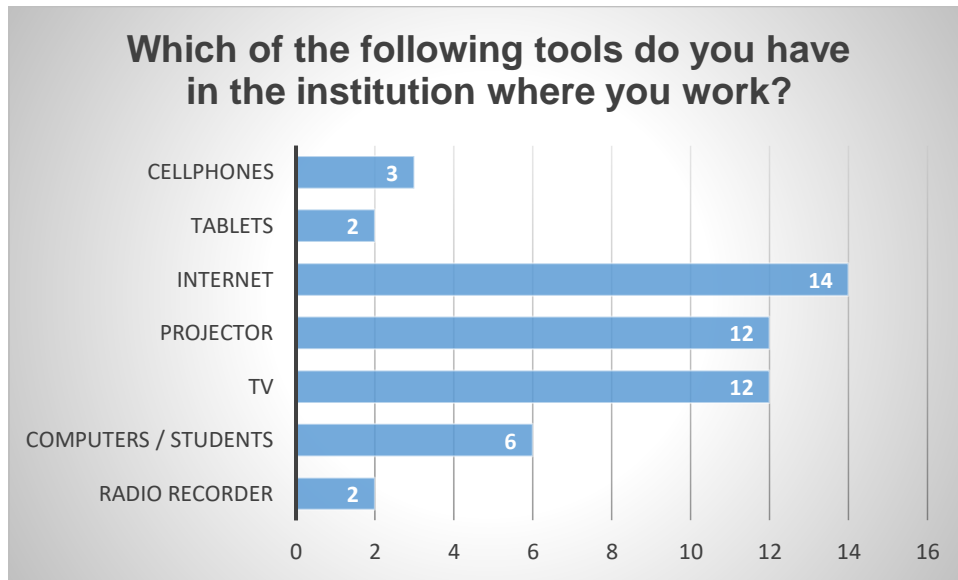


Source Adriana García G (2022)

**Results Question 7:** It is seen that the majority of teachers are not used to using applications to assess language skills, since ten of them said so while only eight said they did use them. This shows that despite the great utility and benefit that can be derived from technological resources, there are more teachers who do not use them.

**Graphic 20**

*Which of the following tools do you have in the institution where you work?*

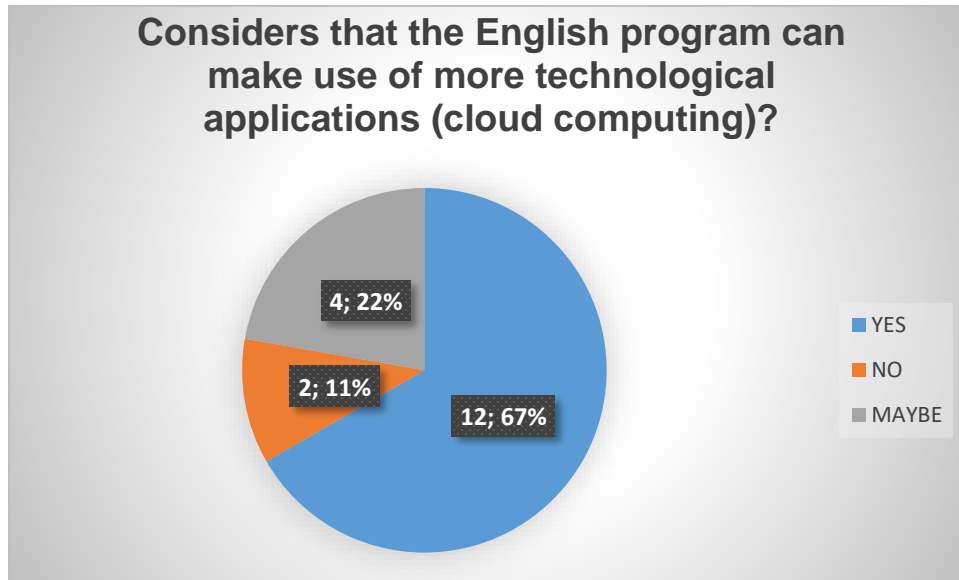


Source Adriana García G (2022)

**Results Question 8:** It is seen that what teachers mention the most is the internet with fourteen times, and in second place the projector and the TV with twelve times each, computers for students only six times, cell phones only three times, tablets only two times and radio recorder only twice. Here you can see that most institutions have internet but not all have the necessary devices to use both teachers and students.

