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TEMA:

FLIPPED TEACHING METHOD IMPLEMENTATION TO IMPROVE LEVEL FOURTH STUDENTS' HIGH ORDER THINKING SKILLS AT ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO DURING THE ACADEMIC PERIOD MARCH 2015-JULY 2015.

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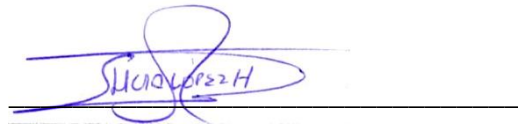MsC. LIGIA DEL CARMEN LÓPEZ HOYOS

RIOBAMBA – ECUADOR

AÑO 2016

ADVISOR CERTIFICATION

I hereby certify that this research paper with the title "FLIPPED TEACHING METHOD IMPLEMENTATION TO IMPROVE LEVEL FOURTH STUDENTS' HIGH ORDER THINKING SKILLS AT ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO DURING THE ACADEMIC PERIOD MARCH 2015-JULY 2015", which is a requirement to obtain the Master's Degree in Linguistics applied to English learning has been made by MARTHA LUCÍA LARA FREIRE, with my advice, for this reason I certify it could be presented.

It is all I can certify according to the truth.

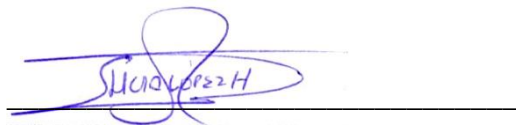Riobamba, September 8th 2016

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CERTIFICACIÓN DEL TUTOR

Certifico que el presente trabajo de investigación previo a la obtención del Grado de MAGÍSTER EN LINGÜISTICA APLICADA AL APRENDIZAJE DEL INGLÉS, con el tema "FLIPPED TEACHING METHOD IMPLEMENTATION TO IMPROVE LEVEL FOURTH STUDENTS' HIGH ORDER THINKING SKILLS AT ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO DURING THE ACADEMIC PERIOD MARCH 2015-JULY 2015", ha sido elaborado por MARTHA LUCÍA LARA FREIRE, el mismo que ha sido elaborado con el asesoramiento permanente de mi persona en calidad de Tutor, por lo que certifico que se encuentra apto para su presentación y defensa respectiva.

Es todo cuanto puedo certificar en honor a la verdad.

Riobamba, 8 de septiembre de 2016

MsC. Ligia del Carmen López Hoyos

AUTORSHIP

I, Martha Lucía Lara Freire, with ID Number 0603143405 am responsible for all the ideas, doctrines, results, and alternative guidelines stated in this research and its intellectual inheritance belongs to Universidad Nacional de Chimborazo.

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AUTORÍA

Yo, Martha Lucía Lara Freire, con cédula de identidad No. 0603143405, soy responsable de las ideas, doctrinas, resultados, y lineamientos alternativos realizados en la presente investigación y el patrimonio intelectual del trabajo investigativo pertenece a la Universidad Nacional de Chimborazo.

Martha Lucía Lara Freire

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I thank God for giving me all the strength I needed to finish with this important step in my life. I also thank my family for all its support, and the Universidad Nacional de Chimborazo for giving me the opportunity to become a better professional.

Martha

DEDICATORY

This work is dedicated to my wonderful son, Cristopher Josué Yedra Lara, for sacrificing our time, respect my space, value my work and effort, and always support me. He has been the brightest light who has walked with me in this hard, but marvelous path.

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RESUMEN

El proyecto de investigación "Implementación del método de enseñanza invertida para mejorar las habilidades de pensamiento de orden superior" fue propuesto y llevado a cabo con 35 estudiantes de cuarto nivel de la Escuela Superior Politécnica de Chimborazo durante el periodo académico Marzo 2015 – Julio 2015. El propósito de este estudio fue mejorar las habilidades de pensamiento de orden superior, promoviendo la formación de estudiantes independientes y combinando las clases presenciales con actividades en línea. Este estudio fue de tipo cuali-cuantitativo con un diseño cuasi-experimental. Encuestas, así como un pre-test y un post-test se aplicaron como instrumentos de recolección de datos. Los estudiantes debían observar videos de gramática en su casa con la finalidad de construir su propio conocimiento, y el tiempo de clase se dedicó a elaborar ejercicios de gramática prácticos así como actividades de pensamiento inferencial, que también se combinaron con discusiones en línea sobre temas tratados en clase a través de foros en un Aula Virtual. Se utilizaron rúbricas para evaluar la participación de los estudiantes en los foros. Se consideró tres tipos de evaluación: pre-formativa, formativa y sumativa. Una vez realizada el análisis e interpretación de resultados se concluye que la implementación del método de enseñanza invertida mejora el desarrollo de habilidades de pensamiento superior. Se recomienda aplicar este tipo de metodología para cumplir los objetivos planteados en el currículo para la enseñanza del Idioma Inglés.

Palabras clave: Enseñanza Invertida, Habilidades de Pensamiento de Orden Superior, Aula Virtual.

ABSTRACT

The research project "Flipped teaching method implementation to improve high order thinking skills" was proposed and conducted with 35 students of fourth level of the Escuela Superior Politecnica de Chimborazo during the academic period March 2015-July 2015. The purpose of this study was to improve high order thinking skills, by fostering independent learners and combining face-to-face with online classes. This study was quali-quantitative with a quasi-experimental design. Surveys, as well as a pre-test and a post-test were applied in order to collect data. Students were asked to watch grammar videos at home in order to build their own knowledge, and then the class time was dedicated to practical grammar exercises and inferential thinking activities, which were also combined with online discussions about class topics through Virtual Classroom forums. Rubrics were used to assess students' participation in the forums. Three types of assessment were considered pre-formative, formative and summative. Once the results were analyzed and interpreted it is concluded that the implementation of the flipped teaching method improves the development of high order thinking skills. It is recommended to make use of this type of methodology to accomplish the planned objectives in the curriculum for the English language teaching.

