UNIVERSIDAD TÉCNICA DE AMBATO

FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN

CARRERA DE IDIOMAS

MODALIDAD PRESENCIAL

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TOPIC:

"VIRTUAL ENVIRONMENTS AND THEIR INFLUENCE ON THE ENGLISH MEANINGFUL LEARNING IN THE SECOND YEAR OF ELECTRONIC SPECIALTY AT ATAHUALPA HIGH SCHOOL, AMBATO CITY, TUNGURAHUA PROVINCE"

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Ambato-Ecuador

2018

SUPERVISOR APPROVAL

CERTIFY:

I, Lcda. Mg. Sarah Jacqueline Iza Pazmiño holder of the I.D No. 0501741060, in my capacity as supervisor of the Research dissertation on the topic: "VIRTUAL ENVIRONMENTS AND THEIR INFLUENCE ON THE ENGLISH MEANINGFUL LEARNING IN THE SECOND YEAR OF ELECTRONIC SPECIALTY AT ATAHUALPA HIGH SCHOOL, AMBATO CITY, TUNGURAHUA PROVINCE" investigated by Mayra Cristina Egüez Mayorga with I.D No. 1804329389 confirm that this research report meets the technical, scientific and regulatory requirements, so the presentation of it is authorized to the corresponding organism in order to be submitted for evaluation by the Qualifying Commission appointed by the Board of Directors.

Lcda. Mg. Sarah Jacqueline Iza Pazmiño

I.D. 0501741060

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DECLARATION PAGE

I declare this undergraduate dissertation entitled "VIRTUAL ENVIRONMENTS AND THEIR INFLUENCE ON THE ENGLISH MEANINGFUL LEARNING IN THE SECOND YEAR OF ELECTRONIC SPECIALTY AT ATAHUALPA HIGH SCHOOL, AMBATO CITY, TUNGURAHUA PROVINCE" is the result of the author's investigation and has reached the conclusions and recommendations described in the present study.

Comments expressed in this report are the author's responsibility.

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Mayra Cristina Egüez Mayorga

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DEDICATION

First, I thank God for giving me the opportunity to live and being the support and strength in those moments of difficulty and weakness. In addition, to my family for being the main promoter of my dreams, for trusting and believing in my expectations, for the advice, values and principles that they have taught me.

Cristina

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I thank my mother Asucena, for inspiring and giving me the opportunity to reach my goals and being with me through this process. To all teachers from Carrea de Idiomas who gave me their support and motivation, since they were the ones who helped to become an English teacher.

Cristina

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Autor: Mayra Cristina Egüez Mayorga
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Fecha: Diciembre 20th, 2018

RESUMEN EJECUTIVO

La investigación se centró en analizar los elementos de los entornos virtuales y su influencia en el aprendizaje significativo del idioma inglés en los estudiantes de segundo año de bachillerato especialidad electrónica de la Unidad Educativa Atahualpa de la ciudad de Ambato Provincia de Tungurahua. Esta información se recolectó por medio de datos estadísticos y encuestas, planteado tanto a las autoridades, profesores y estudiantes; además, para este proceso fue necesario consultar varias fuentes bibliográficas y científicas que respalden la investigación directa. Los resultados demostraron que la mayor parte de los estudiantes manifiestan que no conocen entornos virtuales y consideran que la utilización de esta nueva forma pedagógica y tecnológica de educación ayudaría a mejorar el proceso de Aprendizaje Significativo, en los estudiantes del segundo año de bachillerato especialidad electrónica de la Unidad Educativa Atahualpa de la ciudad de Ambato.

Descriptores: Entornos virtuales, aprendizaje significativo, tecnología, pedagogía, educación.

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Date: December 20th, 2018

ABSTRACT

The research focused on analyzing the elements of virtual environments and their influence on the English meaningful learning in second year students of the electronic specialty at the Atahualpa High School of Ambato city, Tungurahua. This information was collected through statistical data and surveys, presented to the authorities, professors and students. In addition, for this process it was necessary to check several bibliographic and scientific sources that support direct research. The results showed that most of the students state that they do not know virtual environments and consider that the use of this new pedagogical and technological form of education would help to improve the meaningful learning process, in the students of the second year of the Atahualpa High School of Ambato city, Tungurahua.

Descriptors: Virtual environments, meaningful learning, technology, pedagogy, education

INTRODUCTION

The purpose of this current research work is to identify the virtual environments and its influence on the meaningful learning of the English language in the second year students of Electronic Specialty at Atahualpa High School of Ambato city of Tungurahua. It is structured in six chapters:

CHAPTER 1

The problem was developed based on the theme "Virtual Environments and their influence on the Meaningful Learning of English Language in the second year students of electronic specialty at Atahualpa High School of Ambato City of Tungurahua. It also details the approach of the problem, contextualization the formulation, objectives and justification of the research work.

CHAPTER 2

Theoretical framework covers the research focus, basic modality of research, level or type of research, population, operationalization of variables, collection of information, plan for gathering information and the information processing plan.

CHAPTER 3

The methodology implemented in the study project based on the approach and the type of research, while establishing the population to be researched, the operationalization of variables and the plan to obtain the study information.

CHAPTER 4

The data obtained from the surveys through an analysis and interpretation of data which is represented in statistical graphs of the questionnaire. In addition, the hypothesis is verified by the application of the Chi square.

CHAPTER 5

Conclusions, recommendations

ANNEXES

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CHAPTER I

THE PROBLEM

1.1 Research topic

"VIRTUAL ENVIRONMENTS AND THEIR INFLUENCE ON THE ENGLISH MEANINGFUL LEARNING IN THE SECOND YEAR OF ELECTRONIC SPECIALTY AT ATAHUALPA HIGH SCHOOL, AMBATO CITY, TUNGURAHUA PROVINCE"

1.2 Problem Statement

1.2.1 Contextualization

In **Ecuador** there is a technological era in education, because it has increased access to the Internet with the aim of democratizing and universalizing the use of Information and Communication Technologies (ICT). According to a survey applied by Instituto Nacional de Estadística y Censos (INEC), in 2017, the laptops equipment in homes was increased by 12.1 points, compared to 2012. (INEC, 2017)

By 2017, Internet access at the national level increased by 14.7 points more than in 2012; as in urban area, while in the rural area it grows 11.8 points. In this same year, 52.0% of the population aged 5 and over used a computer; this is 13.3 more points than in 2012.

Due to changes in the educational environment, multiple challenges have been evidenced, one of them is access to technology to obtain information, in this context it has been determined that virtual environments in the English language within the educational profile of the country are not used in an adequate form, and in other cases not with the technological instruments that encourage meaningful learning.

Tungurahua is undergoing a positive change in the field of education; however, not all teachers use the virtual resources that currently exist for the English language teaching, reducing the student's interest to learn this foreign language.

According to data from (INEC, 2017) 57.1% of citizens of Tungurahua Province use a computer. This percentage should be considered. At the same time, it is a commitment that through educational institutions this percentage should increase, giving greater accessibility to the use of computers.

Atahualpa High School is located on January 22 Avenue, Atahualpa Parish. Its mission is to be a public educational institution that trains technical, critical, reflective and competent people, socially dedicated to combine various disciplines of knowledge, through scientific, pedagogical and cultural processes to respond to the society demands.

In addition, the vision of Atahualpa High School in 2018 will be leader in management and innovation in Technical Education that will enhance science and technology based on the integral development of the human being that contributes to the development of society.

In the English language field, students from the second year have deficiencies, according to the results of the evaluations applied by teachers, who have expressed their concern to guide the students to improve their skills in the use of the English language.

It should be noted that the institution has two laboratories used for certain subjects but not for the English language teaching at all. The computer lab is often used for three hours a week just for playing videos. In other words, this important resource is left aside to strengthen the learning of this foreign language. The computer lab is not used for virtual environments that can help didactically to the English learning.

As a result, the English language teaching is mostly done in the classroom with the help of a tape recorder. That is, teaching is limited to the use of the text book and printed material or photocopies.

For all this, a change is necessary that allows the use of the computer lab for the English language teaching and the development of all its skills with the accompaniment of technology, in this way to explore the use of tools and virtual environments that facilitate the meaningful learning of this foreign language.

Problem Tree

EFFECTS	DEFICIENCY IN THE EDUCATIONAL LEVEL	DISINTEREST FOR OPTIMIZING COMPUTER RESOURCE	INABILITY IN THE USE OF NEW TEACHING METHODS

PROBLEM

SHORTAGE OF VIRTUAL ENVIRONMENTS USE FOR ENGLISH MEANINGFUL LEARNING

CAUSES	UNAWARENESS OF THE IMPORTANCE OF MEANINGFUL LEARNING	LITTLE UNDERSTANDING OF THE USE OF VIRTUAL ENVIRONMENTS	LIMITED KNOWLEDGE OF THE EDMODO PLATFORM

Graphic 1 Problem Tree
Source: Direct Observation
Author: Mayra Cristina Egüez Mayorga.

1.2.2 Critical Analysis

The shortage of virtual environments use for English meaningful learning is caused by the unawareness use of virtual environments in the second year of electronic specialty at Atahualpa High School, having as effect; a deficiency in the educational level especially in the English language which is the most used and competitive in the world. English language is now an academic and professional need, especially as a means of global communication that is why teachers of the institution need new teaching learning strategies to share their knowledge with the students.

The shortage of virtual environments use for English meaningful learning is another cause of the little understanding of the use of virtual environments of the English language in learning in the second year of electronic specialty at Atahualpa High School, giving an effect a disinterest for optimizing computer resource by the authorities and teachers of the institution.

Another important factor is the limited knowledge about Edmodo platform and the low importance of the use of virtual environments for teaching. Given apathy in the educational process by the students, due to the shortage of virtual environments use for English meaningful learning of the English language in the students of the second year at Atahualpa High School caused inability in the use of new teaching methods.

1.2.3 Prognosis

In the absence of an alternative solution to the problem presented, it will be determined that the educational level will be deficient, the disinterest in optimizing the computer resource and inability in the use of new teaching methods, therefore the lack of use of virtual environments will lead to the development of students' skills in the English language, which limits the quality of education that will be reflected   in   the   low   academic   performance, in such a way there is no evidence of meaningful learning that allows the

development of motivated, productive students and affecting the institutional image of Atahualpa High School.

1.2.4 Formulation of the problem

How does the lack of use of virtual environments affect the meaningful learning of the English language in the electronic specialty of Atahualpa High School?

1.2.5 Research Questions

- What are the factors that lead to the development of meaningful learning in the English language?
- What kind of virtual environments do teachers use to develop the skills in the English language teaching?
- How the use of a virtual environment will affect the meaningful learning of the English language?

1.2.6 Delimitation of the Research Object

The present research work is developed in the following parameters:

Content

Field: Education
Area: English Language
Aspect: Virtual environments, meaningful learning
Spatial Delimitation: Atahualpa High School
Temporary Delimitation: 2018-2019

1.3 Justification

The **interest** of the research focused on strengthening the knowledge of English language learners, who through the use of virtual environments can generate high learning and then promote meaningful learning that leads to a highly participative educational quality.

It is very **important** because through this research process student' skills in the English language learning can be better developed, in such a way that the virtual environment will generate educational efficiency.

Besides, this research work is **original** because it was imparted by using virtual environments as means of interaction between students and teachers in the English area. Its aim is to cause a great impact by improving the communicative profile, since the use of technology can be beneficial for all students involved in the institution, meanwhile in the 21st century the use of new technologies and programs that are aimed at social interaction through virtual resources, using a language as its main tool of information.

When talking about the **feasibility** of conducting this research was high, due to the collaboration with the authorities, teachers of the institution, as well as parents.

The project is **innovative** because in Atahualpa High School, according to the teachers and authorities stated that there is no computer application for meaningful learning of the English language or a similar one, they still use traditional methodologies that limit the conception of learning.

This research has great **impact,** emphasizing the implementation of this research topic that is required in the classrooms at Atahualpa High School; this will allow a meaningful learning process of the English language and will strengthen the quality of the knowledge delivered.

The main **beneficiaries** of this research were the directors and teachers from Atahualpa High School, because they will strengthen the quality of education in the

institution. Parents will also be benefit, since they can visualize a better socio-educational integration of the students.

1.4 Objectives

1.4.1 General Objective

To study virtual environments and their influence on the English meaningful learning in the second year of electronic specialty at Atahualpa high school, Ambato city, Tungurahua Province.

1.4.2 Specific Objectives

- To analyze the factors that lead to the development of meaningful learning.
- To identify the virtual environments that teachers use for the development of skills in the English language teaching.
- To establish the influence of a virtual environment on the meaningful learning of the English language.

CHAPTER II
THEORETICAL FRAMEWORK

2.1 Research Background

By searching for information obtained in the library of the Facultad de Ciencias Humanas y de la Educación at Universidad Técnica de Ambato, similar researching studies have been analyzed to compare the diverse results with the proposed research work. After, checking alike academic studies, their results will help to compare the influence of variables, as detailed below:

According to (Quintanilla, 2016) "Las plataformas virtuales libres y el aprendizaje significativo del idioma inglés en los estudiantes de la Unidad Educativa Hispano América", concludes that virtual environments are generated from meaningful learning based on teaching strategies in the English language. The author concludes that free virtual platforms collaborate in the meaningful learning of the English language in students, currently teaching English language learning strategies are used, but not through virtual platforms.

In the same way, (Chuquitucto, 2015) in her theme: "Influencia de la plataforma Edmodo en el logro de los aprendizajes de los estudiantes del quinto grado de educación secundaria en el área de educación para el trabajo de la Institución Educativa Colegio Nacional de Vitarte del Distrito de Ate, 2015", it is concluded the application of the Edmodo platform as a strategy significantly influences the achievement of learning in the students of fifth grade.

(Ramos Flores, 2013) in his thesis with the theme: "La plataforma Moodle y su influencia en la enseñanza del idioma inglés a los estudiantes de segundo bachillerato A, B y D de la Unidad Educativa Juan León Mera 'La Salle' de la ciudad de Ambato, Provincia de Tungurahua", teachers do not use any kind of multimedia resources to reinforce the topics that are being developed within the class. The teacher always uses the same material to teach, so students do not feel motivated and do not find attraction for the subject. Students memorize much of the content that is taught, without giving way to the relationship and analysis of the topics, so that students can remember what they are learning.

(Navas, Real, Pacheco, & Mayorga, 2015) in their paper with the theme: " Los Procesos de Enseñanza y Aprendizaje del Idioma Inglés a través de los Entornos Virtuales de Aprendizaje". The conclusion of the research, the authors consider that the theoretical methodological foundations that allow the improvement of teaching-learning processes through a virtual learning environment are supported by including them in the English modules to motivate students to develop their creativity.

Mentioned by (Zuleta, 2017) in her article: "Las TIC como mediación para la enseñanza y aprendizaje del idioma inglés". The inclusion of the internet in the classroom allows the teacher to facilitate the work of searching relevant information for their class development. As well as, the material to be used in the various proposed activities aimed at teaching the English language. The virtual network is a tool that makes possible to be aware of new trends and changes related to the educational environment. Teacher can learn and provide feedback to their pedagogical work through the implementation of strategies shared by other colleagues around the world. They can take what is most relevant to the school context.

In consequence, it is concluded that the activities generated in a virtual classroom (VLE) as a pedagogical support tool has similarity with the variable and therefore will serve as a bibliographic support for the proposed research topic, because virtual environments will allow strengthening the meaningful learning of the English language.

Therefore, a relationship can be made in terms of the virtual environment variable with the Edmodo platform, since it significantly influences the achievement of technical learning for students in the fifth grade of Secondary Education and according to the results, meaningful learning can be improved according to virtual environments.

As a result, the relationship between the proposed research topic and the subject of (Ramos Flores, 2013) is connected; because of the virtual environment application is essential for the meaningful learning of the English language.