**Graphic 21**

**Considers that the English program can make use of more technological applications (cloud computing)?**

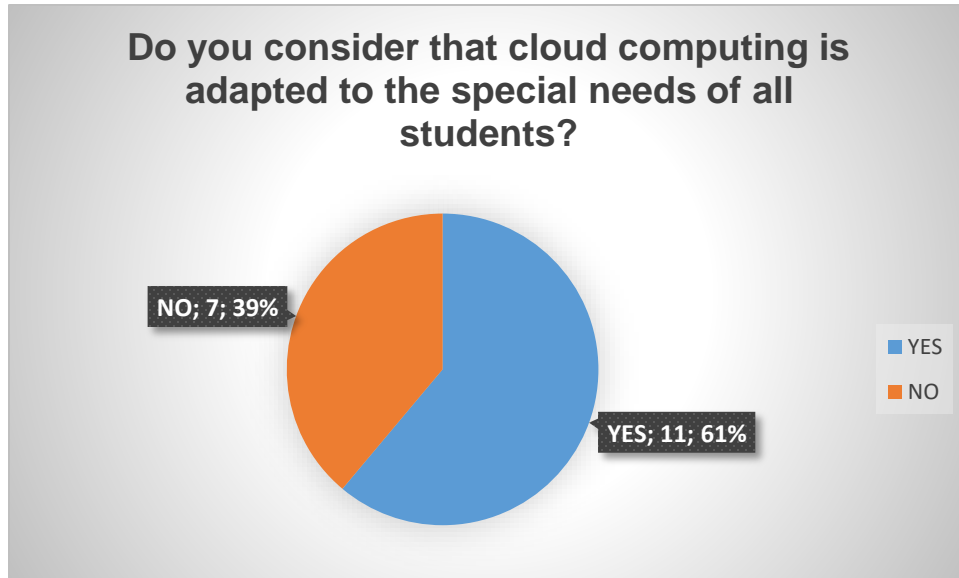


Source Adriana García G (2022)

**Results Question 9:** Clearly, teachers believe that cloud computing can be implemented more in English programs, since sixty-seven % of teachers said yes, twenty-two% said maybe, and only eleven % said no. This shows that teachers, in general terms, are willing to use this tool more in their classes.

**Graphic 22**

*Do you consider that cloud computing is adapted to the special needs of all students?*

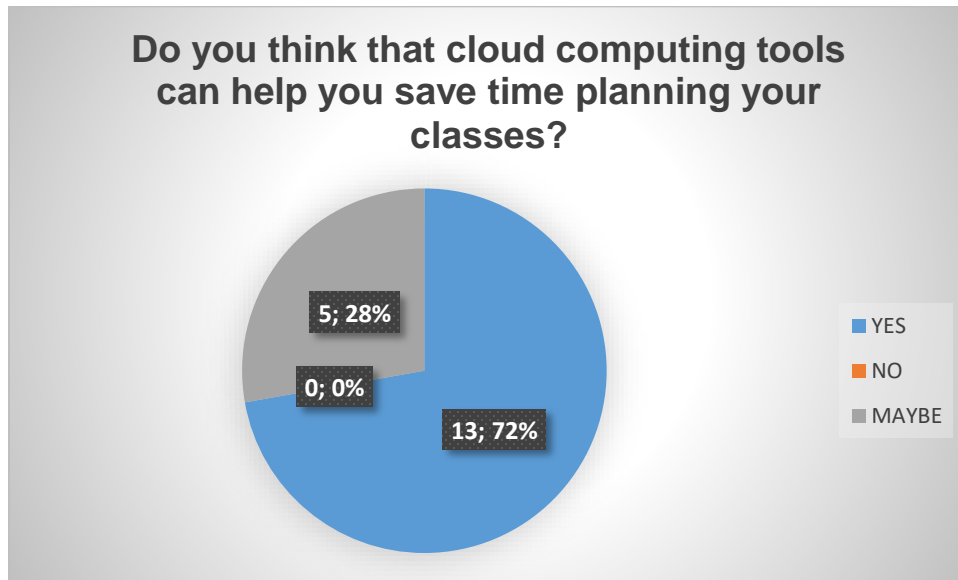


Source Adriana García G (2022)

**Results Question 10:** Sixty-one percent of the teachers said that it could be adapted to the needs of each student, while thirty-nine percent said no. The majority think that the use of cloud computing can be used effectively and be adapted to the needs of each student.

**Graphic 23**

*Do you think that cloud computing tools can help you save time planning your classes?*