Key words: Flipped Teaching, High Order Thinking Skills, Virtual Classroom.

Reviewed by: Dra Marcela Suarez Cabrera

LANGUAGE CENTER TEACHER

INTRODUCTION

Throughout this wonderful opportunity I have been given to be part of other people's life, I have always asked myself what it means to be a teacher. I do not think that a teacher is the person who makes students afraid of making mistakes, or the one who makes them failed the semester. A lot has been said about the role the teacher plays in the classroom. It is contradictory to know that there are hundreds of methods, techniques, strategies, and material, but most of the time they only stay on paper. During the last decade everybody has talked about critical thinking, independent learners, and learner-centered classes, even the new curriculum designed by the Ministry of Education of Ecuador has taken into account the three areas mentioned above as the basis for achieving the proposed goals. However, not even half of the English as a Foreign Language classes are totally equipped with the right method, material, and training which are necessary to witness the expected results.

One of the teachers' premises must be to look for new methods to reach the expected outcomes, such as foster independent learners and motivate high order thinking skills development, for that reason this paper presents an engaging new method called flipped.

The proposal includes a series of 8 video lessons recorded by the researcher and a series of flipped lesson plans named "Think" to work on inferences, discussion and Virtual Classroom engaging activities. This material is focusing on motivating students to be independent and critical.

CHAPTER I

1. THEORETICAL FRAMEWORK

1.1. BACKGROUND

Flipped is a term which has evolved since 2007, when two rural Colorado chemistry teachers, Jonathan Bergman and Aaron Sams started recording videos for those students who were missing classes, that is how the Flipped Classroom was born. Initially, teachers started to record video lectures for students to watch at home at their own pace, and then the activities which traditionally were sent as homework were developed in the class with the teacher's guide, in this way students were given the opportunity to practice and develop high order thinking skills, therefore, this concept has been modified to what is now known as the Flipped Learning approach.

Flipped learning enables educators to make the shift from teacher-driven instruction to student-centered learning, which contrasts the traditional teacher-centered model where the teacher is the source of information and the sole content expert who provides information to students, generally via direct instruction lecture. By applying this innovative methodology, teachers give students the opportunity to explore topics in greater depth, get actively involved in knowledge formation, participate in and evaluate their learning in a manner that is personally meaningful and thus create learning opportunities (McKnight, 2013).

After a detailed research, it could be found that the majority of Flipped Learning studies have been conducted in subjects such as physics, science, and math; therefore, in Ecuador there are two teachers who have applied the FL in the English classroom.

The first research study entitled "Flipped classroom resources in the EFL classroom improves the learning process" conducted by Poleth Mendieta from the University of

Cuenca presents positive results after its application and according to the researcher there were significant benefits when applying this new approach, among which she mentions the usefulness of the videos and e-learning material, positive attitudes motivation through in-class homework, and class management improvement by actively involving students in their own learning process. Ms. Poleth Medina could experience all these benefits by implementing the FC in her EFL classroom (Medina, 2016).

The second research presents a manual of interactive audiovisuals to improve the listening skills by implementing the flipped learnong method. It was developed at Unidad Educativa Particular "Sagrados Corazones" in the province of Santa Elena. The author Ms. Claudia Benavides after applying the proposal concluded that by implementing the flipped classroom and interactive audiovisuals the students felt more motivated and improved their listening skill; a collaborative environment was fostered and feedback was effective. Moreover, the study objectives were reached (Benavides, 2015).

At Escuela Superior Politécnica the flipped learning method has not been implemented yet, some teachers use *YouTube* videos for their EFL classes, but they are watched in the class and still practical activities are sent as homework which limits students' high order thinking skills development. It seems the majority of teachers have been using only some aspects of flipped teaching, even without knowing that is actually a new method, this supports the necessity of implementing this interesting method and apply the proposed activities so that future teachers could have suitable material to use in their EFL classes.

1.2. SCIENTIFIC FOUNDATION

1.2.1. Psychological Foundation

The theory which guides this research is social constructivism. Social constructivism is a variation of cognitive constructivism that emphasizes the collaborative nature of learning. It was developed by post-revolutionary Soviet psychologist Lev Vygostky.

Baasically, Vygostky states that knowledge is generated by social interaction, learning is not only to asimmilate or accommodate knowledge, but it is a process thrrough which learners become part of a knowledge community.

The level of real progress a learner has reached is when he is able to solve problems autonomously by using his ability to relate with the sorroundings. The learner acomplishes a certain level of development with the teacher's help who only acts as a quide and also with the collaboration of the peers, and it is only at this level where learning takes place. (Society, 2016).