In addition, it can be stated that according to the authors, both teachers and students were involved in the learning teaching process generating meaningful learning throughout the development of English modules.

On the other hand, according to (Zuleta, 2017) it is intended to make a dramatic change in ICT as mediation for the teaching and learning of the English language, it is very important that, the teacher leads virtual environments. The teacher is the one who decides how to use of ICT in terms of meaningful learning of the English language.

2.2 Philosophical foundations

The present research work is based on the social approach, because it is generated through a basic structure that constitutes the necessary condition of the system of actions and behaviors that is proper to the human being, supported by the axiological, ontological, epistemological and psychological philosophy.

2.3 Legal basis

The research was carried out within the different chapters and articles of the Ley Orgánica de Educación Intercultural (LOEI) (2015).

Art. 10.- Adaptaciones curriculares. - Los currículos nacionales pueden complementarse de acuerdo con las especificidades culturales y peculiaridades propias de las diversas instituciones educativas que son parte del Sistema Nacional de Educación. Las instituciones educativas pueden realizar propuestas innovadoras y presentar proyectos tendientes al mejoramiento de la calidad de la educación, siempre que tengan como base el currículo nacional; su implementación se realiza

con previa aprobación del Consejo Académico del Circuito y la autoridad Zonal correspondiente.

Del Sistema Nacional de Educación
Capítulo II
De los niveles de Gestión del Sistema Nacional de Educación

Art. 3.- Nivel Distrital intercultural y bilingüe. Es el nivel de gestión desconcentrado, encargado de asegurar la cobertura y la calidad de los servicios educativos del Distrito en todos sus niveles y modalidades, desarrollar proyectos y programas educativos, planificar la oferta educativa del Distrito, coordinar las acciones de los Circuitos educativos interculturales o bilingües de su territorio y ofertar servicios a la n el objeto de fortalecer la gestión de la educación de forma equitativa e inclusiva, con pertinencia cultural y lingüística, que responda a las necesidades de la comunidad.

Cada Distrito educativo intercultural y bilingüe debe corresponder al territorio definido por el Nivel Central de la Autoridad Educativa Nacional, en concordancia con el Plan Nacional de Desarrollo.

El Nivel Distrital desarrolla su gestión a través de las Direcciones Distritales.
Las facultades específicas de este nivel serán determinados a través de la normativa que para el efecto expida el Nivel Central de la Autoridad Educativa Nacional.

Art. 4.- Nivel del Circuito intercultural y bilingüe. Es el nivel de gestión desconcentrado encargado de garantizar el correcto funcionamiento administrativo, financiero, técnico y pedagógico de las instituciones educativas que el Nivel Central de la Autoridad Educativa Nacional determina que conforma un Circuito.

La gestión administrativa y financiera de las instituciones públicas del circuito está a cargo del administrador del circuito; la gestión educativa está a cargo del Consejo Académico. Las facultades específicas de este nivel serán determinados a través de

la normativa que para el efecto expida el Nivel Central de la Autoridad Educativa Nacional.

Constitución Política del Ecuador (2008)

Centrándose en la Constitución Política del Ecuador (2008) en lo referente a educación:

Art. 27.- La educación se centrará en el ser humano y garantizará su desarrollo holístico, en el marco del respeto a los derechos humanos, al medio ambiente sustentable y a la democracia; será participativa, obligatoria, intercultural, democrática, incluyente y diversa, de calidad y calidez; impulsará la equidad de género, la justicia, la solidaridad y la paz; estimulará el sentido crítico, el arte y la cultura física, la iniciativa individual y comunitaria, y el desarrollo de competencias y capacidades para crear y trabajar. La educación es indispensable para el conocimiento, el ejercicio de los derechos y la construcción de un país soberano, y constituye un eje estratégico para el desarrollo nacional. (Asamblea Constitucional del Ecuador, 2008)

MINISTERIO DE EDUCACIÓN Acuerdo No. 0052-14
Considerando:

Del capítulo segundo de las obligaciones del estado respecto del derecho a la educación:

DÉCIMA QUINTA.- "En el plazo de tres años a partir de la promulgación de esta Ley, los Ministerios de Educación, Telecomunicaciones y de Ciencia y Tecnología, garantizarán la cobertura en conectividad a todos los establecimientos de educación pública en el país" […].

El **Art. 34, literal h** "[…], apoyar la provisión de sistemas de acceso a las tecnologías de la información y comunicaciones".

2.4 Main Categories
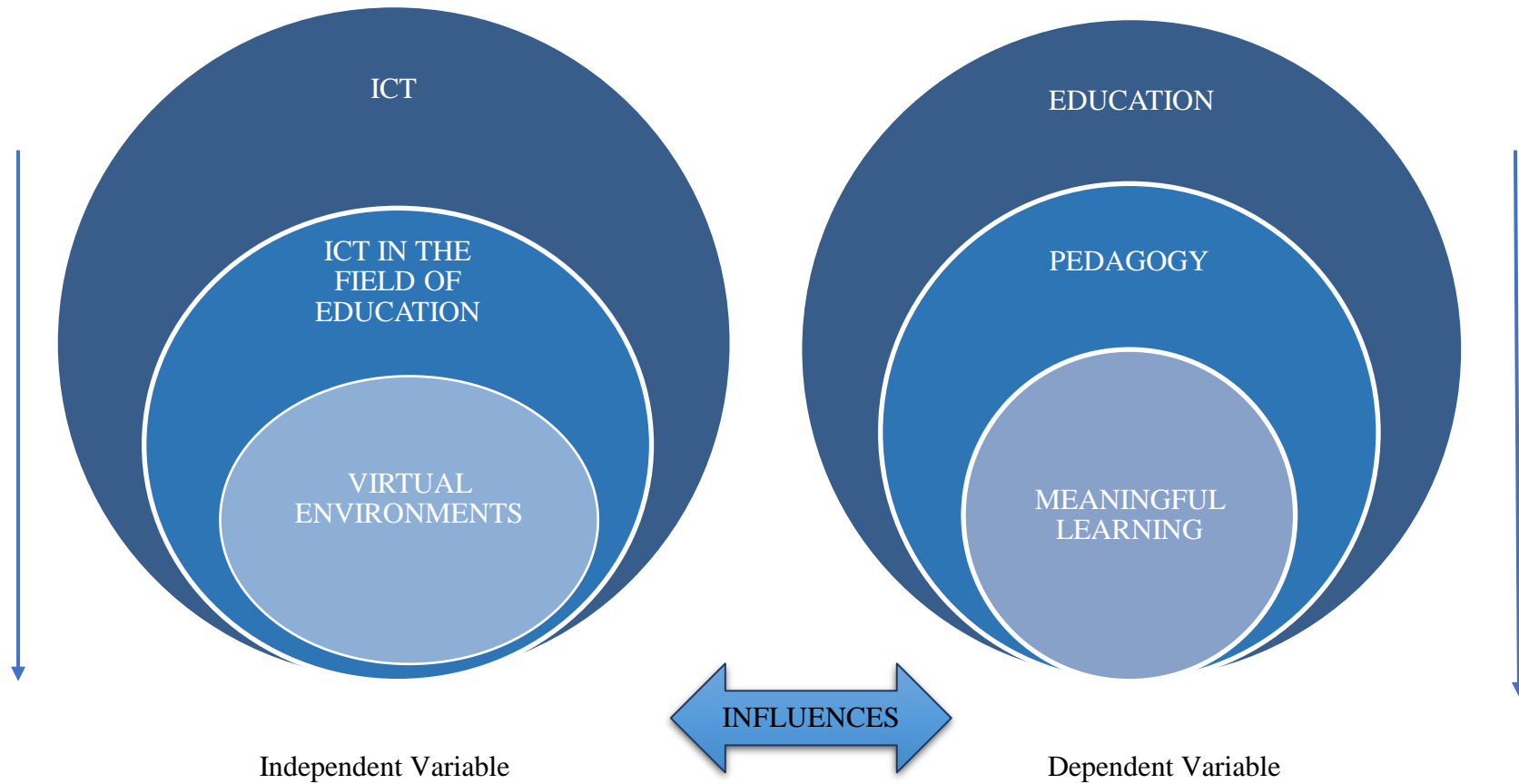
Graphic 2 Key Categories
Source: Researcher
Author: Mayra Cristina Egüez Mayorga.

2.4.1 Independent Variable

INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT)

The new information and communication technologies (ICT) in society generates unnoticed changes throughout history by other technologies, such as printing and electronics. These changes occur, because ICT is not only based on the capture of information, but also on the possibilities they have to manipulate, store and distribute it, and because, above all, the population already has the necessary skills to use them. (Chicaiza, 2016)

According to the previous paragraph, the idea is the so-called new technologies create new environments, both human and artificial, of communication not known until the present and establish new forms of user's interaction with computers, because contextualized knowledge is constructed in the interplay of subject and computer.

In accordance with Chicaiza, (2016) interactivity gives ICT a full sense in the educational and didactic field since it allows a subject-computer interaction and its adaptation to the psychological, evolutionary and educational characteristics of the user. Therefore, the information instantaneity allows users to access databases inside and outside high schools, breaking the spatiality. The objective is to obtain improvement, change and qualitative and quantitative development of the previous technology and therefore of the functions that it carried out.

According to the author, the multimedia technical quality refers to the fact that it is not only about handling information more quickly and transporting it to distant places, but also about the quality and reliability of the information, and the function of the following criteria of rationality technological:

- Efficiency: achieve the objectives
- Efficiency: achieve the objectives with the lowest possible cost.
- Reliability: its effects are long-lasting.
- Adequacy: to establish which contexts are more suited to that technology.

The processes will not only determine different qualities in the products, but they will also establish differentiated results, having as consequence the development of specific abilities in the students or learning styles. (Moreno, 2012)

UNESCO guides the international work with a view to help countries to understand the role that ICT technology can play in accelerating progress towards the goal of sustainable development. It also shares knowledge about the different ways in which technology can facilitate universal access to education, reduce differences in learning, support teacher's development, improve the quality and relevance of learning, strengthen integration and improve education management and administration.

ICT IN THE FIELD OF EDUCATION

The uses that can be given to ICT in the educational field according to (Martínez, 2013) are:

- Mediating instruments for the relationships between students, content and learning tasks, which perform search and selection of relevant content; manage repositories of complex or simple contents represented in different systems and formats; exploration, deepening, analysis and content evaluation; task repositories development and activities with a greater or lesser degree of interactivity; development of self-learning materials.

- Presentation instruments and meanings on task contents by professors and students as assistants or amplifiers of certain actions of the teacher, as assistants or amplifiers of certain performances of the students.

- Instruments to regulate and control the teachers and students' activities around the contents and tasks.

- Instruments for individual and group activities, likewise collaborative or simultaneous work spaces.

According to the author, ICT have potential to transform teaching-learning processes in an innovative way to support traditional and non-traditional forms. They also encourage a student-centered model, support collaborative work strategies and favor research projects development, which result in more reflective, in-depth and participatory learning; They also raise the level of accessibility that favor learning throughout life. Therefore, it is important to take into account the important aspects to be considered when ICT are involved in teaching-learning processes:

- Focus attention on the materials developed by teachers through training. They use ICT in the production of their own teaching support materials.

- Select content areas based on needs and priority from the areas where ICT can really have an added value.

- Train teachers in basic ICT and develop their pedagogical skills.

- Support networks among teachers that allow them to share their opinions, experiences and teaching materials with other teachers, which motivate them to improve the quality of local materials or through the establishment of online practice communities for professionals.

VIRTUAL ENVIRONMENTS

Virtual environments are communication spaces that allow information exchange. It would make possible, according to their use, the creation of a teaching and learning context in which professor's cooperation and students will be facilitated, within a framework of dynamic interaction, through culturally selected contents and materialized representation, through various languages that the technological medium is capable of supporting. (Nóbile, 2015).

According to the previous paragraph, it can be stated that these environments have a potential meaning with their functionalities, since the results that can be achieved will

depend on its use, in accordance with pre-established objectives. This is important to improve the quality of education.

The web evolution and the different forms used in education, allowed the authors to analyze the dynamics that arise in education and the process of professional training in virtual teaching-learning environments, which will allow the best development of individual learning and collaborative in these environments, as well as to proposed construction of new scientific knowledge. Virtual environments offer alternatives that do not express the process particularities form apprehension and appropriation of technological and professional contents. (Guaña, 2015)

On the other hand, Guaña (2015) indicated that the relationship between individual and collaborative learning with virtual environments contributed to the adaptation of university students from different study modalities to such environments, thus propitiating the educational transformation in accordance with current social demands and in relation to training of the professionals.

Likewise, Moreira (2015) mentions that virtuality transcends traditional temporal references, since it does not confine the educational activity to a single moment or space. In virtual environments, the participant can access the course at any time they wish and carry out their activities without having to coincide in time or space with the other participants, hence the "timeless" virtuality nature.

Virtual environments' particularities are more flexible and perhaps less structured than face-to-face contexts, the management and regulation of available resources could be significantly different. The student is who distributes their time, defines when they enter the virtual platform, how long they stay online and the number of times they participate in an activity, according to their needs, abilities and interests. (Moreira C. , 2015)

Also, here are some essential elements in learning virtual environments development, such as the characteristics that the virtual teacher must have in order to dynamize, teach and create dynamic learning classrooms. These are part of the constructivist learning

theories to create online learning environments. Virtual environments show us that the role played by the constructivist model of learning is not always more important, not only in the content but in the teacher's role as a dynamic agent of dynamic environments. Technological advances, access to broadband and high-performance multimedia are revolutionizing learning environments. (González, 2015)

According to the previous paragraph, the figure of a teacher who guides the learning process is strengthened, but via the Internet combined with a set of materials, activities and actions that imply tutoring in real time, online services for student and content. The web appeared to create a multidimensional learning environment. For this reason, it is important to establish new relationships among the participants of the teaching-learning process in virtual environments, where the teacher's action is to guide student's behavior and activities, establish basic schemes and frames of reference for them to explore, observe and rebuild the knowledge.

Mentioned by González (2015), it makes sense to learn significantly, which means the possibility of attributing meaning to what is being learned from what was already known. It would be expected then that before new information presented, the interaction teacher-student and student-student promote a revision, modification and enrichment of the previous knowledge and structures of thought, establishing new connections and relationships that assure the functionality and the comprehensive memorization of the learned.

Virtual environments have great advantages: it provides interest-motivation, generates interaction, promotes continuous intellectual activity, encourages the initiative development, manages greater communication between teachers and students, promotes cooperative learning and a high degree of interdisciplinary, digital literacy and audiovisual, generates information selection skills development, greater contact with students, and a permanent professional update. (Quesada, 2017)

VLE' (Virtual Learning Environment) characteristics

A VLE (link is external), or learning platform, is an online system that allows teachers and trainers to share educational materials and communicate with their learners via the web. Usually with built in tools to create engaging learning content. We all know that, but if you have one, is its use fit for purpose?

There has always been a need to make learning resources more engaging and available on-line, but there is even more reason to look at ways of making material accessible to learners as they demand it (24/7) through an appropriate learning platform. It's just good practice. Add to that the impending requirement for Learning Providers to make a significant percentage of courses available on-line (FELTAG), it has become even more urgent for the independent sector especially, to look for suitable options and for colleges, in my opinion, to ensure that their VLE is being used in the way it has been designed, not as somewhere to 'store' scanned paper with internet access 'blocked' without considering the outcome for learner experience. Might as well hand the paper to the learner or put it in the post. No winners there then, so what to do? (Gallacher, 2015)

According to the previous paragraph, during a memorable review of how technology was being used, a curriculum manager stated that their VLE. It is necessary to see the possibility of promoting research that contributes to the understanding of the virtual environment, for it requires a multidisciplinary vision, a meeting point of different fields of knowledge to clarify that the virtual does not represent the contrast of face-to-face and recognize that the transformation of traditional education to education is not only mediated or supported, but combined with technology, although it is possible to question whether technological development. The virtual is developed as a new paradigm of thought that must transform educational models and that allows a way to meet the flexibility and transversally desired in them.