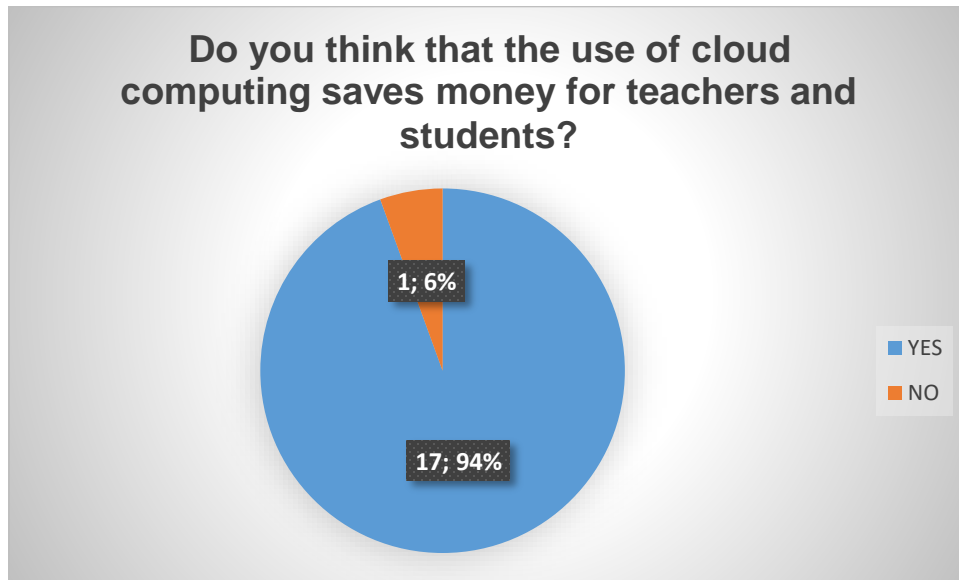


Source Adriana García G (2022)

**Results Question 11:** Seventy-two percent of the teachers surveyed consider that with the use of the tools provided by cloud computing they could save a lot of time when planning their lessons, while others (twenty-eight percent) say maybe, but none of them said no.

**Graphic 24**

*Do you think that the use of cloud computing saves money for teachers and students?*

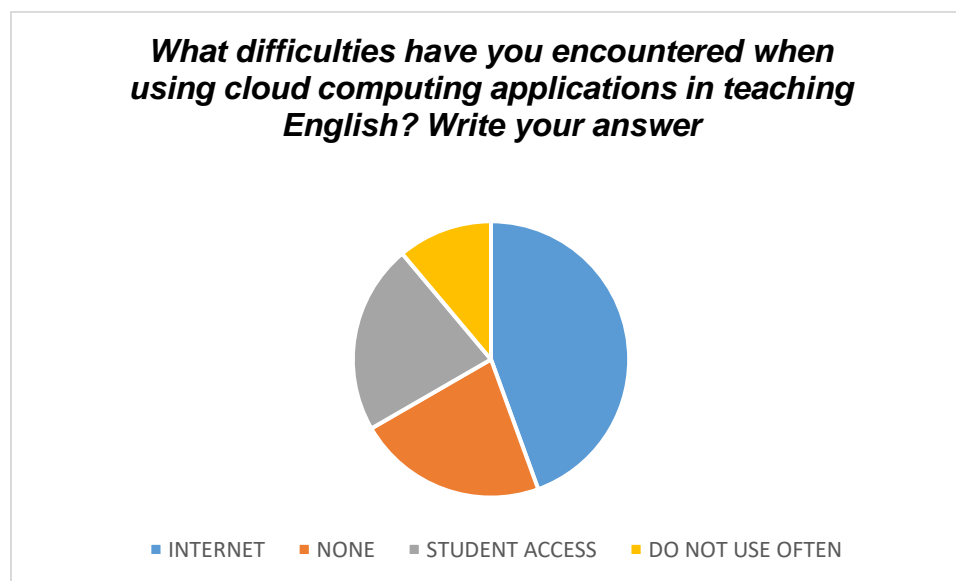


Source Adriana García G (2022)

**Results Question 12:** It is clear that the almost total majority of teachers (seventeen of the eighteen respondents) consider that money can be saved if cloud computing is used.

**Graphic 25**

***What difficulties have you encountered when using cloud computing applications in teaching English? Write your answer***



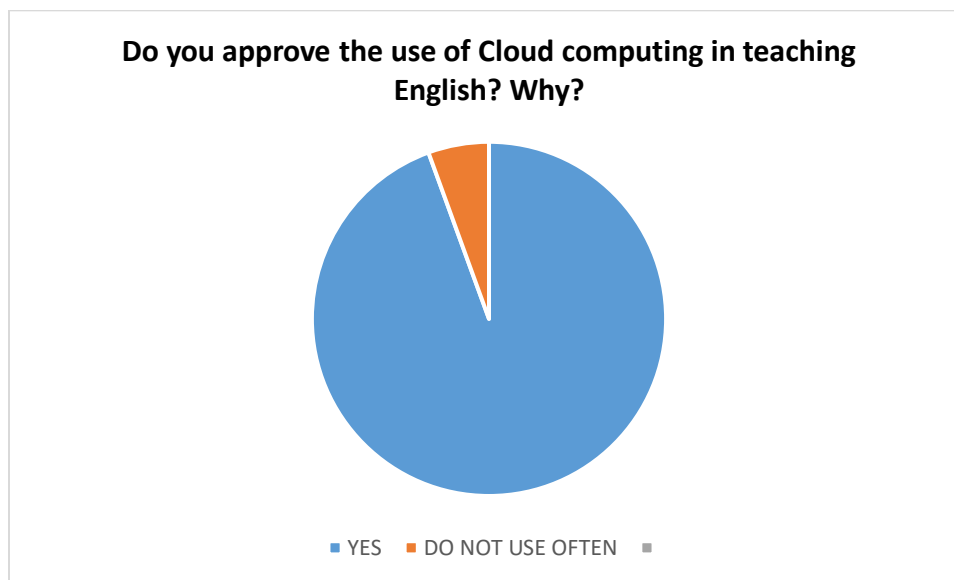
Source Adriana García G (2022)

**Question 13:** What difficulties have you encountered when using cloud computing applications in teaching English? Write your answer

**Results Question 13:** Observing the responses of the teachers, it can be seen that the most frequent complaint is the quality of the internet and the fact that some students do not have access to the internet at home, which makes it difficult for them as teachers to send work to be done at home. The answer was that not all students have the necessary devices such as a computer.