Constructivism has important implications for teaching (Hoover, 1996). For this foundation some aspects were taking into account. Firstly, I consider that one of the major goals of the English as a Foreign must be to provide an environment which gives the students the opportunity to construct; knowledge should never been consider as mechanical transmission of knowledge where the teacher transforms empty minds into full ones. In constructivism teachers are not the ones who have the total truth or the unique entity who is able to come up with new ideas; rather teachers are the open channed students have to guide them into the creation of new knowledge. Another relevant aspect of this theory is to consider students background knowledge. The group of students in a regular class is never homogenous because they come from a different environment and even culture, in our country for example there is a wide variety of ethnic groups and the teacher must consider all those differences before planning all the activities, in that way the purpose of guiding students through the creation of their own knowledge will be reached. (Clements, 1997; Hoover, 1996). Thirdly, students must put their current understanding into practice when facing a new situations in order to create new knowledge, then teachers must engage students in learning by bringing their current understanding to the first place. (Hoover, 1996). Teachers can contribute to the construction of learning by providing students with topics or problem solving situations which are interesing for students and not only the ones the education system requires.Finally, teachers have to organize activities which foster class or group interaction because in that way students can learn from each other. (Thiel-Burgess, 2012).

During this research I had unforgotable experiences, one of them is related with pair work.

I decided I will pair up my students for all the six-month period and I chose a student who presented some problems or did not have the required knowledge to the level they were in, with students who loved English and had a better level, they had to prepare one dialogue per week, and I could see that they not only improve their knowledge, but also they made a commitment of overcoming their learning difficulties together and create their knowledge by interacting. I felt really satisfied to see how theory actually can be put in practice.

1.2.2. Epistemological Foundation

This paper is based on Critical Pedagogy. This pedagogy has its origins in the Weimar Republic, and it has grown during the years. Some if its founders are Max Horkheimer, Friedrich Pollock, Herbert Marcuse, and Theodor Adorno among others. Critical pedagogy persisted mainly in European philosophical, social, and political thought during the Cold War period. Critical Pedagogy had three generations; Axel Honneth is the most prominent critical theorist of the third generation, he among others studied the relation among critisism, physolophy, social theory, structuralism, and post structiralism. Critical Theory is also a preeminent voice in twentieth-century continental thought. (Cambridge, 2014).

Critical pedagogy purpose is to contribute to the expansion of other well-developed teaching methods, it adds critical qualities to the textbooks, activities, and everyday instruction. Critical pedagogy is a teaching approach which challenges students to question and be interested in going deeper in their knowledge, not the regular students who only listen and never act as critical entities; but the ones who can reject or deny which valid criteria. This pedagogy is the practice to help students achieve critical consciuosess. Luke and Gore (1992) pointed out that critical pedagogy is not single-strategy pedagogies of empowerment and liberation but should be able to evolve in response to local contexts and needs. Critical teaching presents clear principles and it has a clear vision of the rol society plays in forming relationships. The critical language educator relates knowledge of grammar and vocabulary to knowledge of social

problems and how to act to solve these problems. Learners are active in the classroom and in society in critical pedagogy. One of he goals of critical pedagogy is to prepare students to be critical citizens who can actively participate in a democratic society. It is not always easy to distinguish critical pedagogy, active learning, and the learner-centered or learning centered approaches. Each is predicated through student engagement and suggests involvement through strategies ssuch as collaborative and cooperative learning and problem-based learning. (Riasati, 2012).

Thus, critical pedagogy is the foundation in this project, since the researcher main goal is to improve students' high order thinking skills through critical and inferential thinking activities.

1.2.3. Physiological Foundation

Human being evolves together with the surrounding which also includes education. Every day teachers face new challenges and that is the greatest motivation to look for new ways to fulfill the proposed goals, and in English teaching it is relevant to remember that the essence of language is to be able to communicate thoughts and feelings to any other person regardless culture, time, or space. (Aimin, 2013).

Thus, the sociocultural theory is the one that best applies to this research. Lev Semiovich Vygostky (1896-1934) is considered the pioneer of social constructivism. The core of Vygotsky's approach is to consider the individual as the result of historical and social process where language plays an essential role. In terms of Vygotsky, higher mental functions are acquired in social interaction. Psychological tools are the bridge between the lower mental functions and the higher mental functions and, within these, the bridge between the interpsychological (social) and intrapsychological (personal) skills. Psychological tools mediate our thoughts, feelings and behavior. Our ability to think, feel, and act depends on the psychological tools people use to develop higher mental functions, and the most important psychological tool is language. Initially, language is used as a means of communication between individuals and social

interactions. Progressively, the language becomes an interpsychological skill and therefore the tool to think and control one's behavior.

The language is the tool that allows the charge consciousness of self and exercising the controlling volunteer actions. No longer simple people imitate the behavior of the rest, no longer simply react to the environment, with language individuals are able to affirm or deny, which indicates the individual acts with self-consciousness and appropriates the wealth of knowledge, from this prospective, learning is the process by which people appropriate content, and at the same time, tools of thought (Pedraza).

One of the specific objectives of this research is to foster independent learners, for that reason sociocultural ideology regarding language learning is considered. Cognitivism believes in the hability of students to contribute with cognitive participation by using the language during the learning process and it emphazises the importance of motivating students to think and speak in the target language which means that language and thought should be connected. The origin for this connection lies in social communication activities. Another relevant aspect of sociocultural theory is tha

 One common belief within the framework of sociocultural theory is the belief that learning is effectively when students interact with one another in the English as a Foreign language classrooms.

Sociocultural theory accepts as a truth that learners can acquire language easily if they socialize and interact with other learners or speakers of the L2. In the context of the classroom, sociocultural theory in second language acquisition can be practiced through social activities that simulate the cultural context of the language (Turuk, 2008). Teachers can plan activities like role plays, simulations, field trips, holidays celebration among others to give students the opportunity to interact by using English.