Edmodo

Edmodo is a free classroom communication hub that lets you engage with your classes and connect with teachers globally; Edmodo can be used with the cell phone.

All New Features, a brand-new home stream for sharing and discovering resources among your colleagues. All your classes organized into one space. Direct Messaging available for students and teachers, a daily planner that shows all your upcoming assignments and events. **Engage your students,** with Edmodo; you can reach every student in your class. Students can login and participate from any phone, tablet or computer, and can check assignments from within the app. Facilitate discussion within a single class group or browse topics for extra resources related to your subject. **Connect with teachers,** share and discover new lessons and resources across your school, district, or any of your teacher connections. Edmodo makes it easy for you to share anything on your phone with your connections. And the improved home stream means you can find dozens of educational resources for your classroom all at once. (Edmodo, Inc., 2018)

Likewise, the ability to connect with international educators and share that experience with my students is a major perk." and "I've used different products, but I stick with Edmodo because it is easy to use, Edmodo is a free social educational platform that allows communication between students and teachers in a closed and private environment.
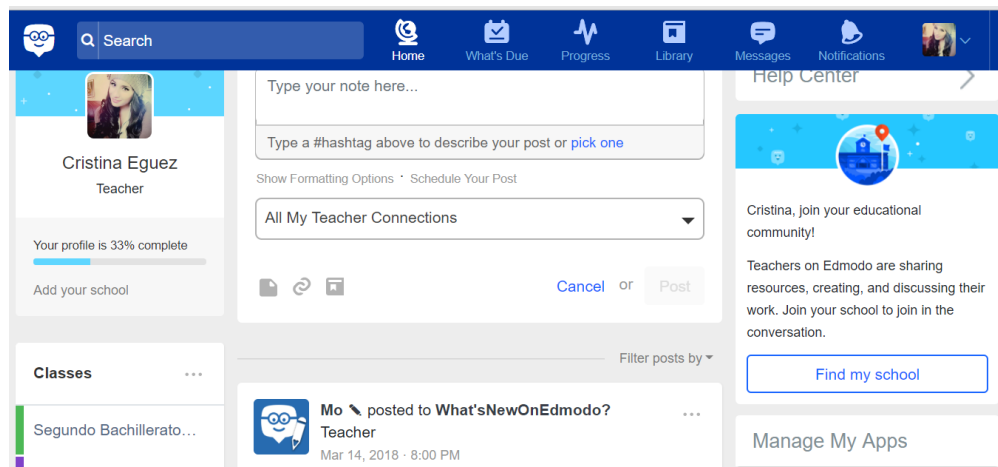
Graphic 3 Edmodo
Author: Mayra Cristina Egüez Mayorga

This platform allows students to send assignments, reinforce class contents through web content and share files. It allows having an alternative means of communication with students and among themselves, private and secure. Messages can be private or public.

As stated by Píndaro (2013), Edmodo can allow the test's accomplishment of various types that are at least partially self-evaluable, as much in the classroom as outside of it, and allow parents to make a detailed follow-up of the march of their children through the platform.

This has its following functions:

- Text messages
- The exchange of files and links in the library.
- Communication with students
- Discussions with students of one or several groups.

Disadvantages:

- Does not have chat.
- Students cannot communicate with each other directly by private message.
- Does not display users online.
- You cannot move the information published in the group wall.

The different aspects of Edmodo must be considered; among the main ones are the following:

- How to register?
- What do you see in the work area?
- How to edit the profile?
- How to set up the account?
- How to create a group?
- How to start work space?

• How to write messages on the wall?

• How to comment, share and label messages?

• How to send notifications?

• How to perform task assignments?

• How to make notes in the works delivered by students?

• How to qualify the student?

•How to put comments on the work? (Organización de Estados Iberoamericanos, 2012)

2.4.2 Dependent Variable

EDUCATION

Educators attempt to integrate the findings of developmental psychology and behavioral science into successful curricula, but every generation grapple with questions such as how much to tailor information to individual students, and, increasingly, how to integrate technology into classrooms.

Despite advancements over the decades, formal educational institutions still attract their share of critics, especially when they are pressured into "teaching to the test" instead of making sure that students genuinely learn and retain their new knowledge. Can psychology lead the way to true reform and a better learning environment for every student? (Psychology Today, 2018)

According to the previous paragraph can state that historically, education assumes a function of building and transmitting knowledge through the training of professionals for their insertion in the workplace, likewise, has a fundamental link with the economic policies that dictate the social order in general, which is why it provides the necessary knowledge for the social transformations that the environment demands from these institutions. It welcomes the knowledge that must be coherent in quality and relevance, in accordance with the demands of internationalization that, due to the processes of globalization in which these institutions operate, demand them.

Conforming to Garbanzo (2016) education, moreover, is like an instrument that enhances economic, social and cultural changes within its management processes. A greater social education inclusion aspires to a more cultured society, with a high level of development, ethical and moral values. To achieve this social relevance, it is essential to rely on a participatory management, built on a collective basis and with solid livelihoods regarding what happens in the environment. Therefore, it is necessary that those who own an educational institution, possess a solid knowledge of the general occurrence at a global, regional and local level, and a deeper knowledge in the specific field of education to maintain, thus, the social relevance as an institution.

By achieving the education relevance in the knowledge and information society, they demand educational institutions to rethink - creatively - their organizational doctrine, that is, their objectives, mission and functions. The institutions form competitive, responsible, supportive, proactive and willing people to contribute to the globalized society development, has a double moral responsibility. Therefore, this context makes it crucial for educational institutions to be led by leaders capable to respond to all world environment demands. They must have the necessary competences on the social environment in all their cultural, technological, political, economic and social. And in this way, educational institutions in general need to reorient, rethink in different directions by generating change processes that allow the development of their own organizations.

PEDAGOGY

An effective teacher has a wide-ranging repertoire of different teaching and learning models, strategies and techniques and knows how to create the right conditions for learning. The choice is determined by the nature of the learning objective. The communicative strategies found in this review could be tested out through an intervention but getting further details of teachers' feedback and attention, group work and use of TLMs, demonstration and explanation in large classrooms. (Westbrook, 2013)

Traditional pedagogical model

It is largely a functional procedure which focuses on skills and areas of knowledge in isolation. From this, traditional methodologies are strongly associated with the teaching of language which is used in a certain field related to the students' life or work.

Modern Methodology

Let us now turn our attention to modern methodology, its aims, philosophy, and procedures, and some examples of its methods. Unlike traditional methodology, modern methodology is much more student-centered.

Briefly, some people learn a foreign language to be able to communicate with foreign people and others learn a foreign language to see the world from a different point of view, to discover new approaches to life or to find out about other cultures. (Boumová, 2008)

One has probably met many ways to teach or revise vocabulary. As suggested by Jim Scrivener, the most popular or the most common methods in modern teaching are:

- Match the words with the pictures.
- Check the meaning of these words in the dictionary.
- Match the words with the definitions.
- Brainstorm words on a set topic (i.e. collect as many as you can).
- Divide these words into two groups (e.g. food words and hobby words).
- Label the items in a picture with the right names.
- Complete gapped sentences with words from a list.
- Discuss a topic (that will feature in the text).
- Say which words (from a list) you expect to be in a text about. (Boumová, 2008)

Including these methods, the training at Masaryk University offers other ideas too:
- Miming, drawing or showing a flashcard to indicate the meaning of a word.
- Using timelines or percentage (in comparison with some similar words).

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- Eliciting some words for a short preferably funny or personal (possibly repetitive) dialogue or story.

- Letting the students get the meaning from the context.

- Using synonyms and opposites.

- Crosswords, riddles.

- For some difficult words, such as abstract items or verbs, translation is useful too; however, it is preferable to elicit the translation from the students.

Humanist pedagogy

Under this same perspective a comparison can be made between a traditionalist, externalist or passive school conception with the Humanist conception also called developer, this purpose is synthesized in the following in a comparative table, where you can see three fundamental aspects that the difference of a very remarkable way.

Table 1 Pedagogical models

ASPECTS	TRADITIONAL PEDAGOGY	HUMANIST PEDAGOGY
Teaching Conception	- Absolutization of the external appearance - Standardization - Directives and Authoritarian Methods	- Emphasis on personal components - Flexibility - Non-directive, dynamic and participatory methods
Tacher's role Conception	- Executor of already established directives. - Limitation of individuality and creativity. - Authoritarian, Rigid, Controller	- Active role, creator, researcher and experimenter. - Stimulus to individuality. - Flexible, spontaneous, counselor.
Student's role Conception	- Passive subject, player of knowledge. - Little initiative, insecurity, little personal interest. - Not involved in the process.	- Active subject, knowledge builder. - Creativity, reflection, own cognitive interests. - Implication and commitment.

Source: Pedagogical models Ortiz (2005)
Author: Mayra Cristina Egüez Mayorga.

Classification of pedagogical models

The Pedagogical Model describes what effective teachers do in their classrooms to engage students in intellectually challenging work. It provides an overview of the learning cycle and breaks it down into five domains or phases of instruction: Engage, Explore, Explain, Elaborate and Evaluate. The Pedagogical Model domains are elements of one complete model of teaching rather than separate, self-contained components. In some lessons, students will move through all five domains. In other lessons, teachers will naturally switch between domains in response to student needs and learning program requirements. The Pedagogical Model respects this kind of flexibility – it is not designed as a template for linear or prescriptive lesson plans. (Callister, 2018)

These models include:

- Naturalist pedagogical model
- Behavioral model
- Cognitive-constructivist model:

Similarities and Differences of the Two Theories

Vygotsky and Piaget have similarities between their two theories of cognitive development. For example, Piaget believed that development occurs because the child is an active learner. In other words, the child must actively organize new information with existing information to obtain a state of equilibrium (Eggen & Kauchak, 2013). Vygotsky agreed with Piaget on this account, theorizing that children are actively involved in the learning and development process because they provide feedback to the adult or teacher about their level of understanding. (Caruso, 2018)

Piaget also believed that development declines with age. Vygotsky agreed with Piaget, theorizing that there is a steady increase of development in childhood; then cognitive development declines. Piaget proposed that development may be initiated by cognitive conflict. Vygotsky agreed with Piaget, citing that when a child realizes a new idea does not align with his current thinking or prior knowledge, he will seek out the correct answers in order to align his thinking.

Vygotsky places considerably more emphasis on social factors contributing to cognitive development, the state's cognitive development stems from social interactions from guided learning within the zone of proximal development as children and their partners co-construct knowledge. In contrast, Piaget maintains that cognitive development stems largely from independent explorations in which children construct knowledge of their own. For Vygotsky, the environment in which children grow up will influence how they think and what they think about. In his later work, Vygotsky introduced the concept of the zone of proximal development, often abbreviated as ZPD, which he theorized is the difference between what a learner can do without help and what he or she can do with help. (Caruso, 2018)

"Vygotsky places more (and different) emphasis on the role of language in cognitive development (again Piaget is criticized for lack of emphasis on this). For Vygotsky, cognitive development results from an internalization of language", thought and language are initially separate systems from the beginning of life, merging at around three years of age, producing verbal thought (inner speech).

Pedagogical social-cognitive model

The educational processes, in the social pedagogical model, are intended to form a man and a woman autonomous and aware of their active role in the transformation of society. In the same way, this model seeks to empower students with an autonomous personality, through reflection, criticism and creation, aimed at changing the conditions of their political, ideological and social development. The social reconstruction curriculum: builds a curricular conception where the school as a social institution is called to configure itself as an agent of social change. Thus, the curriculum is constructed from everyday problems, social values and political positions; they seek then, the development of the individual in the society, in a first moment to adapt to it, because it fluctuates in permanent change; in a second instance to transform it, changing it for the good of all. The curriculum reflects real-life situations to deal with them effectively and creatively, from an emancipating political position. (Peralta Tuirán, 2015)

The transformation of a research teacher is a process of several years, which must start from particular conditions in relation to their personal, theoretical, disciplinary and investigative training, and is strengthened by the active presence in an educational unit, through planning, development and evaluation, as a minimum, of the following activities according to (Ospina, 2013):

• Publications.
• Research projects.
• Training of researchers.
• Events. (Peralta Tuirán, 2015)

This allows to place the teacher in an attitude of reflection and permanent understanding regarding what students think, ask, that is, a new scenario emerges in the teaching practice, in which the focus is on the meaning of the question, the dynamics used by the subjects that interact around it, to find possible answers or approximations to the context. The teacher in his diverse classroom practices must assume characteristics of being a mediating subject, that is, not only limited to teaching the consigned in plans, programs and curricula.

MEANINGFUL LEARNING

In the second half of the 20th century several influential concepts were taking hold that led to new understandings of cognitive development, and served as the foundation of two major approaches to learning and teaching: constructivism and co-operative learning.

Both approaches sought to actively engage all students in learning and signaled a shift of emphasis in teaching from product and content to process. More and more educators and educational psychologists realized that the fact that a teacher presents information to students or asks them to read a passage from a book, does not transform the content into knowledge. They viewed knowledge as what learners construct out of elements of

information, feelings and experience, and exchanges with other learners, not something that exists in chunks in the external world to be swallowed whole. (Sharan, 2015)

The primary goal of education at all levels should be to engage students in meaningful learning, which occurs when students are making meaning. While schools play a variety of important social, custodial, and organizational roles in communities, their primary obligation should be to help students to learn how to recognize and solve problems, comprehend new phenomena, construct mental models of those phenomena, and given a new situation, set goals and regulate their own learning (learn how to learn). Figure 1 shows the relationship among different attributes so as to generate meaningful learning. If we want to achieve the goal of meaningful learning, we should use multimedia teaching approach to engage students in active, constructive, intentional, authentic, and cooperative learning. (Wong, 2015)

Meaningful Learning Is Active (Manipulative/Observant)

Learning is a natural, adaptive human process. Humans have survived and therefore evolved because they were able to learn about and adapt to their environment. Humans of all ages, without the intervention of formal instruction, can develop sophisticated skills and construct advanced knowledge about the world around them when they need to or want to. When learning about things in natural contexts, humans interact with their environment and manipulate the objects in that environment, observing the effects of their interventions and constructing their own interpretations of the phenomena and the results of the manipulation. For example, before playing sandlot baseball, do kids subject themselves to lectures and multiple-choice examinations about the theory of games, the aerodynamics of orbs, and vector forces of bats? No! They start swinging the bat and chasing fly balls, and they negotiate the rules as they play the game. (Wong, 2015)

Through formal and informal apprenticeships in communities of play and work, learners develop skills and knowledge that they then share with other members of those communities with whom they learned and practiced those skills. In all of these situations, learners are actively manipulating the objects and tools of the trade and

observing the effects of what they have done. The youngster who consistently hits foul balls will adjust his/her stance and handgrip on the bat continuously in order to manipulate the path of flight and observe the effects of each manipulation. Meaningful learning requires learners who are actively engaged in a meaningful task (not just pressing the spacebar to continue) in which they manipulate objects and parameters of the environment they are working in and observing the results of their manipulations. (Wong, 2015)

Meaningful Learning Is Constructive (Articulative/Reflective)

Activity is necessary but not enough for meaningful learning. It is essential that learners articulate what they have accomplished and reflect on their activity and observation – to learn the lessons that their activity must teach. New experiences often provide a discrepancy between what learners observe and what they understand. They are curious about or puzzled by what they see. That puzzlement is the catalyst for meaning making. By reflecting on the puzzling experience, learners integrate their new experiences with their prior knowledge about the world, or they establish goals for what they need to learn in order to make sense out of what they observe. Learners begin constructing their own simple mental models to explain their worlds, and with experience, support, and more reflection, their mental models become increasingly complex. Ever more complex models will enable them to reason more consistently and productively about the phenomena they are observing. The active and constructive parts of the meaning-making process are symbiotic. They both reply on the other for meaning making to occur. (Wong, 2015)