**Graphic 26**

***Do you approve the use of Cloud computing in teaching English? Why?***



Source Adriana García G (2022)

**Question 14:** Do you approve the use of Cloud computing in teaching English?

Why?

**Results Question 14:** In almost general terms, the teachers answered that they do approve of the use of cloud computing since it helps them save time and money. They also said that the use of these technologies is to the liking of the students. Having to carry didactic materials and that it is always good to include technology since this generation of students makes a lot of use of it

**4.1.2 Interviews**

The Interviews were applied face to face to English teacher who are in charge of the different groups and two students from nine grade at Liceo Jose Martí.

**4.1.2.1 Results of the interview with the English teacher who facilitated his groups for the research.** It consists of 4 open questions. It was applied to the teacher of the nine's groups.

**Question1:** Do you think that cloud computing is useful in English classes and as a means of teaching vocabulary?

The teacher said yes, because it is adapted to be used with the four language skills and of course to teach vocabulary.

**Question2:** Do you think that the pandemic delayed the learning process of your students?

The teacher commented that yes because many of his students did not connect to virtual classes.

**Question3:** What do you think is the biggest difficulty you have when using cloud computing?

The professor said that not having high-speed internet access made things difficult.

**Question4:** Believes that cloud computing surpasses traditional teaching methods?

The professor said that it is important to adapt to the new ways of teaching, but that it is always good to remember that the necessary resources to develop this new technology are not yet available in the entire country, so the old methods cannot be ruled out.

**4.1.2.2 Students Interviews Results.** The interview consisted of eight open questions related to the cloud computing, which was applied to two students. The following are the results of the interviews.

**Question 1:** What do you like most about English classes when they use cloud computing?

Both students said that they liked the classes when technology was used and they could use the computers. One said that she liked to play online games and another said that she liked to watch videos on you tube.

**Question 2:** What kind of classes do you prefer, the traditional ones or the ones in which technology is used?

One of the students said that those where technology is used because it is more interesting and entertaining, the other student said she preferred academic (traditional) lessons

**Question 3:** You like to learn English and improve your vocabulary using online applications?

Both students said yes. one of them said that she really enjoys the lessons where she can use the computer and watch videos, the other student says that she likes it but that she has a hard time using this type of technology and that is why, as she said before, she prefers the traditional classes.

**Question 4:** How often do they use online games to learn vocabulary?

Both students said that very little. One of them explained to me that she practices little because she doesn't have a computer and the other student says that she does have a computer but she still uses it very little.

**Question 5:** When you use cloud computing applications, what skill do you think you improve the most?

Both students said speaking. Both believe that when they watch videos, movies or practice vocabulary with games, all this is reflected in the improvement of their speaking.

**Question 6:** Do you have computer and internet access in your house?

One of the students said that she did have internet access but that she did not have a computer. The other student said that she did have a computer and internet access at home.

**Question 7:** How often use applications in the cloud and which of those applications is the most frequent?

Both said that they do use them with some frequency and that the ones they have used the most are teams and email. This is because with the covid 19 pandemic, those applications were the most used.

**Question 8:** Do you think your English has improved thanks to the use of the computer in classes and cloud computing?

Both students said yes. They commented that technology is a very good tool to improve their English level

The interviews carried out with both the teacher and the two students reveal that they agree with the use of cloud computing and that they also believe that they are helpful and beneficial in English classes.

**CHAPTER V:**  
**CONCLUSIONS AND RECOMMENDATIONS**

## 5.1 CONCLUSIONS

In this chapter the reader **will** be able to find the conclusions obtained after analyzing all the information collected through surveys, interviews and information obtained on the web on the subject in question. Recommendations can also be found in relation to the use of songs and games as part of cloud computing in the teaching of vocabulary in the English classes of the ninth grades of the Liceo José Martí.

### *5.1.1 Regarding the problem formulation*

It can be concluded that the impact of the use of games and songs as part of cloud computing on vocabulary teaching is positive, this is because students state that they feel that if it has helped them improve their linguistic skills, it is also concluded that Both teachers and students recognize that one drawback to being able to develop this type of lesson is that in the case of the school, Internet access is of poor quality and, on the students' side, not all of them have access to the Internet or a computer at home.