Sociocultural theory affirms that true learning occurs when the learner actively transforms his world and does not merely conform to it (Donato, 1994). Seedhouse (2004) echoed the importance of meaning construction and fluency in L2 classrooms when he suggested simultaneous dual focus on form-and-accuracy together with

meaning-and-fluency in L2 classroom as the best way of enhancing L2 students' level of proficiency.

Vygotsky encourages teachers not to concentrate too much on teaching concrete facts, but to also push their students into an abstract world as a means to assisting them to develop multiple skills that will enable them to deal with complex learning tasks. Simiter (2004) recognizes the importance of the students' personal vice and claims that emphasis on the regurgitation of facts and repetition of accepted ideas will only produce dull and uninspired students. This implies that students should be taught how to create, adjust their strategies and assimilate learning activities into their own personal world. As a result of the recognition of the role of abstract thinking in students' intellectual development, nowadays there is a call for the introduction of literature in L2 classrooms. The teaching of literature is believed to enrich students' vocabularies and support the development of their critical thinking, this moving them away from the parrot-like types of learning, instead focusing on language structure into abstract thinking, whereby students can have personal appreciation of the language, consequently developing a self-motivated attitude to learning the language (Aimin, The study of second language acquisition under sociocultural theory, 2013).

1.2.4. Pedagogical Foundation

For this foundation Paulo Freire's theory of critical pedagogy has been considered since the study has a lot to do with the basis of critical thinking. The role of students is not simply to be a vessel to be filled with knowledge, words, phrases, or rules, but to be active constructor of the learning. Furthermore, in a critical based class teachers and students create a respectful environment thorugh the dialogue. Rather than seeing the teaching of literacy as a technical transfer of skills (Reflect, 2009) and I completely agree with Freire's theory, students must be active participants in their knowledge building.

Critical pedagogy is a teaching approach and one of its main goals is to help students to question and challenge by defending their beleifs.This is to say that, it is a theory and

practice of helping students achieve critical consciousness. The educator relates knowledge of grammar and vocabulary to knowledge of social problems and how to act to solve these problems. Learners are active in the classroom and in the society in critical pedagogy. The goal is to prepare citizens for participation in a democratic society. It is not always easy to distinguish critical pedagogy, active learning, and learner-centered approaches. Each is predicated through student engagement and suggests involvement via strategies such as collaborative and cooperative learning and problem-based learning.

When teaching English as a Foreign Language the teacher must consider that learners come from different backgrounds of gender, social classes, and the endeavors within micro-relations of power always exist (Fritze).

Although Freire's educational revolutionary program was developed in an earlier time and for another place, many significant lessons could be drawn from it to be applied today. His ideas about the "progressive" teacher and problem-posing approach offer an alternative methodology for those contexts dominated by traditional approaches. As empowering students, accounting for their culture and context and engaging them actively in problem-posing dialogues to achieve their critical consciousness and to become autonomous learners are fundamental principles of Freire's approach, its implications in the field of language teaching (English) proved to be promising (Embark, 2013).

As a support for this research it is also important to mention the Pedagogical Model which is being applied in the Escuela Superior Politécnica de Chimborazo.

In Chapter One of this Model, point 1.3.1.2 entitled Critical Theory of Education, it is mentioned that the role of an institution is to foster thinking and creativity. The basic project of this tendency is to formulate critical education, boost the critical role of students and teachers in order to transform society from the classrooms and schools.

In the same chapter, mentions that learning is considered as a social practical way which involves social, economic, ideological, political, and psychological aspects in permanent conflict and contradiction, for this reason knowledge is a product of action-reflection about reality. Learning is understood as a process of permanent social construction where students and teachers are reality critical researches, knowledge actors and social transformation individuals. It must be understood that human beings are not empty vessels who must be filled with content to form specialized consciences; on the contrary they are conscious individuals able to know and build knowledge to transform the world (Académico, 2007).

All these assertions are based on the Paulo Freire's Pedagogical Theory.

1.2.5. Legal Foundation

The legitimacy of this research lies on the article 208 of the regulation of the academic regimen, item c) that literally says "Once the class courses are over, every student must present and support a scientific research thesis paper which shows innovation and problem originality". Furthermore, the Good Living Plan Goal 4.8 is "To achieve 85.0% of university professors with an education fourth level title. (Senplades, 2013).

The LOES (Higher Education Organic Law) supports the research on the article 124. " Values and right training".- it is the responsibilities of the Higher Education Institutions to provide the students who finish their major at any school or program, the effective knowledge of their rights and obligations and the social-economic, cultural and ecological reality of the country: the mastering of a foreign language and the effective management of informatics tools. Also, the National Plan of Good Living objective 4.8i says "Promote learning a foreign language within the parameters of international accreditation from early education to the next level. (Senplades, 2013). In addition, the study of a foreign language is based on the European Common Frame of Reference for Languages which marks the criteria of teaching English as a Foreign Language and the standards which every student should reach at the end of every level and every skill.

1.3. THEORETICAL FRAMEWORK

1.3.1. Flipped teaching method

1.3.1.1. Introduction

Firstly, it is necessary to define the root word of this thesis: method. A method is an

established, habitual, logical or systematic process of achieving certain ends with accuracy and efficiency, usually in an ordered sequence of fixed steps, according to BusinessDictionary.com (Dictionary.com).

Each method provides useful techniques and tools to be used in the classroom; therefore Level Fourth "P" students are not able to think critically, for that reason the flipped teaching method was implemented as an alternative to solve the students' problem.