Meaningful Learning Is Intentional (Reflective/Regulatory)

 All human behavior is goal directed. That is, everything that we do is intended to fulfill some goal. That goal may be simple, such as satiating hunger or getting more comfortable, or it may be more complex, such as developing new career skills or studying for a master's degree. When learners are actively and willfully trying to achieve a cognitive goal, they think and learn more because they are fulfilling an intention. Multimedia (Technologies) have traditionally been used to support teacher

goals, but not those of learners. Multimedia need to engage learners in articulating what their learning goals are in any learning situation and then supporting them. Learners should be required by multimedia-based learning systems to articulate what they are doing, the decisions they make, the strategies they use, and the answers they found. When learners articulate what they have learned and reflect on the processes and decisions that were entailed by the process, they understand more and are better able to use the knowledge that they have constructed in new situations. (Wong, 2015)

Meaningful Learning Is Authentic (Complex/Contextualized)

The greatest intellectual sin that we educators commit is to oversimplify most ideas that we teach in order to make them more easily transmissible to learners. In addition to removing ideas from their natural contexts for teaching, we also strip ideas of their contextual cues and information and distill the ideas to their "simplest" form so that students will more readily learn them. But what are they learning? That knowledge is divorced from reality, and that the world is a reliable and simple place. But the world is not a reliable and simple place, and ideas rely on the contexts they occur in for meaning. Learning often fails because students learned to understand the ideas as algorithmic procedures outside of any context, so they have no idea how to relate the ideas to real-world contexts. Most contemporary research on learning has shown that learning tasks that are situated in some meaningful real-world task or simulated in some case-based or problem-based learning environment are not only better understood, but also are more consistently transferred to new situations. Rather than abstracting ideas in rules that are memorized and then applied to other canned problems, we need to teach knowledge and skills in real-life, useful contexts and provide new and different contexts for learners to practice using those ideas. And we need to engage students in solving complex and ill-structured problems as well as simple, well-structured problem. Unless learners are required to engage in higher order thinking, they will develop oversimplified views of the world. (Wong, 2015)

Meaningful Learning Is Cooperative (Collaborative/Conversational)

Humans naturally work in learning and knowledge-building communities, exploiting each other's skills and appropriating each other's knowledge. In the real world, humans

naturally seek out others to help them to solve problems and perform tasks. Then why do educators insist that learners work independently all the time? Schools generally believe that learning is an independent process, so learners seldom have the opportunities to "do anything that counts" in collaborative teams despite their natural inclinations. When students collaborate without permission, educators may even accuse them of cheating. However, we believe that replying solely on independent methods of instruction cheat learners out of more natural and productive modes of thinking. Often, educators will promote collaborative methods of learning, only to resort to independent assessment of learning. Learners, they believe, must be accountable for their own knowledge, so even if you agree, at least in principle, with collaborative learning principles, the hardest part of applying your beliefs will be assessing learners. We cannot forget that most learners are strategic enough to know "what counts" in classrooms, so if they are evaluated individually, collaborative learning activities may fail because students realize that group outcomes are not important. Collaboration most often requires conversation among participants. Learners working in groups must socially negotiate a common understanding of the task and the methods they will use to accomplish it. That is, given a problem or task, people naturally seek out opinions and ideas from others. Multimedia teaching Approach and interactive computer animation can support this conversational process by connecting learners in the same classroom. When learners become part of knowledge-building communities, they learn that there are multiple ways of viewing the world and multiple solutions to most of life's problems. (Wong, 2015)

Ausebel's theory

Ausebel's theory also focuses on meaningful learning. According to his theory, to learn meaningfully, individuals must relate new knowledge to relevant concepts they already know. New knowledge must interact with the learner's knowledge structure.

Meaningful learning can be contrasted with rote learning. The latter can also incorporate new information into the pre-existing knowledge structure but without interaction. Rote memory is used to recall sequences of objects, such as phone numbers. However, it is of no use to the learner in understanding the relationships between the objects.

Because meaningful learning involves recognition of the links between concepts, it has the privilege of being transferred to long-term memory. The most crucial element in meaningful learning is how the new information is integrated into the old knowledge structure. (Rhalmi, 2011)

Ausubel believes that knowledge is hierarchically organized; that new information is meaningful to the extent that it can be related (attached, anchored) to what is already known. According to the author, it is a theory of learning because that is its purpose, since it deals with each one of the elements, factors, conditions and types that guarantee the acquisition, assimilation and retention of the content that the school offers to the students, so that it acquires meaning for itself. The conditions and properties of learning are related to the effective and effective ways to deliberately provoke stable cognitive changes, capable of providing individual and social meaning. A theory of school learning must be realistic and scientifically viable to deal with the complex and significant character of verbal and symbolic learning.

For this reason it is important:

- Learn / teach questions instead of answers.
- Learn from different educational materials.
- Learn that we are perceivers and representatives of the world.
- Learn that language is fully involved in all human attempts to perceive reality.
- Learn that the meaning is in people, not in words.
- Learn that men learn by correcting their mistakes.
- Learn to unlearn, not to use irrelevant concepts and strategies for survival.
- Learn that questions are instruments of perception and those definitions and metaphors are instruments for thinking.
- Learn from different teaching strategies.

Meaningful Learning Theory

The Meaningful Learning Theory is attributed to David Ausubel. This theory says that learners learn through a meaningful process of relating new events to already existing concepts. Consequently, meaning is not an implicit response but an expressed and distinguished conscious experience that takes place when meaningful signs, symbols, concepts, or propositions are related to a given individual's cognitive structure. (Cuzco, 2010)

David Ausubel says that meaningful learning is a crucial type of learning for classroom instruction. So, meaningful learning involves new knowledge that is related to what the learner already knows, and it can be easily retained and applied. Ausubel's theory emphasizes the need of a prior knowledge of the students in order to have good meaningful learning. Also, teachers should be aware of the students' prior knowledge in order to make the best use of it in their teaching practices, the students have to be active, and teachers have to reinforce new learning by underlining, completing missing words, restructuring sentences, or by giving additional examples. So, Ausubel´s Theory has three requirements:

- Relevant prior knowledge: Students construct mental pictures of the language which help them to relate to new information. Students are able to analyze the concepts that they learn in different stages during their second language acquisition in a nontrivial way.
- Meaningful material: That is, students construct significant concepts and propositions, which must be relevant to the knowledge to be obtained.
- The learner must choose to learn meaningfully: That is, students must consciously and deliberately choose to relate new knowledge to knowledge the learner already knows in some nontrivial way. (Cuzco, 2010)

Types of Meaningful Learning

Representation learning

It is when students acquire vocabulary. In this way, students learn words that represent real objects which have meaning for them; however, it does not identify categories.

- **Concept learning**

  It is defined as objects, events, and situations that possess common attributes that are designated through some sign or symbol.

- **Proposition learning**

  - When students know the concept meaning, they can form structures that contain two or more concepts which affirm or deny something. Thus, a new concept is like a structure when it is integrated into new learning with prior ideas that the learner knows. (Cuzco, 2010)

  - Accordingly, Ausubel believes that knowledge is hierarchically organized; that new information is meaningful to the extent that it can be related (attached, anchored) to what is already known.

- **Advance Organizers**

  Ausubel advocates the use of advance organizers as a mechanism to help to link new learning material with existing related ideas. Ausubel's theory of advance organizers fall into two categories: comparative and expository.

- **Comparative Organizers**

  Comparative organizers activate existing schemas and are used as reminders to bring into the working memory of what you may not realize are relevant. A comparative organizer is also used both to integrate as well as to discriminate. It "integrates[s] new ideas with basically similar concepts in cognitive structure, as well as increase[s] discriminability between new and existing ideas which are essentially different but confusable similar".

- **Expository Organizers**

Expository organizers are often used when the new learning material is unfamiliar to the learner. They often relate what the learner already knows with the new and unfamiliar material—this in turn is aimed to make the unfamiliar material more plausible to the learner. (Rhalmi, 2011)

Meaningful Learning in the Co-operative Classroom

Twenty children in the third-grade class sat in rows, two to a table, in a dusty immigrant village in Israel in 1954. Some came from Kurdistan, some from Iran, a few from the Karaite community in Egypt. Each child was one of many in a family. Their parents were preoccupied with the hardships of learning how to be farmers so they could make a living. (Sharan, 2015)

This was my first teaching post and as a novice teacher I was confident in what I knew: the traditional transmission approach to teaching. I dutifully set out to follow the routine that treats all students as one group, with me as teacher-leader who assigns texts related to the prescribed curriculum, instructs or demonstrates to the whole class, assigns some form of individual practice (homework), and organizes individual assessment (tests). (Sharan, 2015)

Very quickly I came to realize what I didn't know. The glazed looks on the students' faces, the frequent disruptions and the erratic attendance were unavoidable indications that I did not know how to capture the children's attention and interest. Then one day, when teaching (or rather talking) about the sun's distance from the earth, one girl called out: "I get it! The sun is as far from the earth as Iran is from Israel!" That was the turning point in my teaching. The girl's remark made me realize that my job was not to continue the traditional one-way communication from teacher to students by being a 'banker' (to borrow Paolo Freire's term), who 'deposits' knowledge without taking time to explore the students' minds, but to bridge the gap between their worlds and the curriculum. (Sharan, 2015)

From then I made concerted efforts to learn how to guide my students to use their own worlds as bridges to learn. They told me stories about their lives, taught me words and songs in their first languages, and created reading material that grew out of their interests, experiences and knowledge, all of which became an integral part of the learning process. Luckily, I lived in the village and knew the students' families. Over many cups of mint tea, we exchanged stories about our customs, aspirations and frustrations. In school I was guided in my choice of procedures (too early in my teaching careers to call them methods or theories, even with a small 't') by my desire to connect the curriculum to the students' lives. Theories with a capital T did not constrain my choice of teaching methods. I had no idea that this was a 'multicultural classroom,' and hadn't yet heard of small group teaching, (the term 'cooperative learning' had not been coined yet) or even of individualized learning. (Sharan, 2015)

One source of validation of these efforts in that dusty village came several years later from Sylvia Ashton-Warner's book "Teacher" (1963), a moving account of her efforts to teach reading to her young Maori and English students in New Zealand by using their inner worlds as bridges to learning. By being wholeheartedly attentive to the children's words she helped them create reading material that grew out of their worlds and replaced texts used to teach reading at the time like "Come John come. Come and look." (36), which were far removed from Maori children's volatile lives and even from the English children's more reserved lives. Ashton-Warner was a pioneer in creating meaningful teaching procedures; her deep-seated humanism paralleled the lessons emerging at the time from the human sciences. (Sharan, 2015)

The reality of our situation propelled me to teach in ways that were further validated by what I later learned from contemporary research and theories of teaching in general, and of teaching in the heterogeneous and multicultural classroom. This experience initiated my life-long quest for ways to make learning meaningful to all learners in the complex reality of a classroom. Many of the discoveries along the way were made through collaboration with colleagues in the fields of co-operative learning and multicultural education. What follows is an attempt to present the ideas, studies and

methods of but a few of the more inspiring researchers and practitioners that I encountered over time. (Sharan, 2015)

2.5 Hypothesis

Virtual environments do influence on the English meaningful learning in the second year of electronic specialty at Atahualpa high school, Ambato city, Tungurahua Province

2.6 Pointing Variables

Independent Variable: Virtual environments

Dependent Variable: English meaningful learning

CHAPTER III

RESEARCH METHODOLOGY

3.1 Approach

The approach of this research was predominant qualitative and quantitative since systematic and empirical processes were used which generates information about the problem.

It was quantitative because, it was repeatable phenomenon and also numerical techniques are used to specify data according to the research problem, in the second year of Electronic Specialty at Atahualpa High School, Ambato city, Tungurahua Province, by using quantitative measurement tools and statistical analysis techniques such as Chi square.

It was qualitative because, its main purpose was to analyze the problem as perceived by the people involved in its context in the virtual environments and their influence on the English meaningful learning.

3.2 Basic method of investigation

3.2.1 Field research

The research was developed in the same place where the events took place, that is, direct contact was made in the second year of Electronic Specialty at Atahualpa High School, Ambato city, Tungurahua Province, who provided the necessary opening to collect and record information systematically, which was directly through the survey.

3.2.2 Documentary - Bibliographical research

Scientific research purpose was to know, expand, and deepen different approaches, theories, conceptualizations and criteria of various authors on the problem under study,

based on documents, for the realization of this work, information was collected from books, scientific journals, degree theses, and internet documents, according to the approaches and theories of the study variables, with the purpose of performing an ideal analysis to establish the change.

3.3 Level or type of research

3.3.1 Descriptive level

This type of research was also used, since it describes, analyzes and interprets the data obtained, in clear and precise terms, with the aim of studying virtual environments for teaching, which allowed the application of techniques for the English language meaningful learning. This way, the shortcomings and needs for change were detailed.

3.3.2 Correlation

Through research, the relationship between virtual environments and their influence on the English language meaningful learning could be measured, thus determining any type of linkage of the variables under study, both independent and dependent.

3.4 Population and sample

3.4.1 Population

The research was carried out in second-year students of the electronic specialty at Atahualpa High School in Ambato city Province of Tungurahua. The population was 80 students.

3.5 Operation of variables

3.5.1 Independent variable: Virtual environment

Table 2 Independent Variable: Virtual environment

CONCEPTUALIZATION	CATEGORIES	INDICATORS	ITEMS	TECHNICAL INSTRUMENTS
They are communication spaces that allow information exchange and make it possible, according to their use, the creation of a teaching and learning context in which the cooperation of professors and students will be facilitated, within a framework of dynamic interaction, through some contents culturally selected and materialized through representation, through various languages that the technological medium is capable of supporting. (Nóbile, 2015) The evolution of the web and the different forms used in education such as Edmodo. The following are the main components: **content management, curriculum mapping and planning, learner engagement and administration, communication and collaboration, real time communication**	• Content management • Curriculum mapping and planning • Learner engagement and administration • Communication and collaboration • Real time communication	• creation, storage, access to and use of learning resources • lesson planning, assessment and personalization of the learning experience • managed access to learner information and resources and tracking of progress and achievement • emails, notices, chat, wikis, blogs • live video conferencing or audio conferencing	1. How often does the teacher use technology resources for teaching the English language? 2. How would you like to receive English classes? 3. Have you used a virtual environment? 4. Does your teacher use a virtual environment to facilitate your meaningful learning in the English language? 5. Do you think it is good to incorporate computer methods for meaningful learning in the English language?	Survey directed at Student of the second year of Electronic Specialty at Atahualpa High School, Ambato city, Tungurahua Province

Source: Modelos Pedagógicos Ortiz (2005)
Author: Mayra Cristina Egüez Mayorga.

3.5.2 Dependent variable: English meaningful learning

Table 3 Dependent Variable: English meaningful learning

CONCEPTUALIZATION	CATEGORIES	INDICATORS	ITEMS	TECHNICAL INSTRUMENTS
The psychological theory of classroom learning comprises a theoretical framework that aims to account for the mechanisms by which the acquisition and retention of the large bodies of meaning that are handled in school is carried out. (Rodríguez, 2014) That is, learning and instructional **activities** should engage and support combinations of active, **constructive, intentional, authentic, and cooperative learning.**	• Activities • Constructive • Intentional • Authentic • Cooperative learning	• Develop sophisticated skills • Construct advanced knowledge • Learners integrate their new experiences with their prior knowledge • Intended to fulfill some goal. Relate the ideas to real-world contexts • Knowledge - building communities	1. Do you think that virtual environments could be used inside or outside the classroom to motivate meaningful learning? 2. Will virtual environments optimize the meaningful learning of the English language in the students? 3. Do you think that virtual environments will favor collaborative work in meaningful learning of the English language? 4. Do you consider that the institution has technological means to apply virtual environments? 5. Do you think that through a virtual environment you improve the meaningful learning of the English language?	Survey directed at Student of the second year of Electronic Specialty at Atahualpa High School, Ambato city, Tungurahua Province

Source: Modelos Pedagógicos Ortiz (2005)
Author: Mayra Cristina Egüez Mayorga.