### *5.1.2 Regarding the general objective*

This year, after almost two years of virtual classes, the students returned to their regular face-to-face classes, without a doubt the virtual classes caused a delay in the majority of students since not all of them have devices to be able to connect to classes for a long time, in other cases do not have internet access and others, although they had internet access, it was of very poor quality. Now, at the Jose Martí High School, young people have access to computers and the Internet, which, although not of the best quality, allows them to make use of the technological resource to listen to songs or play games according to the teacher's requirements so that the level of English of students improve, it can be said that

the impact of the use of games and songs in the context of cloud computing is beneficial to students.

Based on the results of the surveys, the students said that their listening and speaking improved, which shows that their vocabulary increased thanks to the use of the games and songs that the students perform in English classes.

### ***5.1.3 Regarding the first specific objective***

In relation to the first specific objective, it can be concluded that the activities that can be carried out to improve the vocabulary of ninth grade students, in which games and songs are included as part of cloud computing, are enough for them to continue implementing it, but the government of the republic must invest more in the necessary resources.

According to the results of the surveys and interviews carried out, both teachers and students say that the quality of vocabulary and English in general can be improved by making use of the new technologies offered by cloud computing.

### ***5.1.4 Regarding the second specific objective***

The Ministry of Public Education of Costa Rica invested resources in the Liceo Jose Marti, providing classrooms with air conditioning, internet access and computers so that students can use them, because as is known we are in the midst of the fourth industrial revolution. This is because it is distinguished by the government that it is of vital importance to train students who are adapted for the future.

According to the results of the surveys, the teachers recognize the importance that technology plays today in the classroom and the good results that it causes in the teaching-learning process.

The students, for their part, also recognize that classes where non-traditional methods are used to learn English are more enjoyable.

### ***5.1.5 Regarding the third specific objective***

However, in relation to the third specific objective, the challenges can be several, since according to the data obtained, the teachers complain that they do not have good access to the Internet, which makes it difficult to implement technology in classes.

In addition, the students who are usually part of the public schools of the country tend to be of limited resources, so many do not have computers and even less high-speed internet, so for them to be able to watch videos or play educational games becomes almost impossible.

## **5.2 RECOMENDATIONS**

In this part the researcher of this study provided some general recommendations for improving the process of teaching-learning by the use of games and songs as part of cloud computing activities in the learning vocabulary process within the EFL environment, in the public educational system, specifically in the Liceo Jose Martí.

- 1) It is recommended that English teachers be trained in the use of cloud computing.
- 2) Teachers are recommended to make more use of online games and songs in order to motivate students more in their second language learning.

- 3) It is important for the government to invest in all schools in the country so that all students have access to new technologies.
- 4) It is important that teachers motivate students to investigate more about the use they can make of the technology available to improve their vocabulary and thus their English in general.
- 5) It is important that the new English plans include more online games and songs so that the classes are more attractive for the students.
- 6) It is recommended that students be given training to use the tools offered by cloud computing for the benefit of their learning.
- 7) It is recommended that officials who correspond to them communicate with the MEP to let them know that it is necessary to improve the quality of the internet in the institution

## REFERENCES

[Aguero, M. \(2014\). \*Información y Servicios en la Nube\*. https://ci.ucr.ac.cr/node/319](https://ci.ucr.ac.cr/node/319)

Anónimo. (2009). Recursos didácticos en el proceso de enseñanza-aprendizaje.

Federación de Enseñanza CC. OO. De Andalucía. *Revista digital para profesionales de la enseñanza*.

<https://www.feandalucia.ccoo.es/docu/p5sd6434.pdf>

Abreu, Y., Barrera, A., Breijo, T., y Bonilla, I. (2018). El proceso de enseñanza-

aprendizaje de los Estudios Lingüísticos: su impacto en la motivación hacia el estudio de la lengua. *Revista MENDIVE*, 16(4), 610-623.

<http://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/1462>

Arias, M. y Castiblanco, D. (2015). *El juego como estrategia pedagógica para el*

*aprendizaje de vocabulario y desarrollo de la habilidad oral en inglés*.

Universidad Libre de Colombia.

Bello, P. (1990). Los juegos: planteamiento y clasificaciones. En Bello, P. et al.

(eds.). *Didáctica de las segundas lenguas*. Madrid: Santillana, pp.139-157.

Babin, R., y Halilovic, B. (2017). Cloud Computing e-Communication Services in the

University Environment. *Information Systems Education Journal*, 15 (1), 56-

67. <https://files.eric.ed.gov/fulltext/EJ1135735.pdf>

Blue, J. (2018). *¿Cuál es la diferencia entre un control y una variable controlada?*

Recuperado de <https://sciencing.com/difference-between-control-controlled-variable-8724178.html>

Content, L. (s.f.). *The cost of cloud computing and ways to save.*

<https://www.lucidchart.com/blog/the-cost-of-cloud-computing>

Chacón, M. (2009). Beneficio del juego y la canción en el aula de inglés. *Innovación y Experiencias Educativas*. 16:1-13.