1.3.1.2 .Definition

Flipped Learning is not only to ask students to wath videos at home and not having homework, it is much more. Flipped learning is a method which requires the teachers to provide with a flexible environment which is not necessarily only the four walls where students usually attend to classes. Flipped learning shifts the traditional teacher-centered classroom into a student-centered one, also the material which is used by the teachers is made by considering all the students needs and differences, and finally flipped learning requires teachers preparation and flexibility even at the moment of assessing students.

Since all the flipped moved started as simply flipping a classroom there is a missconception, most people just picture kids watching videos at home, but it does not have to be exclusively about videos because some learners could still learn better by reading a textbook chapter, but others will benefit from videos, audio files, or any other type of material you can find or create that covers a given topic. (Edudemic)

1.3.1.3. Flipped classroom vs. Flipped Learning

All professionals who are familiar with the e-learning world have heard the terms "Flipped Classroom" and "Flipped Learning" somewhere before. However, it is important to clarify these two terms because there is a common misconception that the two terms are the same.

First of all it is important to mention the simililarities, both flipped classroom and flipped
teaching are part of blended learning which means they have a lot to do with technology, not only through the use of video lessons but also a Virtual Learning Envrionment. Another likeness is that there is no homework, all the practice is completed in the class time.

Now, how are this two concepts different, in the flipped classroom only one aspect is the most relevant and this is the use of video, tutorials, or postcast specifically for students who could not attend to classes and this material purpose is also to give students a permanent tool which they can review as many times as needed and at their own pace. In the flipped learning teacher interaction with students is more personalized – with guidance instead of lecturing." (Bright, 2015).

Besides all the mentioned above, flipped learning encourages teachers to be more cretive and combine flipped learning with other methods and create new and unique material which will surely contribute to foster indepent learners who will think critically and be active part of the learning process and what is more important students will enjoy learning English.

Many teachers may have already flipped their classroom, but to implement Flipped Learning, the four pillars must be incorporated into the classroom.

1.3.1.4. The four pillars of F-L-I-P

Flipped learning essentially uses an acronym for the word, F-L-I-P, whereas each of those letters stands for one of the pillars of flipped learning. So, the F stands for a Flexible Learning Environment, L for Learning Culture shift, I for Intentional Content, and P for Professional educators.

The pillar number one, flexible learning environment entails the teacher creating flexibility in the classroom; therefore, it is important to consider aspects such as different learning styles, one on one attention, small and large group instruction in order to meet the students' needs. Flexibility must also be applied in the timelines for students, when things are due or when a lecture is presented. If students need to, they can watch the tutorials or the homework over and over again, maybe even during class time using the lab computers and the material posted in the Virtual Classroom, or review those with the whole group if needed. Besides, extra activities can be added to spend class time making sure that the student-led opportunities are being developed.

The pillar number two, learning culture shift, means that the flipped learning lessons are student-centered. The students will be able to take ownership of their learning in those really engaging and active activities created by the teacher for them. Because students have been exposed to the content before class, they are able to bring in that outside learning and make those connections with other learnings during class time. The foundation has already been set for their learning and now they are building upon that. Students are actively involved in their knowledge and that development of knowledge; it is a very constructivist type of classroom.

The pillar number three is the intentional content. This is categorized by class time that is maximized by really careful, intentional planning of tutorials to watch outside of class. So here the teacher creates tutorials and videos that match the students' developmental needs that are age appropriate, and that match the content students must know. The class time is used for meaningful learning opportunities, not that teacher-directed instruction where the teacher is directing what the students are learning. A teacher's goal in the flipped learning classroom for class time should be active learning where students are able to master learning.

The last pillar of flipped learning is professional educators. Here, the teacher's job is to be the facilitator of learning, give students a job to do to pre-learn some material, and bring the learning back into the classroom in engaging, active learning activities. Teachers must also be reflective, not only on their practices, but also making sure that formative assessment is being used throughout the classroom activities. The teachers' job is also to be observant and intentional in the teaching and assessment strategies by providing extra motivation for doing homework and extra activities during class time.

During this research all the four pillars have been considered effectively. Level Fourth

"P" students used the grammar videos recorded by the teacher and they had the opportunity to interact in the Virtual Classroom, by participating in online forums, chats and develop meaningful activities during the semester. (Fyfe, 2016)

1.3.1.5. Advantages of flipped learning

Flipped teaching offers a wide range of advantages some of them are listed below:

Flipped teaching keeps students more engaged. – in the traditional model students have to listen to long, boring lectures and it is very difficult to get students attention and motivate them to keep focused on the topic. Then, the first advantage of flipped teaching is that teachers can record the videos of the grammar content or theory and students can watch them at home which give teachers and students more time to practice hand-on activities, discussions, and activities in the Virtual Classroom. Another advantage is that during class time when students are working on the practical exercises, teachers can provide immediate feedback that helps them improve their learning as they go.

Teachers provide more personalized attention. – every single student is a totally different world and sometimes due to the lack of space, the high number of students in class and the lack of information about students background teachers can not give personalized attention to each learner, with flipped learning teachers give more attention

to students not only because the time class is dedicated to monitor and guide, but also because students can ask or contact the teacher through the Virtual Classroom and also interact with their peers.

Because the teacher work directly with students, the interaction in the classroom increases which helps to gain a clearer idea of the different learning styles of the students, so they can adapt their instruction to the needs of each one.