3.6 Information collection plan

The information was collected through a survey technique and the application of the questionnaire was categorized and tabulated in a computerized form to know the results and thus could detect erroneous data. The information collection instrument was designed and an authorization was requested to the authority in charge of the Atahualpa High School. Then, the number of students who were part of the study was established.

Consecutively, each student was notified about the process to be done. An observation was made and the research started. Therefore, with the results obtained from the tabulation, the analysis was done.

Table 4 Plan for information collection

Questions	Explanation
Why?	To determine the result of the experimental analysis of "Virtual environments and their influence on the English meaningful learning in the second year of Electronic Specialty at Atahualpa High School, Ambato city, Tungurahua Province"
What people?	Professors and students from the second year in Electronic Specialty of the Atahualpa High School in Ambato city, Tungurahua Province.
Which aspects?	Virtual environments and their influence on the English meaningful learning
Who?	Mayra Cristina Egüez Mayorga
¿When?	Period September - December 2018
What is the place of information collection?	Atahualpa High School
How many times?	1
What data collection techniques will be used?	Interview
With what?	Observation analysis

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga.

3.7 Information processing plan

A complete review of the data obtained in the September - December 2018 Period was made, in order to have more updated information the surveys were again applied and data surprisingly showed minimal variations that did not affected the research.

In the review and coding of the information in which it was carried out a control of it and then proceed to codify it in order to facilitate the tabulation of the data obtained in this way to know the flaws of the students.

The data was processed as follows:

- Review and detailed analysis of the information gathered from the survey

The information collected was thoroughly reviewed and analyzed to verify that all the questionnaires applied were properly completed, in order to simplify the completion of the tabulation process.

- Tabulation process in contrast to the variables and the directing questions.

To contrast the results, we proceeded to classify and tabulate the data obtained with the help of the Excel program, which allowed us to order and adequately detail the information obtained.

- Process of analysis and interpretation of the results obtained

With the analysis and interpretation process, the data obtained from the tabulation of the research was sorted, classified and presented, in relation to the theoretical framework and the hypotheses, with the purpose of establishing references that enable the development and achievement of the general objectives and specific.

- Approach of the conclusions and recommendations

After having analyzed and verified aspects of technical interest for the present investigation, the argumentation and final deduction of the investigative analysis was established, as well as the suggestions that were considered pertinent and necessary for the adequate development of the proposed objectives.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Analysis of the results

4.1.1 Students' Survey

Survey directed to the second year students of Atahualpa High School

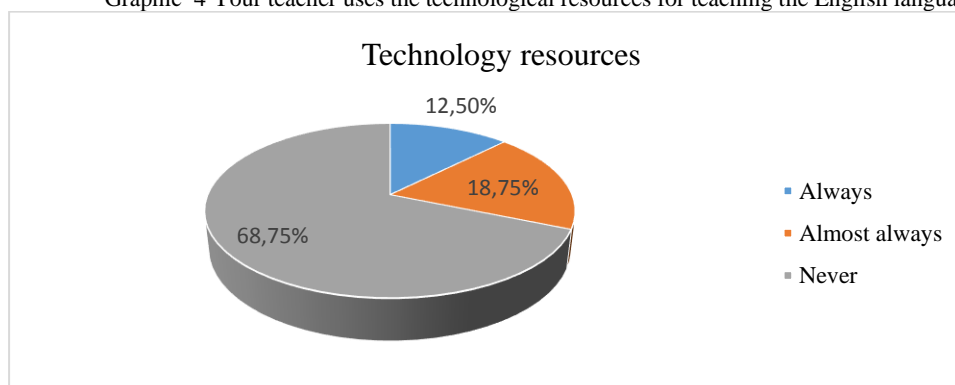**Question 1.** How often does the teacher use technology resources for teaching the English language?

Table 5 Your teacher uses the technological resources for teaching the English language

Alternative	Frequency	Percentage
Always	10	12.50%
Almost always	15	18.75%
Never	55	68.75%
Total	80	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 4 Your teacher uses the technological resources for teaching the English language

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga
Analysis and interpretation

In this question, 12.50% equivalent to 10 students considered the teacher always uses technology resources for teaching the English language. On the other hand, 18.75% corresponding to 15 students believed that almost always the teacher uses technology resources for teaching the English language and 68.75% that corresponds to 55 students thought the teacher never uses technology resources for teaching the English language.

The results showed that the professor never uses technological resources as a method of teaching the English language. In conclusion, the use of technological methods will facilitate the teacher and student interaction within and outside the classroom and at the same time learn the English language, encouraging students' own research.
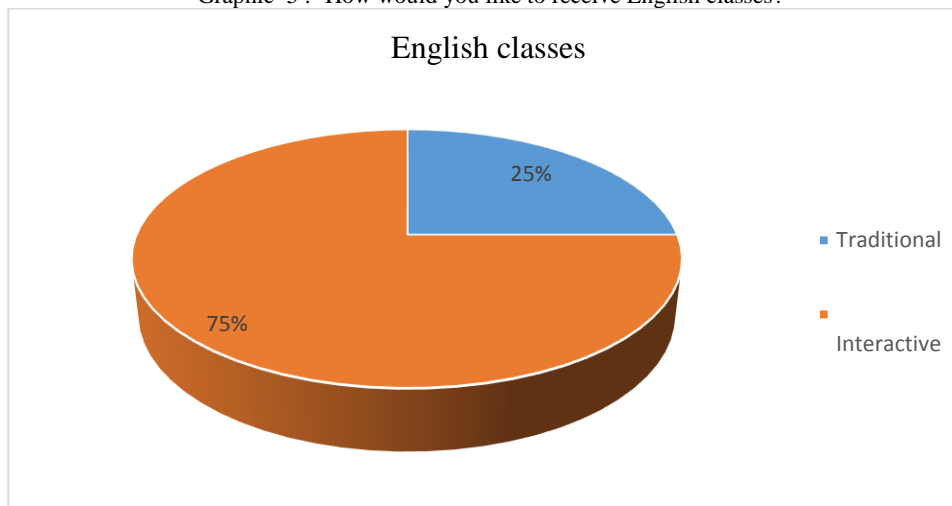
Question 2. How would you like to receive English classes?

Table 6   How would you like to receive English classes?

Alternative	Frequency	Percentage
Traditional	20	25%
Interactive	60	75%
Total	80	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 5 .- How would you like to receive English classes?

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 75% corresponding to 60 students stated that they would like to receive English classes with interactive methods, while 25% that corresponds to 20 students thought they would like to receive English classes with traditional methods. Nowadays, most students would like to receive English classes with interactive methods. Education is immersed in technology; therefore, it is a positive thing to incorporate virtual environments for student learning, because students are interested in receiving English classes through interactive methods.

Question 3. Have you used any virtual environment?

Table 7 Virtual environments

Alternative	Frequency	Percentage
YES	12	15%
NO	68	85%
Total	80	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 6 Virtual environments
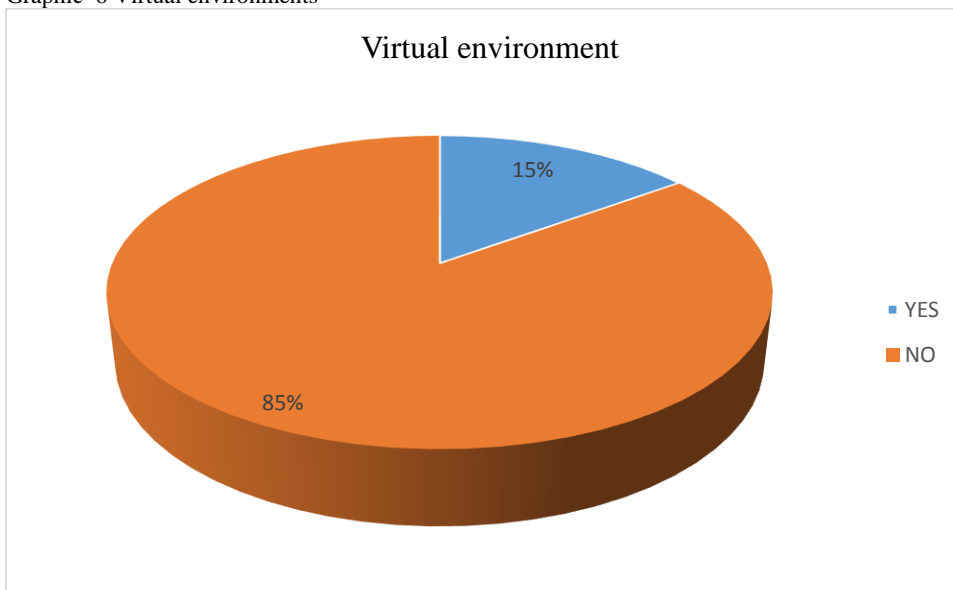
Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

From the group of students, 85% corresponds to 68 students agree that they do not use any virtual environment, while 15% that corresponds to 12 students said that they use any virtual environment. This result shows the need to incorporate virtual education to teach the English language, in order to make known an alternative way of studying and facilitate the learning of this foreign language in an interactive way through technological use.

Question 4. Does the teacher use a virtual environment to facilitate your meaningful learning in the English language?

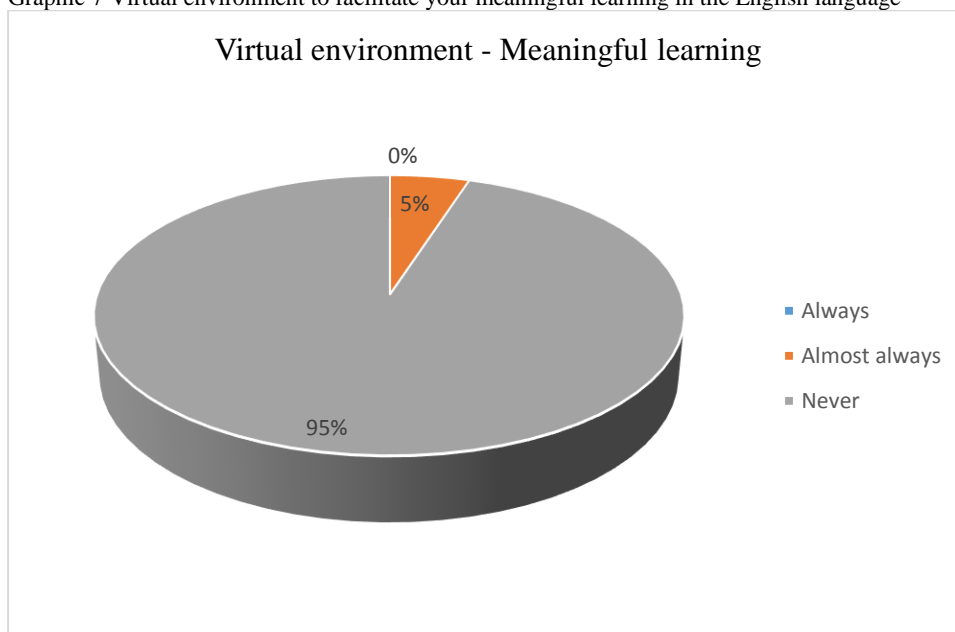Table 8 Virtual environment to facilitate your meaningful learning in the English language

Alternative	Frequency	Percentage
Always	0	0%
Almost always	4	5%
Never	76	95%
Total	80	100%

<div align="center">

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

</div>

Graphic 7 Virtual environment to facilitate your meaningful learning in the English language

<div align="center">

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

</div>

Analysis and interpretation

In this question, 95% corresponding to 76 students answered that the teacher never uses a virtual environment to facilitate their meaningful learning in the English language, 5% corresponds to 4 students stated that the teacher almost always uses a virtual environment to facilitate their meaningful learning in the English language. This result demonstrates the importance that teachers need to include in their teaching practice the use of virtual environments to improve the English language learning in their students.
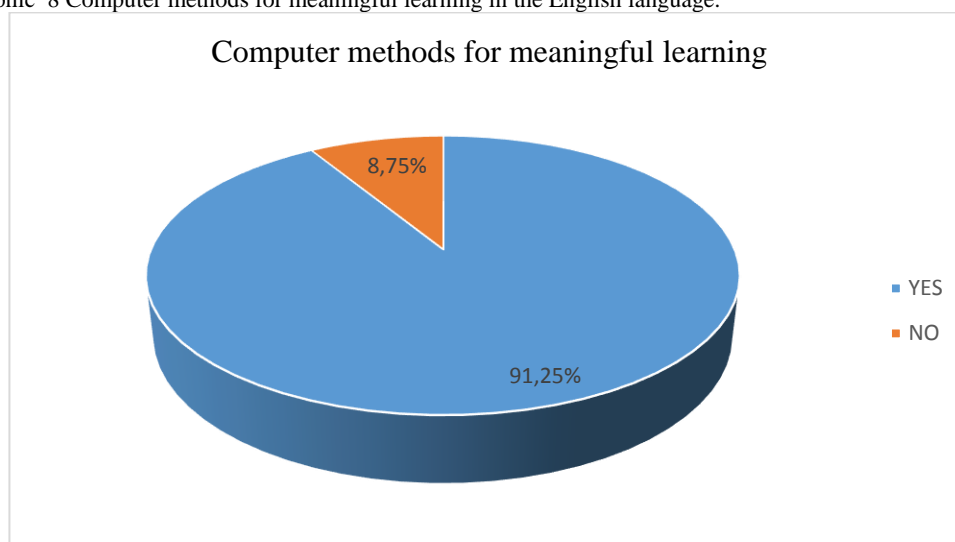
Question 5. Do you think it is good to incorporate computer methods for meaningful learning in the English language?

Table 9 Computer methods for meaningful learning in the English language

Alternative	Frequency	Percentage
YES	73	91,25%
NO	7	8,75%
TOTAL	80	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 8 Computer methods for meaningful learning in the English language.

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 91.25% believed that it is positive to incorporate computer methods for meaningful learning in the English language, which corresponds to 73 students. However, 8.75% corresponding to 7 students considered that it is not positive to incorporate computer methods for meaningful learning in the English language. Most students agree that computer methods should be incorporated to learn the English language, which can be adapted to virtual environments and mobile devices to facilitate students with the foreign language approach and interact with their teachers.

Question 6. Do you think that virtual environments could be used inside or outside the classroom to motivate meaningful learning?
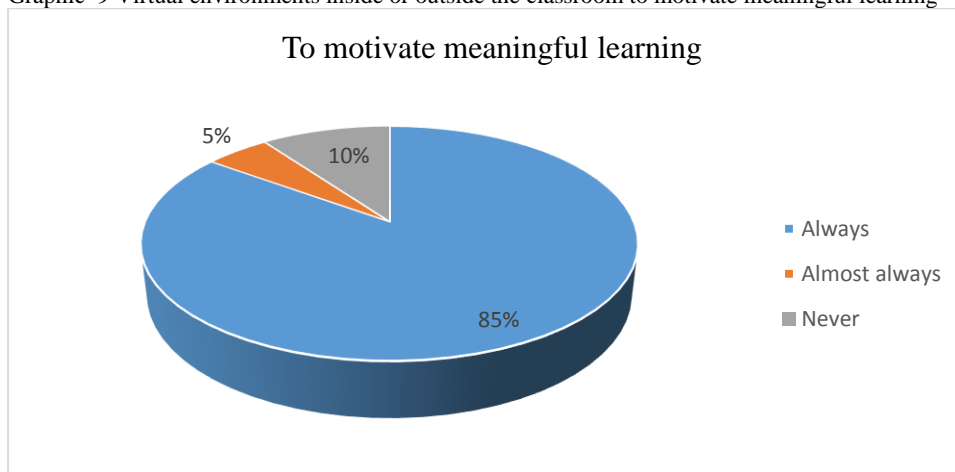
Table 10 Virtual environments inside or outside the classroom to motivate meaningful learning

Alternative	Frequency	Percentage

Always	68	85%
Almost always	4	5%
Never	8	10%
TOTAL	80	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 9 Virtual environments inside or outside the classroom to motivate meaningful learning

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

According to the results, 85% considered that virtual environments can be always used inside or outside the classroom to motivate meaningful learning, which corresponds to 68 students, while 5% thought that virtual environments could almost always be used inside or outside the classroom to motivate meaningful learning, which corresponds to 4 students. Finally, 10% believed that virtual environments could be never used inside or outside the classroom to motivate meaningful learning, which corresponds to 8 students. Most students agree that virtual environments could be used inside or outside the classroom. In this way, meaningful learning could be motivated and students can be familiar with technology for learning, which would facilitate interaction with the English language.