Chacón, P. (2008). *El juego didáctico como estrategia de enseñanza y aprendizaje*. ¿Cómo crearlo en el aula? *Nueva Aula Abierta*, 16.

Chao, L. (2012). *Cloud Computing for Teaching and Learning: Strategies for Design and Implementation*. <https://www.semanticscholar.org/paper/Cloud-Computing-for-Teaching-and-Learning%3A-for-and-Chao/4082962e47cd4915647c67d0fd68be2a2c10575f>

[Castro, G., y Rodriguez, L. \(2017\). Uso de las Tecnologías de Información y Comunicación en el proceso de enseñanza–aprendizaje, en los estudiantes del Liceo Sonafluca, CINDEA San Isidro de Peñas Blancas y Colegio Técnico Profesional La Fortuna \(Tesis de Maestría\).](#) Instituto Tecnológico de Costa Rica, Escuela de Educación Técnica.  
<https://repositoriotec.tec.ac.cr/handle/2238/10628>

Castillo, A. (2020). *Where is the real cost savings in cloud computing?*  
<https://cloudcomputingtechnologies.com/where-is-the-real-cost-savings-in-cloud-computing/>

[CINDE. \(2021\). AWS respalda el crecimiento de la nube en Costa Rica.](#)  
<https://www.cinde.org/es/noticias/aws-respalda-el-crecimiento-de-la-nube-en-costa-rica>

Dirección Regional de Educación. (s.f.). *Benemérito Liceo José Martí*.

<https://www.drep.go.cr/index.php/circuitos-educativos/circuito-05/centro-educativos/liceo-jose-marti>

Ercan, T. (2010). Effective use of Cloud Computing in Educational Institutions.

*Procedia Social and Behavioral Sciences*, 2, 938-942.

[https://www.researchgate.net/publication/235684636\\_Effective\\_use\\_of\\_Cloud\\_Computing\\_in\\_Educational\\_Institutions](https://www.researchgate.net/publication/235684636_Effective_use_of_Cloud_Computing_in_Educational_Institutions)

Formplus. (s.f.). *Diseños de investigación experimental: tipos, ejemplos y métodos*.

<https://www.formpl.us/blog/experimental-research>

Feierabend, J. (2000). *The Book of Simple Songs and Circles*. Chicago: GIA

Publications Inc

Feldman, G., y Juarez, E. (2016). Interacción Docente en la Nube. *Revista*

*Electronica Calidad en la Educación Superior*, 7 (1), 233-251.

<https://revistas.uned.ac.cr/index.php/revistacalidad/article/view/1440>

Franco, D. (2018). *Cloud Computing: A Collaborative Learning Tool for Students*.

<https://blogs.lt.vt.edu/dianafranco/2018/02/20/cloud-computing-a-collaborative-learning-tool-for-students/>

Fernandez, R. (2022). *Los idiomas más hablados en el mundo en 2021*.

<https://es.statista.com/estadisticas/635631/los-idiomas-mas-hablados-en-el-mundo/>

Garoutte, B. (s.f.). *Cloud Enables Greater Cost Savings, Reliability, and Predictability*. <https://blog.mycloudit.com/the-cloud-enables-greater-cost-savings-reliability-and-predictability>

Gimenez, F. (s.f.). *5 Strategies for Cloud Cost Reduction*. <https://www.missioncloud.com/blog/five-strategies-for-cloud-cost-reduction>

González, R. (2008). *El juego como actividad de enseñanza*. Revista Digital: Innovación y experiencias educativas, 12.

Gómez, J., Villasís, M., y Miranda, M. (2016). El protocolo de investigación III. Población de estudio. *Revista Alerg Mex*, 63 (2). <https://pubmed.ncbi.nlm.nih.gov/27174763/>

[Gonzalez, D. \(2016\). Ambientes colaborativos virtuales para el aprendizaje individual. Revista Actualidades Investigativas en Educación, 17 \(2\), 1-29. https://www.scielo.sa.cr/pdf/aie/v17n2/1409-4703-aie-17-02-00039.pdf](https://www.scielo.sa.cr/pdf/aie/v17n2/1409-4703-aie-17-02-00039.pdf)

Gutiérrez, A. y García, C. (2019). La nube, una plataforma alternativa en una organización educativa. *Revista científica electrónica de educación y comunicación en la sociedad del conocimiento*.

Gottsegen, G. (2019). *Cloud Computing & Education*. <https://builtin.com/cloud-computing/cloud-computing-and-education>

Hacia la Sociedad de la Información y el Conocimiento en Costa Rica (2010). *Computación en la nube en Costa Rica*. [http://www.prosic.ucr.ac.cr/sites/default/files/recursos/cap5\\_2010.pdf](http://www.prosic.ucr.ac.cr/sites/default/files/recursos/cap5_2010.pdf)

Hernández, N. y Flórez, A. (2014). Computación en la nube. *Revista Mundo FESC*, 8, 46-51.