Students can work at their own pace. – in this project the research recorder the videos and uploaded to her *YouTube* account and then also to the Virtual Classroom which means students have the availability to watch them when and where they need, take notes, summarize, and prepare additional questions to the teacher if needed. Students also become more discipline since they decide the time they will dedicate to watch each video and also motivates self-study. It also must be mentioned that with the videos students have the power to pause the lecture while they write something down, and rewind and re-watch a particular part they did not fully understand the first time. If they feel they could really use a second viewing to better understand the concept, they have that option. They have more power over the way and process by which they study and learn. (Edudemic).

Flipped teaching changes the way traditional teaching and learning is conducted. In this model, teacher takes a different approach in which students gets first exposed to the content or theory in the form of video lectures, mind maps, or regular books on the topic prior to coming into the classroom, and the class time is focused on processing this learning. In this approach primary focus of the classroom time is to assimilate, synthesize, analyze, apply, design and develop this knowledge with the help of their peers and teachers. The learing environment can be transformed into a place of innovation, creation and critical evaluation. (Dharmardhikari, 2015).

For the development of this research grammar video lessons recorded by the teacher-researcher were used. Thanks to a group of proactive students and colleagues from the Graphic Design School, the videos were recorded at Escuela Superior Politécnica de

Chimborazo; the objective was to present a familiar and interactive material for students to use at home at their own pace.

Another tool was the Virtual Classroom, in this VLE students were able to participate actively in discussion forums.

1.3.2. High Order Thinking Skills

1.3.2.1. Bloom's Original Taxonomy: The beginning

Benjamin Bloom did not intend to invent educational dogma. When he began developing his taxonomy of educational objectives, his main goal was to find a common language that educational measurement experts could use to share findings and exchange test items. Bloom's Taxonomy emerged from a series of informal discussions with colleagues that began at the American Psychological Association in 1948. At the time, educators ere wresting with a number of questions, many prompted by the influx of World War II veterans enrolling in college. The veterans wanted a good education, but what makes an education "good"? How could instructors ensure that learners graduated with more than just lower-level factual knowledge? One of Bloom's students, Lee S. Shulman, recalls that when these questions were raised, educations were just beginning to consider assessment. Bloom, as the director of the examiner's office at the University of Chicago, was developing assessments to measure learning. When he tried to share ideas and test items with other evaluators, he found that instructors agreed that they wanted learners to "understand, but they had very different ideas about what understanding meant. Bloom envisioned a taxonomy that would organize educational goals into hierarchy, much as biologists classify living creatures into categories that ascend from species to kingdom.

The taxonomy that bears his name is based on the work of hundreds of collaborators, including reviewers, contributors of case studies and examples, and a core working group of about 30 people. The result of their efforts, published in 1956, is officially known as Taxonomy of Educational Objectives. Bloom often called this work The Handbook. However, the educators, instructional designers, researchers, and evaluators

who apply this classification generally refer to it as Bloom's Taxonomy. This recognizes Bloom's foundational contribution to the project: He convinced his collaborators to organize learning behaviors on a continuum from the simplest to the most complex.

The taxonomy is built on students behavior and teachers observation of the different learning styles and complexity of internal learning process. Learners are required to construct knowledge, monitor their thinking, or regulate their own mental processes. Bloom states that the taxonomy is not somehow reated to a learning theory, but contributes with this classification system which supports the development the learning process by providing a framework that educators could use to identify research problems, develop hypotheses, plan learning, and identify methods and metrics, and by defining a common language to use when planning learning goals, measuring outcomes, and sharing findings. At Escuela Superior Politécnoca de Chimborazo, Bloom's Taxonomy is used to create learning objectives, and the verbs in this taxonomy are part of the intervention group study plan to measure outcomes and compare methods of learning. While several modifications have been proposed, Bloom's description of learning domains and levels of complexity is still widely used.

Three Original Domains Bloom's original taxonomy consisted of three domains: cognitive, affective, and psychomotor. This research is based on the cognitive content and intellectual knowledge: What do I want learners to know?

1.3.2.2. The Cognitive Domain of Bloom's original taxonomy

The cognitive domain has six levels organized in a hierarchy. The base of the pyramid is the foundation of all cognition, knowledge. Each ascending level of the pyramid depends on the one below it. Knowledge and comprehension are often referred to as lower-order thinking, the skills above them are termed higher-order or critical thinking skills.
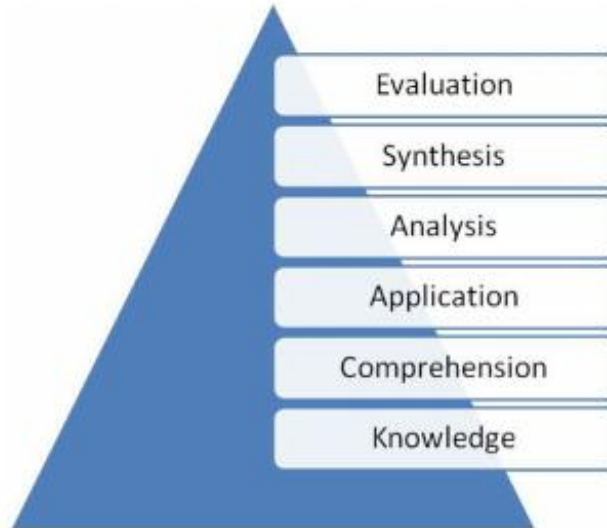
The main objective of this research is to develop high-order thinking skills. High-order objectives require learners to use what they have learned and can give them practice in developing new approaches to problems, identifying critical variables, and making needed judgments. Both, the original Bloom's Taxonomy and its later revisions can be used to develop critical thinking.