Question 7. Will virtual environments optimize the meaningful learning of the English language in the students?
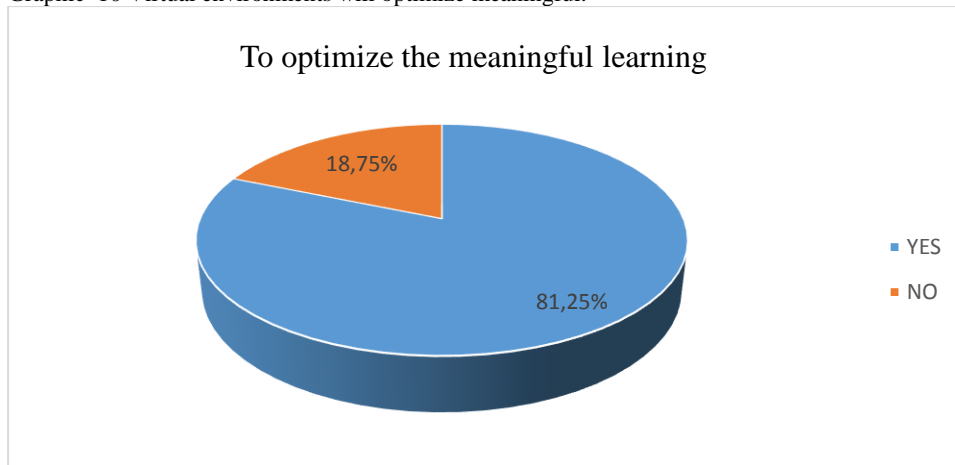
Table 11 Virtual environments will optimize meaningful learning

Alternative	Frequency	Percentage
YES	65	81,25%

NO	15	18,75%
TOTAL	80	100%

Graphic 10 Virtual environments will optimize meaningful.

Analysis and interpretation

The results obtained in this question, 81.25% said that virtual environments will optimize the meaningful learning of the English language, corresponding to 65 students, while 18.75% answered that the virtual environments will not optimize the meaningful learning of the English language, which corresponds to 15 students. Students trust that virtual environments will optimize meaningful learning in the English language, since they live a technological age that brings them closer to all information. This is an advantage to be more exposed to the language.
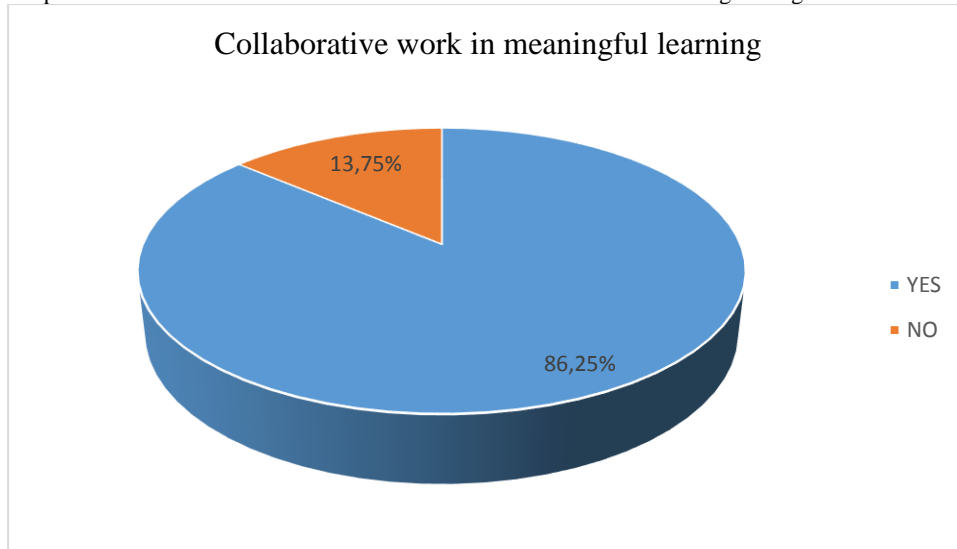
Question 8. Do you think that virtual environments will favor collaborative work in meaningful learning of the English language?

Table 12 Virtual environments will favor collaborative work in meaningful English learning

Alternative	Frequency	Percentage
YES	69	86,25%
NO	11	13,75%
TOTAL	80	100%

Graphic 11 Virtual environments will favor collaborative work in meaningful English.

Analysis and interpretation

In this question, 86.25% considered that virtual environments will favor collaborative work in meaningful learning of the English language, corresponding to 69 students, but 13.75% believed that virtual environments will not favor collaborative work in meaningful learning of the English language and corresponds to 11 people.

Students are aware that the use of virtual environments will favor collaborative work in meaningful learning of the English language, because students know the benefits offered by technology and its advantages in education

Question 9. Do you consider that the institution has technological means to apply virtual environments?

Table 13 Technological means to apply virtual environments

Alternative	Frequency	Percentage
YES	5	6,25%
NO	75	93,75%
TOTAL	80	100,00%

Author: Mayra Cristina Egüez Mayorga

Graphic 12 Technological means to apply virtual environments.
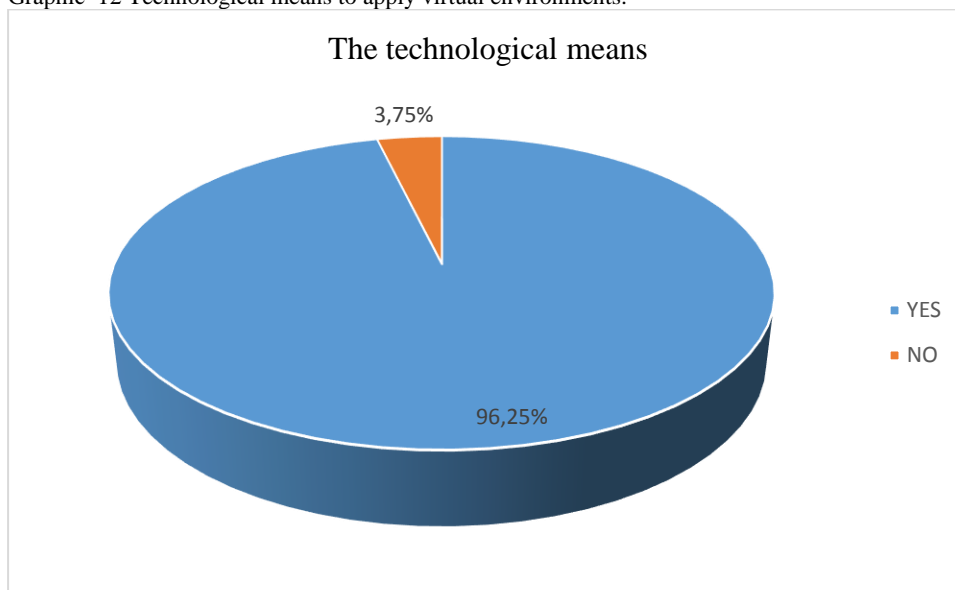
The technological means

3,75%

96,25%

- YES
- NO

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

According to the results, 93.75% said that there is not technological means to apply virtual environments, which is equivalent to 75 students, though 6.25% said that there is technological means to apply virtual environments and correspond to 5 students. Despite the technological limitations of the institution, there is a predisposition of teachers and students to make certain adjustments in the classroom in order to be immersed in technological education.

Question 10. Do you think that through a virtual environment it improves the meaningful learning of the English language?

Table 14 Virtual environment it improves the meaningful learning of the English language

Alternative	Frequency	Percentage
YES	77	96,25%
NO	3	3,75%
TOTAL	80	100,00%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 13 Virtual environment it improves the meaningful learning of the English language.

Virtual environment improves the meaningful learning
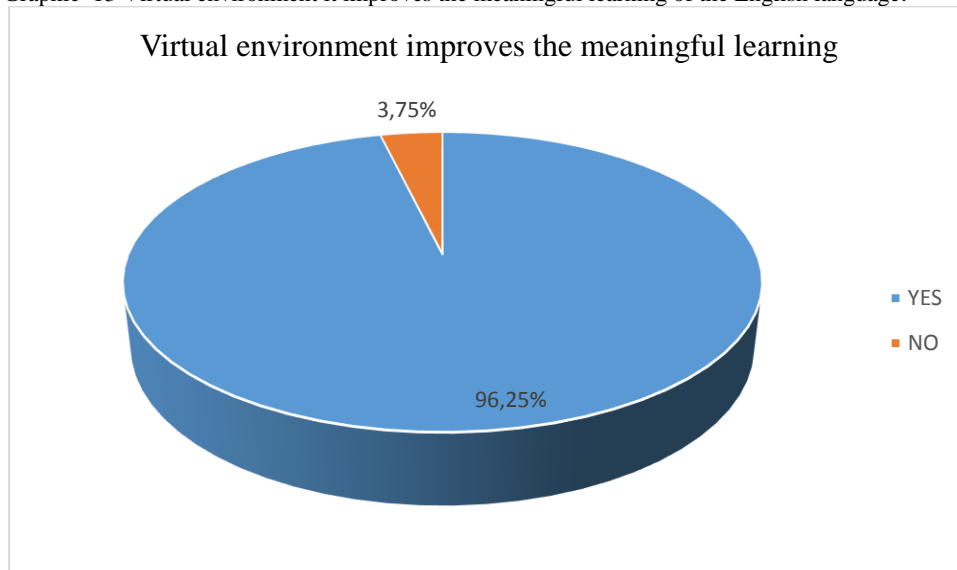
3,75%

96,25%

- YES
- NO

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

According to the results 93.75% said that through a virtual environment they improve the meaningful learning of the English language, corresponding to 75 students, 6.25% considered that they do not believe that through a virtual environment they improve the meaningful learning of the English language and correspond to 5 students.

Students believe that through a virtual environment can improve the meaningful learning of the English language, because they understand significantly that learning and pedagogy have changed, so technology will help students to become familiar with virtual platforms and thus be able to use them in any field. The fact encourages them to be more attentive to classes and the interaction with the teacher will be more dynamic.

4.1.2 Teachers' Survey

Question 1. How often do you use technology resources for the English language teaching?

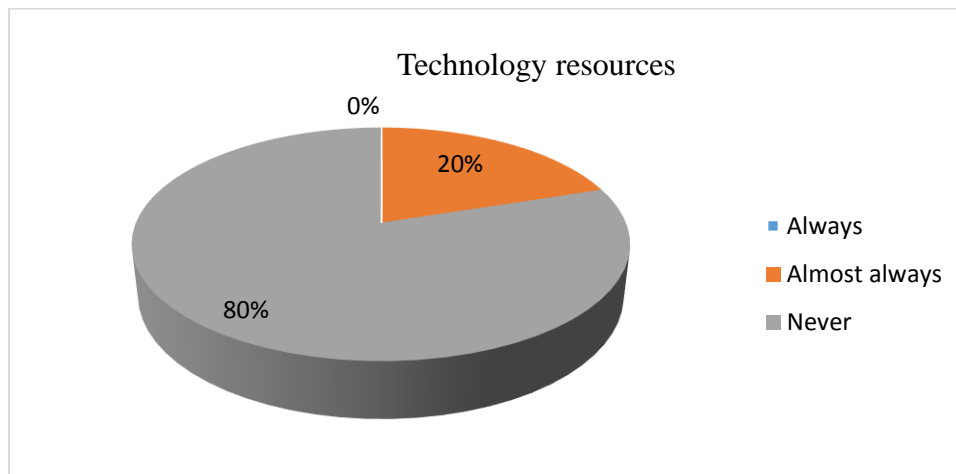Table 15 Technological resources for teaching the English language

Alternative	Frequency	Percentage
Always	0	0%
Almost always	2	20%
Never	8	80%
Total	10	100%

Source: Atahualpa High School

Author: Mayra Cristina Egüez Mayorga

Graphic 14 Technological resources for teaching the English language.

Technology resources

0%

20%

80%

- Always
- Almost always
- Never

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 20% corresponding to 2 teachers indicated that almost always use technological resources to teach the English language. On the other hand, 80% corresponds to 8 teachers said that they never use technological resources to teach the English language. Besides, the 0% showed that teachers do not always use technological resources. The results indicate that teachers do not use technological resources as an English teaching method, due to the lack of knowledge regarding the use of technological means that facilitate the English language teaching.

Question 2. What teaching method do you consider effective for learning the English language?

Table 16 What teaching method do you consider effective for learning the English language?

Alternative	Frequency	Percentage
Traditional	2	20%
Interactive	8	80%
Total	10	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

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Graphic 15 .- What teaching method do you consider effective for learning the English language?
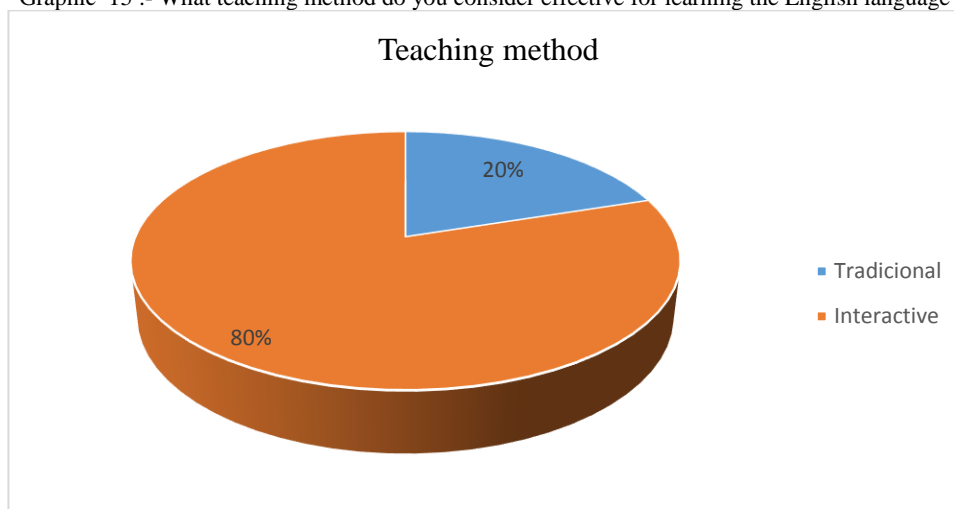
Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

According to the results, 80% corresponds to 8 teachers stated that the most effective teaching method for learning the English language is interactive, while the 20% that corresponds to 2 teachers thought traditional methods are effective.

Most teachers consider that interactive teaching is an effective method for learning the English language. This teaching can incorporate virtual environments, since they promote the collaborative interaction between the teacher and the student.

Question 3. Have you used a virtual environment for the English language teaching?