Helmenstine, A. (2019). ¿Qué son las variables independientes y dependientes?. <https://www.thoughtco.com/independent-and-dependent-variable-examples-606828>

Herrera, W (2020). La educacion y la cuarta revolucion industrial. *La revista cr opinión*. <https://www.larevista.cr/ucr-walter-herrera-la-educacion-y-la-cuarta-revolucion-industrial/>

Krashen, S. (1982). *Principles and Practice in Second Language Acquisition*. Oxford, Reino Unido: Pergamon Press.

Krejja, E., Rako, S., y Tomljanovic, J. (2013). Cloud computing in education and student's needs. *MIPRO*, 856-861. [https://www.researchgate.net/publication/261424656\\_Cloud\\_computing\\_in\\_education\\_and\\_students\\_needs](https://www.researchgate.net/publication/261424656_Cloud_computing_in_education_and_students_needs)

Kumar, P. (2013). Effective Ways Cloud Computing Can Contribute to Education Success. *Advanced Computing An International Journal* 4(4), 17-32. [https://www.researchgate.net/publication/276196097\\_Effective\\_Ways\\_Cloud\\_Computing\\_Can\\_Contribute\\_to\\_Education\\_Success](https://www.researchgate.net/publication/276196097_Effective_Ways_Cloud_Computing_Can_Contribute_to_Education_Success)

Kj Technology. (2017). *Cloud computing is in high demand from businesses due to the advantages of higher computing power, high performance, scalability, accessibility and availability*. <https://kjtechnology.com/cloud-cost-reduction-benefits/>

Lengeling, M. y Malarcher, C. (1997). Index Cards: A National Resource for Teachers. *English Teaching Forum*, 35.

López, P. (2004). Población Muestra Y Muestreo. *Punto Cero*, 9 (8), 69-74.  
[http://www.scielo.org.bo/scielo.php?script=sci\\_arttext&pid=S1815-02762004000100012](http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S1815-02762004000100012)

Lebrón, A. (2009). La enseñanza de vocabulario en el aula de inglés lengua extranjera. *Revista digital para profesionales de la enseñanza*.

La República. (2022). *Evaluar a docentes y alinear educación con tecnología ayudarían a superar “Apagón Educativo”*.  
<https://www.larepublica.net/noticia/evaluar-a-docentes-y-alinear-educacion-con-tecnologia-ayudarian-a-superar-apagon-educativo>

Medellín Gómez, A. (2008). La enseñanza del vocabulario en segunda lengua. Universidad Autónoma de Querétaro. 31(1)

Meneses, G. (2007). NTIC, interacción y aprendizaje en la universidad. Universidad Rovira i Virgili.  
<https://www.tdx.cat/bitstream/handle/10803/8929/Elprocesodeensenanza.pdf>

Molina Padilla, A. (s.f.). *El uso de juegos para la enseñanza de inglés en Educación Primaria*. Universidad de Jaén.

Miguélez. A (2020). *¿Qué es y para qué sirve el cloud computing?*  
<https://opensistemas.com/que-es-y-para-que-sirve-el-cloud-computing/>

Mittal, A. (2021). *Cloud Computing in Education*.

<https://www.magicedtech.com/blog/cloud-computing-in-education>

Ortiz, A. (2005). Didáctica Lúdica: Jugando también se aprende.

Okai, S., y Ardzejewska, K. (2020). Cloud-based m-learning: A pedagogical tool to manage infrastructural limitations and enhance learning. *International Journal of Education and Development using Information and Communication Technology*, 16 (2), 48-67. <https://files.eric.ed.gov/fulltext/EJ1268798.pdf>

Pensis. (s.f.). *Internet en todo momento y lugar*.

<https://www.tec.ac.cr/pensis/articulos/internet-todo-momento-lugar>

Pastor Cesteros, S. (2004). Razones y objetivos de la enseñanza de la gramática.

En Pastor Cesteros, S. (ed). Aprendizaje de segundas lenguas. Lingüística aplicada. Alicante: Servicio de Publicaciones de la Universidad, pp. 215-286

Pérez Alarcón, S. (2010). Los recursos didácticos. Revista digital para los profesionales de enseñanza.

Questionpro. (s.f.). *Muestreo no probabilístico: definición, tipos y ejemplos*.

<https://www.questionpro.com/blog/es/muestreo-no-probabilistico/>

RingCentral. (n.d). *Cloud Collaboration*.

<https://www.ringcentral.co.uk/gb/en/blog/definitions/cloud-collaboration/>

Rubio, A., y García, I. (2013). El uso de juegos en la enseñanza del inglés en la educación primaria. *Revista de Formación e Innovación Educativa Universitaria*, 6 (3), 169-185.