1.3.2.3. The Revised Version of Bloom's Taxonomy

Bloom's taxonomy has been exposed to dozens of revisions and many suggestions to imrpove it or make it more practical have been proposed, however for this research the revision published by Lorin Anderson and his collaborators in 2001 has been applied. This work is defined as an expension of the original framework not as a replacement. So, the revision published in 2001 is not a heretical departure from the original, but a continuation of Bloom's work.

In the revised taxonomy, evaluation is no longer the highest level of the pyramid. A new category, creating, claims the peak. This category was originally known as synthesis. Another significant change is that category names are no longer nouns, but verbs. Other differences are more subtle. In the original taxonomy, the most important element was the categories. Six categories were arranged in a hierarchy, and it was assumed that learners must master the lowest level of the hierarchy before they could advance to the

next higher level. The revised taxonomy also arranges skills from the most basic to the most complex. However, because skills such as understanding can be exercised on many levels, the developers allowed categories to overlap. For example, understand is technically lower on the hierarchy than apply. However, the skill of explaining is more cognitively complex than executing, even though that skill is associated with a higher category. As a result, "the hierarchy is no longer considered cumulative," according to Krathwohl. (Munsemnaier, 2013)
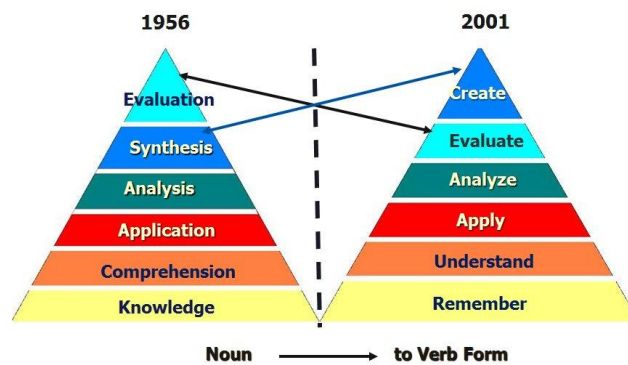
1.3.2.4. High Order Thinking Skills Definition

It has already been proved that English Fourth "P" students need to improve their high order thinking skills development. For this reason it is important to clarify some relevant concepts used in this research.

High order thinking skills are the last three stages in Bloom's taxonomy, at these levels students are expected to be critical, logical, reflective, and creative. All this skills are activated when learners face unfamiliar problems, uncertainties, questions, or dilemmas. Successful presentations of the skills result in explanations, decisions, performances, and products that are valid within the context of available knowledge and experience and that encourage continued growth in these and other intellectual skills. Higher order thinking skills are placed on top of lower skills such as discriminations, simple application and analysis, and cognitive strategies and are linked to prior knowledge of subject matter content. The ability of students to develop high order thinking skills is

the result of ppropriate teaching strategies and learning environments which facilitate students growth as do persistence, self-monitoring, and open-minded, flexible attitudes. (FJ King).

There is neither really a unique definition nor frameworks to describe high order thinking skills and how they are acquired, but the conditions under they prosper must always be in agreement. (FJ King).

As mentioned above critical thinking is part of high order thinking skills and in order to narrow the problem the research will be directed to two critical thinking activities: inferences and online discussions.

The critical thinking model is not new, but it has just been introduced and taken a high pisition in in foreign language teaching (FLT) settings; nowadays improving critical thinking in learners is considered one of the foreign language teachers' tasks. Many different factors can affect learners' critical thinking skills. Materials used and types of activities introduced and worked on in the classroom are two of these factors. (Shirkhani, 2011).

High Order Thinking Skills and Critical Thinking present a wide variety of techniques, activities and tools to be used in order to improve the population skills, therefore this research focused on inferential reading and online discussion.

Inferential Strategy seeks to connect a reader's prior knowledge and experiences with their comprehension of a text. This strategy rests on constructivist theory that learners "build" knowledge constructs when they interpret new information in light of past experiences and rethink past knowledge in light of new information.

Contrasting other reading strategies, the inferential strategy encourages to comment and evaluate a specific point of a text, make questions, and discuss after reading.. (Reading Educator, 2015).

Due to flipped teaching is part of blending learning, discussions were directed on line.

Online discussions are a great tool to extend classroom conversations and learning by getting students to engage with class material online. Online discussions are often arranged by discussion boards, forums, and threads. (CTE).

In this research the focus was on discussion forums in the Virtual Classroom because they contributes with the learners ability to learn asynchronously and that is one of the benefits of blended learning. Students are able to reflect upon their ideas before sharing them with the class, leading to more reflective responses and in-depth learning. (Eutopia, 2009).

CHAPTER II

2. METHODOLOGY

2.1. RESEARCH DESIGN

The research design is quasi-experimental since the researcher manipulates the independent variables to find out their effects in the independent variable. It is also considered quasi-experimental because the groups were not chosen randomly; the groups were already assigned before the experiment: they are unimpaired groups (the way they are formed is independent or alienated to the experiment) (Hernández & Fernández, 2003).

The quasi-experimental method is the most appropriate because the research is developed in natural educative scenarios and there is lack of a complete experimental control.

The design refers to non-equivalent groups. There were two groups, the experimental group which was exposed to the proposed methodology and manipulated by the researcher, and the control group which did not received any kind of intervention and the teacher is one of the English Center teachers who agreed to be part of this research. This design was the most applicable because it proposed the application of a new learning methodology.

The design used was pre-test and post-test, at the end of the research the results in these tests were compared to analyze if the proposed method contributed to improve students' high order thinking skills development.

2.2. TYPE OF RESEARCH

In this research both the qualitative and quantitative approaches were used.