Table 17 Virtual environment

Alternative	Frequency	Percentage
YES	1	10%
NO	9	90%
Total	10	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

59

Graphic 16 Virtual environment

Virtual environment

10%

90%

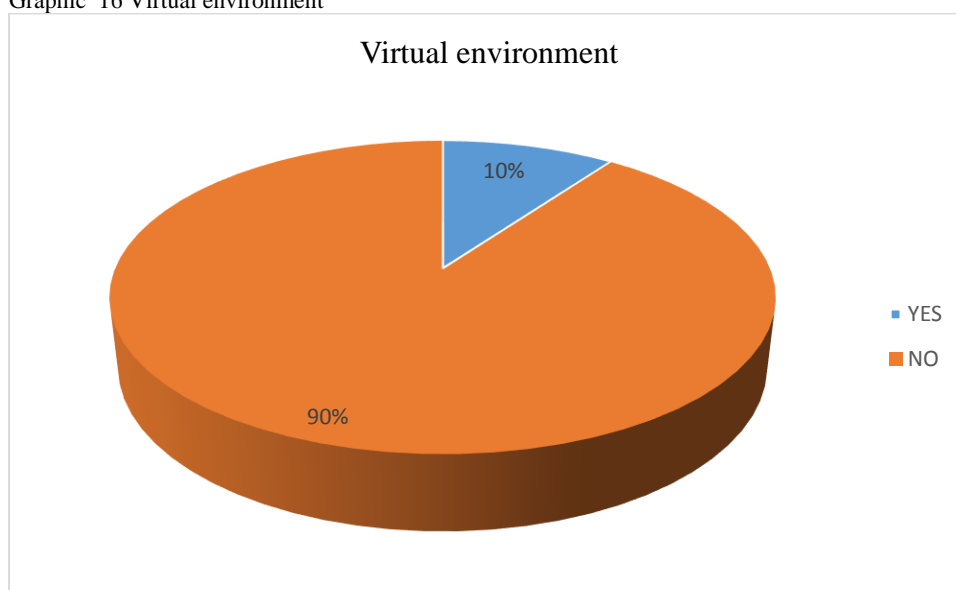- YES
- NO

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 90% said that they have not used any virtual environment for the English language teaching, which corresponds to 9 teachers; however, 1% answered that they have used any virtual environment for the English language teaching yes and correspond to 1 teacher.

Most teachers do not use virtual environments due to ignorance of this technological tool. However, there is a predisposition to do so.

Question 4. Have you used a virtual environment to facilitate the meaningful learning of the English language?

Table 18 Have you used a virtual environment to facilitate the meaningful learning of the English language?

Alternative	Frequency	Percentage
Always	0	0%
Almost always	1	10%
Never	9	90%
Total	10	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 17 How has the teacher used a virtual environment to facilitate the teaching of the English language?
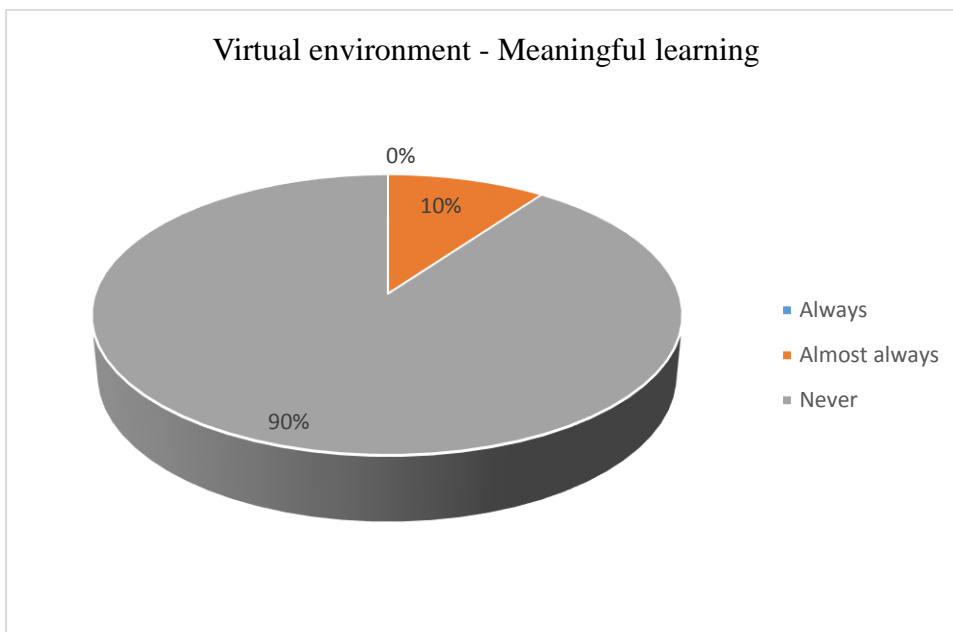
60

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 90% corresponding to 9 teachers replied that they never use a virtual environment to facilitate the meaningful learning of the English language, 10% responded that almost always use a virtual environment to facilitate the meaningful learning of the English language and corresponds to 1 teacher. Teachers agree that they have not used a virtual environment to facilitate the meaningful learning of the English language, because they are unaware of its application and procedure to use it.
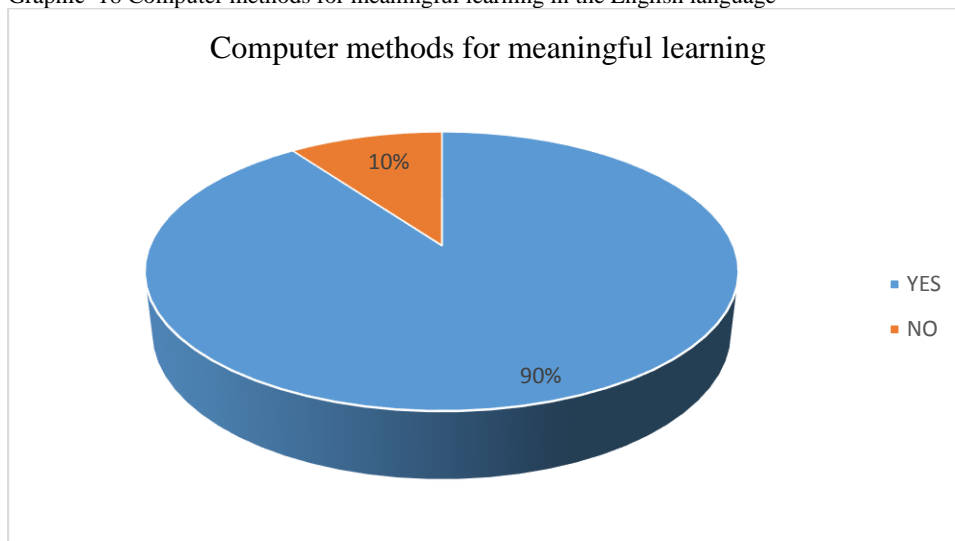
Question 5. Do you think that incorporating computer methods for meaningful learning in the English language will be positive?

Table 19 Computer methods for meaningful learning in the English language

Alternative	Frequency	Percentage
YES	9	90%
NO	1	10%
TOTAL	10	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 18 Computer methods for meaningful learning in the English language

Computer methods for meaningful learning

- YES
- NO

10%

90%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 90% answered that they do believe that incorporating computer methods for meaningful learning in the English language will be positive; corresponding to 9 teachers, while 10% answered no and corresponds to 1 teacher, He believed that incorporating computer methods for meaningful learning in the English language will be negative.

Incorporating computer methods for meaningful learning in the English language according to most teachers will be positive, because the teaching of this language depends on the computer and the Internet also allows breaking the monotony, resulting an interactive and collaborative method.

Question 6. Do you think that virtual environments could be used inside or outside the classroom to motivate meaningful learning?
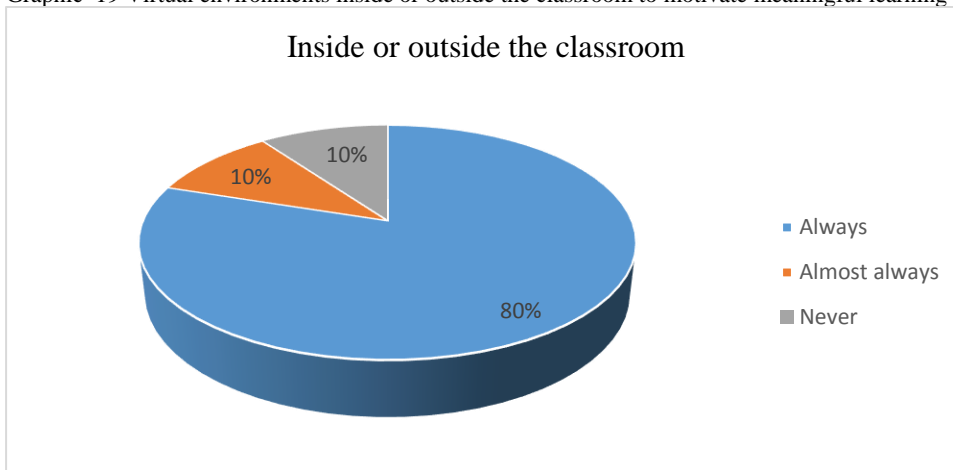
Table 20 Virtual environments inside or outside the classroom to motivate meaningful learning

Alternative	Frequency	Percentage
Always	8	80%
Almost always	1	10%
Never	1	10%

TOTAL	10	100%

Graphic 19 Virtual environments inside or outside the classroom to motivate meaningful learning

Analysis and interpretation

In this question, 80% said that virtual environments could be always used inside or outside the classroom to motivate meaningful learning, which corresponds to 8 teachers, 10% corresponding to 1 teacher considered that virtual environments could be almost always used inside or outside the classroom to motivate meaningful learning, and 10% corresponds to 1 teacher believed that virtual environments could be never used inside or outside the classroom to motivate meaningful learning.

Virtual environments could be used inside or outside the classroom to motivate meaningful learning, because most teachers and students use smartphones which will facilitate the teaching and learning of the English language through interaction.

Question 7. Will virtual environments optimize the teaching of meaningful English language learning in students?

Table 21 Virtual environments will optimize meaningful learning

Alternative	Frequency	Percentage
YES	7	70%
NO	3	30%
TOTAL	10	100%

Graphic 20 Virtual environments will optimize meaningful learning
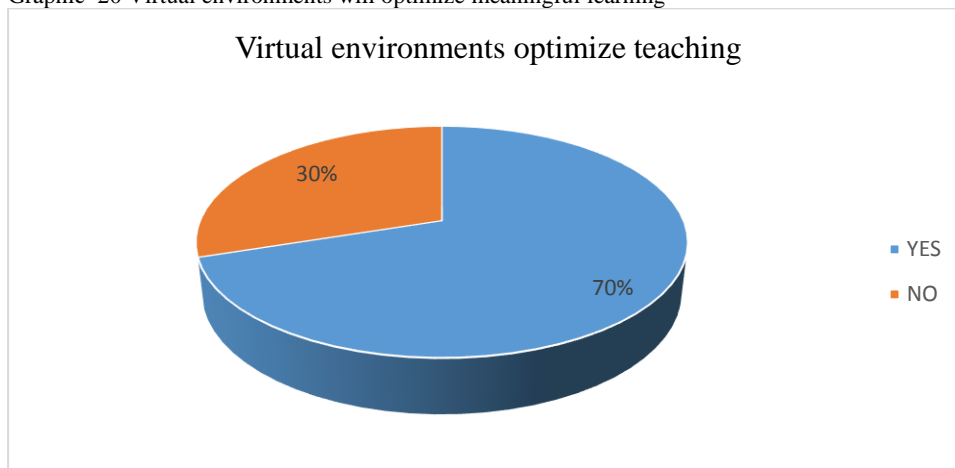
Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 70% said that virtual environments will optimize the meaningful learning of the English language, while 30% considered that virtual environments will not optimize the meaningful learning of the English language and correspond to 3 teachers.

Teachers think that virtual environments will optimize the meaningful learning of the English language. They have the predisposition to apply them since teachers used to be in the routine of using traditional and outdated methods.

Question 8. Do you consider that virtual environments will favor collaborative work in the English language teaching?

Table 22 Virtual environments will favor collaborative work in teaching the English language

Alternative	Frequency	Percentage
YES	9	90%
NO	1	10%
TOTAL	10	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

64

Graphic 21 Virtual environments will favor collaborative work in teaching the English language
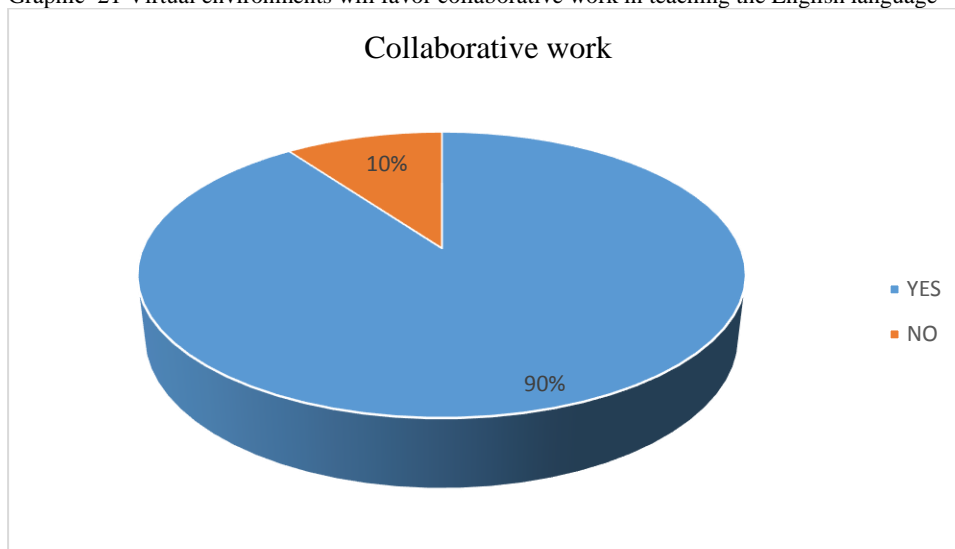
Collaborative work

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 90% considered that virtual environments will favor collaborative work in the English language learning, which corresponds to 9 teachers, while 10%, corresponds to 1 person said that virtual environments will not favor collaborative work in the English language learning.

Teachers believe that virtual environments will favor collaborative work in English language teaching, because teachers and students could interact better in the learning activities of this language and optimize time and resources.

Questions 9. Do you consider the institution has technological means to apply virtual environments?

Table 23 Technological means to apply virtual environments

Alternative	Frequency	Percentage
YES	7	70%
NO	3	30%
TOTAL	10	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Graphic 22 Technological means to apply virtual environments
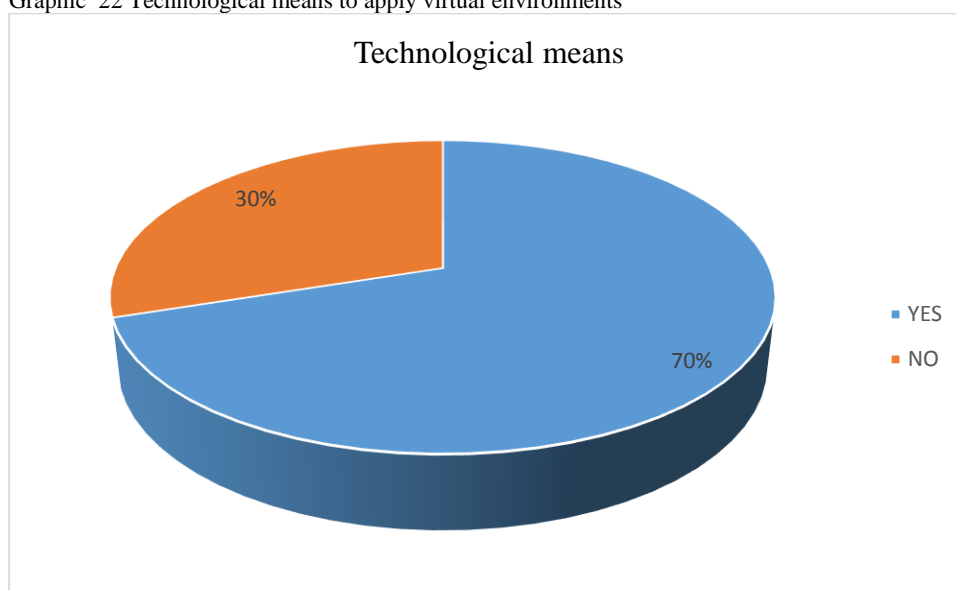
Technological means

- YES
- NO

30%

70%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 70% said that there are technological means to apply virtual environments which corresponds to 7 teachers, and 30% believed that there are not technological means to apply virtual environments corresponding to 3 teachers. The institution has technological means to apply virtual environments; however, these resources are not well used in the teaching process. Teachers are sure that they can improve the English language teaching.