- Rodriguez, R. (2015). Plan de incorporación y gestión de servicios de análisis de datos y administración en la nube para la compañía Neustar sede de Heredia, Costa Rica (Tesis de Maestría). Costa Rica. Universidad Nacional.  
<https://repositorio.una.ac.cr/bitstream/handle/11056/13174/Proyecto%20Final%20MATI-Rodrigo%20Rodr%C3%ADguez.docx?sequence=1>
- Reeve, M. (2019). *How the cloud can save your business money*.  
<https://secura.cloud/industry-insight/cost-savings-cloud-computing-explained>
- Rus, E. (2020). *Investigación aplicada*.  
<https://economipedia.com/definiciones/investigacion-aplicada.html>
- Software One. (s.f.). *Optimización de los Costes de la Nube. Ahorro de Gasto en la Nube Realizado*. <https://www.softwareone.com/es-cr/solutions/software-lifecycle-management/cloud-cost-optimization>
- Sánchez Díaz, L., Tamayo Castillo, A., Katrib Mora, M. y García Celestrín, A. (s.f.). *Ventajas de la computación en la nube para un entorno académico*. Universidad La Habana, Cuba.
- Siqueira, V. (s.f.). *¿Por qué y para qué enseñar vocabulario?* Universidade Gama Filho.
- Sargent, M. (s.f.). *Definition Cloud Collaboration*.  
<https://searchcloudcomputing.techtarget.com/definition/cloud-collaboration>
- Segura, M. (2016). *Creación De Una Comunidad Virtual Para El Trabajo Colaborativo, Que Permita La Producción De Material Didáctico En El Núcleo De Industria Gráfica Del Ina (Tesis de grado)*. Instituto Tecnológico de Costa

Rica. [https://repositoriotec.tec.ac.cr/bitstream/handle/2238/10634/creacion\\_comunidad\\_virtual\\_trabajo\\_colaborativo\\_permita\\_produccion\\_material\\_didactico\\_nucleo\\_industria\\_grafica\\_ina.pdf?sequence=1&isAllowed=y](https://repositoriotec.tec.ac.cr/bitstream/handle/2238/10634/creacion_comunidad_virtual_trabajo_colaborativo_permita_produccion_material_didactico_nucleo_industria_grafica_ina.pdf?sequence=1&isAllowed=y)

Semana. (2017). *¿Por qué la educación y la tecnología son aliados inseparables?*. <https://www.semana.com/educacion/articulo/uso-de-la-tecnologia-en-la-educacion/539903/>

Saeed, N., Al-Samarraie, H., y Ibrahim, A. (2020). Engagement in cloud-supported collaborative learning and student knowledge construction: a modeling study. *Baanqud et al. Int J Educ Technol High Educ*, 56, 1-23. <https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-020-00232-z>

Tyson, R. E. (1998). *Serious Fun: Using Games, Jokes and Stories in the Language Classroom*. Daejin: Daejin University Press.

TheDialogue. (2019). *La Transformación del Aprendizaje con el uso de Tecnologías Educativas*. <https://www.thedialogue.org/blogs/2019/10/la-transformacion-del-aprendizaje-con-el-uso-de-tecnologias-educativas/?lang=es>

Torres, S. (2021). *Uso De Las Tegnologias De Información Y Comunicación (Tic) Y Las Plataformas Virtuales Teams Y Zoom En La Enseñanza De La Contabilidad En Momentos De Pandemia Y Su Incidencia En El Aprendizaje Significativo En Los Estudiante De Décimo Año Del Colegio Técnico Profesional De Carrillo, Circuito 05, De La Dirección Regional De Santa Cruz, Guanacaste, Período 2020 (Tesis de licenciatura)*. Guanacaste, Costa Rica.

Universidad Latina de Costa Rica. [https://repositorio.ulatina.ac.cr/bitstream/20.500.12411/210/1/TFG\\_Ulatina\\_Sonia\\_Torres\\_Jimenez.pdf](https://repositorio.ulatina.ac.cr/bitstream/20.500.12411/210/1/TFG_Ulatina_Sonia_Torres_Jimenez.pdf)

Universidad de Costa Rica. (s.f.). *Computación en la Nube*. <https://www.ecci.ucr.ac.cr/cursos/ci-0159>

Vargas, G. (2017). Recursos educativos didácticos en el proceso enseñanza aprendizaje. *Cuadernos Hospital de Clínicas*, 58(1), 68-74. [http://www.scielo.org.bo/scielo.php?script=sci\\_arttext&pid=S1652-67762017000100011&lng=es&tlng=es](http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S1652-67762017000100011&lng=es&tlng=es).

Villalobos, C. (s.f.). *Cantemos y aprendamos inglés*. Universidad de Costa Rica.

Vandis. (2019). *The Importance of Cloud Computing in Education*. <https://www.vandis.com/insights/the-importance-of-cloud-computing-in-education/>

Willems, E. (1994). *El valor humano de la educación musical*. Barcelona: Paidós.