Question 10. Do you think through a virtual environment could improve the meaningful learning of the English language?

Table 24 Do you think through a virtual environment could improve the meaningful learning of the English language?

Alternative	Frequency	Percentage
YES	9	90%
NO	1	10%
TOTAL	10	100%

Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

66

Graphic 23 Do you think that through a virtual environment you improve the meaningful learning of the English language?

Virtual environment improves the meaningful learning
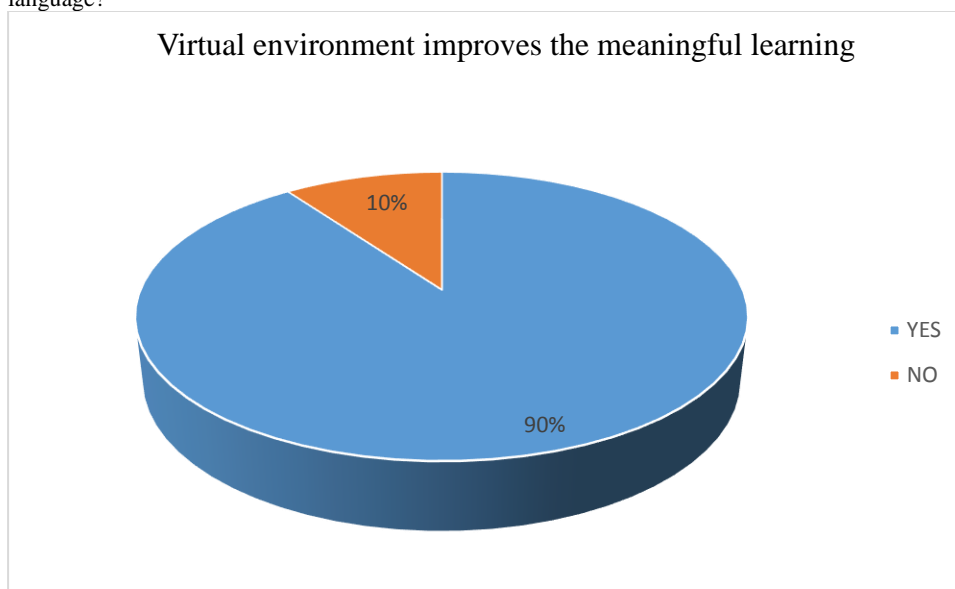
Source: Atahualpa High School
Author: Mayra Cristina Egüez Mayorga

Analysis and interpretation

In this question, 90% said that through a virtual environment they improve the English meaningful learning, which corresponds to 9 teachers, 10% answered that he does not believe through a virtual environment he improves the English meaningful learning and correspond to 1 teacher.

Teachers believe that through a virtual environment they can improve the meaningful learning of the English language, because they think it is an effective method to evolve with technology. It will help teachers to be familiar with virtual platforms and thus be able to achieve the meaningful learning of the English language in the students.

4.2 Verification of hypotheses

The chi-square (or chi-squared) statistic, which has a probability distribution of the same name, serves to test hypotheses referring to frequency distributions. (Quevedo, 2011)

4.2.1 Hypothesis Formulation

Logical Model

H0: Virtual environments **do not** influence on the English meaningful learning in the second year of electronic specialty at Atahualpa high school, Ambato city, Tungurahua Province

H1: Virtual environments **do** influence on the English meaningful learning in the second year of electronic specialty at Atahualpa high school, Ambato city, Tungurahua Province

4.2.2 Statistical Model

For the calculation of the chi-square we will use the following form based on the previous frequencies:

$$x^2 = \sum \frac{(O - E)^2}{E}$$

Where O represents each observed frequency and E represents each expected frequency at the sum of all these frequencies it will be called calculated chi-squared (X_c^2)

X_c^2 = calculated chi-square
X_t^2 = tabulated chi-square

Then after obtaining the X_c^2 it should be compared with a value of the table of probabilities for chi-square (x^2). This table is very similar to student's table t, but has only positive values because chi-square only gives positive results; the value of this table is called chi-square by table (X_t^2).

Level of Significance

α= 0,05

Calculation of CHI Square

Specification of acceptance and rejection regions

We proceed to determine the degrees of freedom considering that the table has three rows and two columns.

gl= (r – 1) (k – 1)

gl = (3– 1) (3 - 1)

gl = (2) (2)

gl = 4

Where:

gl = Degrees of freedom

r = number of rows

k = number of columns

Chi Square Tabulated

Therefore with 4 degrees of freedom and a level of significance of 0.05 we have a tabular Chi square of $x_t^2 = 9,49$

DISTRIBUCION DE x^2

Grados de libertad	Probabilidad										
	0,95	0,90	0,80	0,70	0,50	0,30	0,20	0,10	0,05	0,01	0,001
1	0,004	0,02	0,06	0,15	0,46	1,07	1,64	2,71	3,84	6,64	10,83
2	0,10	0,21	0,45	0,71	1,39	2,41	3,22	4,60	5,99	9,21	13,82
3	0,35	0,58	1,01	1,42	2,37	3,66	4,64	6,25	7,82	11,34	16,27
4	0,71	1,06	1,65	2,20	3,36	4,88	5,99	7,78	9,49	13,28	18,47
5	1,14	1,61	2,34	3,00	4,35	6,06	7,29	9,24	11,07	15,09	20,52
6	1,63	2,20	3,07	3,83	5,35	7,23	8,56	10,64	12,59	16,81	22,46
7	2,17	2,83	3,82	4,67	6,35	8,38	9,80	12,02	14,07	18,48	24,32
8	2,73	3,49	4,59	5,53	7,34	9,52	11,03	13,36	15,51	20,09	26,12
9	3,32	4,17	5,38	6,39	8,34	10,66	12,24	14,68	16,92	21,67	27,88
10	3,94	4,86	6,18	7,27	9,34	11,78	13,44	15,99	18,31	23,21	29,59
	No significativo								Significativo		

Graphic 24 Chi squared
Source: https://cristina92sm.wordpress.com/2011/05/15/ejercicio-del-seminario-nueve-chi-cuadrado/
Author: Mayra Cristina Egüez Mayorga

Observed Frequencies

ALTERNATIVE QUESTIONS	Always	Almost always	Never	Horizontal Total
Question 1. How often does the teacher use technology resources for teaching the English language?	10	15	55	80
Question 4. Does your teacher use a virtual environment to facilitate your meaningful learning in the English language?	0	4	76	80
Question 6. Do you think that virtual environments could be used inside or outside the classroom to motivate meaningful learning?	68	4	8	80
TOTAL VERTICAL	78	23	139	240

Table 25 Observed Frequencies
Source: Investigator
Author: Mayra Cristina Egüez Mayorga

Calculation of expected Frequencies

Always	78	*80	/240	26
Almost always	23	*80	/240	7.67
Never	139	*80	/240	46.330

Table 26 Expected Frequencies
Source: Investigator
Author: Mayra Cristina Egüez Mayorga

Expected Frequencies

ALTERNATIVE QUESTIONS	Always	Almost always	Never	Total Horizontal
Question 1. How often does the teacher use technology resources for teaching the English language?	26	7,67	46,33	80
Question 4. Does the teacher use a virtual environment to facilitate your meaningful learning in the English language?	26	7,67	46,33	80
Question 6. Do you think that virtual environments could be used inside or outside the classroom to motivate meaningful learning?	26	7,67	46,33	80

		23,01	138,99	240
TOTAL VERTTOTAL,78				

Table 27 Expected Frequencies
Source: Investigator
Author: Mayra Cristina Egüez Mayorga

CALCULATION OF Chi^2

ALTERNATIVES	Oi	Ei	(Oi-Ei)	(Oi-Ei)^2	(Oi-Ei)^2/Ei
Always	10	26	-16	256	9,84615385
Almost always	15	7,67	7,33	53,7289	7,00507171
Never	55	46,33	8,67	75,1689	1,62246708
Always	0	26	-26	676	26
Almost always	4	7,67	-3,67	13,4689	1,75604954
Never	76	46,3	29,7	882,09	19,0516199
Always	68	26	42	1764	65,2813621
Almost always	4	7,67	-3,67	13,4689	120,71657
Never	8	46,33	-38,33	1469,1889	234,428069
	Chi square calculated				485.7073

Table 28 Calculation of 〖Chi〗^2
Source: Investigator
Author: Mayra Cristina Egüez Mayorga

4.2.3 Gauss Bell
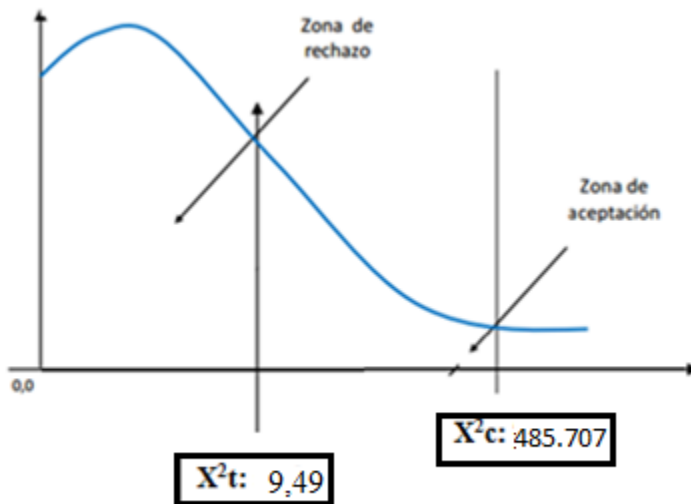
Graphic 25 Gauss bell
Source: Investigator
Author: Mayra Cristina Egüez Mayorga

Decision rule

Once the result of the Chi-square is obtained, the following is stated:

71

$$X^2c = 485.709 \ > \ X^2t = 9.49$$

For 4 degrees of freedom at a 0.05 significance Level, it is obtained in table X2t = 9.49 and since the value of X2c = 485.70 is outside the rejection region, then the null hypothesis Ho is rejected so that accept the alternative hypothesis H1 that says:

H1: Virtual environments influence on the English meaningful learning in the second year of electronic specialty at Atahualpa high school, Ambato city, Tungurahua Province.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The surveys' results and the verification of the hypothesis have been considered, in order to reach the following conclusions:

Virtual environments influence on the English meaningful learning in the second year of Electronic Specialty at Atahualpa High School, Ambato city, Tungurahua Province.

- It was determined that the English meaningful learning factors are part of the change of the traditional methodology by an interactive methodology, in which the technological resource, as the use of virtual environments are based on the motivation to explore new trends of the meaningful English

language. As well as to transform the class into something more interactive and collaborative, because education is immersed in technology. For this reason, it is positive to incorporate virtual environments for student's learning since they are interested in receiving English classes through interactive methods.

- It has been identified that in the institution, both students and teachers agree that there is no use of virtual environments. Teachers say they do not know a virtual environment, its use, application, procedure, but at the same time they show their predisposition and interest to explore these tools. Students believe that through a virtual environment can improve the meaningful learning of the English language. They are willing to learn hand in hand with technology and they understand that significantly learning and pedagogy evolve according to technology, so it will help students to become familiar with virtual platforms and thus be able to use them in any field. In addition, this encourages them to be more attentive to classes and the interaction with the teacher will be more dynamic.

- It was found that both students and professors show their interest in virtual environments and their influence on the meaningful learning of the English language, because people live in a technological era. Teachers and students have access to smart devices, which allows them to work in a virtual environment that permits interaction more directly and more exposure to meaningful learning, because their classes will be completely virtual and they will be able to develop the skills. It is concluded that most students agree that computer methods should be incorporated to learn the English language, which can be adapted to virtual environments and mobile devices to facilitate the approach of students with the foreign language in a personal way and interact with their teachers.

5.2 Recommendations

- Teachers create a virtual atmosphere that contain factors where motivation, interaction, collaborative work prevails in the meaningful learning of the English language, obviously with the technological resource, where these factors are taken into consideration for class planning or class development.

- Students and teachers must use technological means, because there is a lack of knowledge about virtual environments. Therefore, the authorities should try to train teachers or teachers should find the way to fulfil with these technological demands, that is, to explore new virtual methodological environments with the presence of technological use in the classes. Some teachers consider that the institution has technological means to apply virtual environments, but the lab is unfortunately misused in the educational process, so teachers are aware that they can improve the English language teaching.

- To promote the use of the virtual classroom positively because it influences the meaningful learning of the English language, since a radical change is

made in the institution and therefore, the classes must be based on the use of a virtual classroom. Teachers must incorporate it into their daily planning and tasks for the development of all skills.

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Annexes

Annex No 1. Survey

UNIVERSIDAD TÉCNICA DE AMBATO
FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN
CARRERA DE IDIOMAS

Objective: To collect information about virtual environments and their influence on the meaningful learning of the English language in the second year students of the electronic specialty high school of the Atahualpa High School of the city of Ambato Province of Tungurahua

CONTENT:

1. How often does the teacher use technology resources for teaching the English language? Always, Almost always, Never

2. How would you like to receive English classes?

Interactive Traditional

3. Have you used a virtual environment? Yes or no

4. Does the teacher use a virtual environment to facilitate your meaningful learning in the English language? Always, Almost always, Never

5. Do you think it is good to incorporate computer methods for meaningful learning in the English language? Yes or no

6. Do you think that virtual environments could be used inside or outside the classroom to motivate meaningful learning? Always, Almost always, Never

7. Will virtual environments optimize the meaningful learning of the English language in the students? Yes or no

8. Do you think that virtual environments will favor collaborative work in meaningful learning of the English language? Yes or no

9. Do you consider that the institution has technological means to apply virtual environments? Yes or no

10. Do you think that through a virtual environment it improves the meaningful learning of the English language? Yes or no

THANK YOU FOR YOUR COOPERATION

Annex No 2. Survey 2

UNIVERSIDAD TÉCNICA DE AMBATO
FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN
CARRERA DE IDIOMAS

Objective: To collect information about virtual environments and their influence on the meaningful learning of the English language in second-year high school teachers of electronic specialty of the Atahualpa High School in the city of Ambato Tungurahua Province

CONTENT:

1. How often do you use technology resources for the English language teaching? Always, Almost always, Never

2. What teaching method do you consider effective for learning the English language?
Interactive Traditional

3. Have you used a virtual environment for the English language teaching? Yes or no

4. Have you used a virtual environment to facilitate the meaningful learning of the English language? Always, Almost always, Never

5. Do you think that incorporating computer methods for meaningful learning in the English language will be positive? Yes or no

6. Do you think that virtual environments could be used inside or outside the classroom to motivate meaningful learning? Always, Almost always, Never

7. Will virtual environments optimize the teaching of meaningful English language learning in students? Yes or no

8. Do you consider that virtual environments will favor collaborative work in the English language teaching? Yes or no

9. Do you consider the institution has technological means to apply the teaching of virtual environments? Yes or no

10. Do you think through a virtual environment could improve the meaningful learning of the English language? Yes or no

THANK YOU FOR YOUR COOPERATION

Annex No 3. Urkund

URKUND

Urkund Analysis Result

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Submitted By:	crisseguez27@gmail.com
Significance:	5 %

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