The qualitative research was used to observe the experimental group behavior during the intervention, their level of acceptance, motivation, and commitment in the learning process.

There were three aspects of this research which were analyzed by using the qualitative method. The first one was the time students dedicated to watch the grammar video lessons at home and how devoted they felt with new knowledge acquisition. The second one was related to the first specific variable, in which it is mentioned that students would become independent learners, even though there is a record of the students participation in the Virtual Classroom, the results were analyzed mostly through observation. Finally, the discussion forum activities were graded first qualitatively, for this activity a rubric was used in which students' participation was rated from unacceptable to excellent and it is composed by four parameters: quality of post, frequency, relevance of post, and content contribution.

The qualitative method was used to prove the general hypothesis, first of all the pre-test and post-test results were compared by using the grades students obtained in each test. Then, the results of the intervention by applying the flipped teaching method were analyzed by comparing experimental group grades versus control group grades. Finally, the quantitative method was used in the discussion forum rubric by giving each one of the four parameters a numerical value.

2.3. METHODS OF RESEARCH

For this research the following methods were applied.

The scientific method process was considered to identify the problem in the English Center at Escuela Superior Politécnica de Chimborazo, with the purpose of implementing a different method from the traditional one and improve Level Fourth students' high order thinking skills.

Through the application of the deductive method general facts were deducted to identify

the specific ones, for this research the related problems were considered to work on practical class activities, inferential thinking and discussion activities, and finally determine the existing problems in the English language teaching in the English Center at Escuela Superior Politécnica de Chimborazo.

By applying the pre-test and post-test the specific problems of each student were identified to generalize the facts and phenomena through which possible solutions were found to improve the current problem by applying the inductive method.

And finally, the descriptive method through a logical process, it started with the facts and phenomena description about the formulated problem. Then, the data obtained through the initial survey was tabulated and finally, the results of the pre-test and post-test applied to Level Fourth students were analyzed.

2.4. TECHNIQUES AND INSTRUMENTS FOR DATA COLLECTION

- Survey application to verify that the problem exists.
- Pre-test questionnaire application.
- Design and application of inferential reading and online group discussion strategies.
- Post-test questionnaire application.
- Satisfaction survey application.

2.5. POPULATION AND SAMPLE

TABLE N° 2.5.1. POPULATION ELEMENTS

English IV "P" Students
35
Total 35

For the delimitation of the sample in this research, the Level Fourth classes assigned in the teacher's schedule for the academic period April-August 2016 were considered. Then, the sample was calculated with the following formula.

$$n = \frac{\sigma^2}{\dfrac{E^2}{Z^2} + \dfrac{\sigma^2}{N}}$$

$$n = \frac{(0.4)^2}{\dfrac{(0.05)^2}{(1.96)^2} + \dfrac{(0.4)^2}{99}}$$

$$n = 70.58$$

$$n = 70$$

- n = Sample size

- Z = Error range or number of units of standard deviation = 1.96

- σ = Standard deviation = 0.4

- E = Maximum difference or error between the average population and the average sample = 5%

- N = Population = 99

Therefore, from the two classes the teacher had, Level Fourth ''P'' was chosen as the experimental group because it was the smallest class, and the control group was assigned to a different teacher in order to avoid bias.

The sample is thirty five students; in this group 50% of students are male and 50% female. They come from different cultural backgrounds and have different levels of knowledge, some of them have not taken English classes continuously, the majority of them are not familiar with the proposed method; therefore, they agreed on the

importance of using technology in the classroom and the necessity of becoming independent learners and be active part in the learning process.

2.6. ANALYSIS AND INTERPRETATION OF RESULTS PROCEDURES

For the analysis and interpretation of results the descriptive statistic was used to verify the research problem existence. The most relevant questions from the questionnaire which was applied at the beginning of the research were selected. In order to prove the research hypotheses inferential statistic was applied, according to the research design the Chi-square Test was used to prove the specific hypotheses, and the t-student Test for the general hypothesis.

With the results obtained from the descriptive analysis, the research problem existence was proved and it was decided to present a proposal which includes a series of lessons to implement the flipped teaching method.

By using the results from the inferential analysis, the research hypotheses were accepted or rejected.

2.7. HYPOTHESES

2.7.1. General Hypothesis

The flipped teaching method lessons implementation improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

2.7.2 Specific Hypotheses

2.7.2.1. The implementation of flipped teaching method through video lessons as homework trains independent learners at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

2.7.2.2.The application of inferential thinking lessons improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

2.7.2.3. The use of a Virtual Learning Environment improves high order thinking skills.

CHAPTER III

3. ALTERNATIVE GUIDELINESS

3.1. THEME: "Think" Flipped teaching lessons

3.2. PRESENTATION

For the implementation of the flipped teaching method nine lessons were created. These lessons include grammar video lessons which were used to introduce new grammar content; practical grammar activities which require high order thinking skills development; inferential thinking activities through short readings or passages, and discussion forums posts in the Virtual Classroom.

The first step was to record the grammar video lessons, after that the researcher created an account on Teachers YouTube where all the videos were uploaded to finally been posted in the Virtual Classroom designed and assigned for the experimental group. The lesson plans include the WSQ (Watch, Summarize, and Question) chart to evaluate video activities, and the rubric to assess discussion forums.

During the intervention it was also necessary to guide students about the use of the Virtual Classroom tools and how to take advantage of technology in the learning process.

3.3. OBJECTIVES

3.3.1. General Objective

To prove the effectiveness of the flipped teaching method lesson plans and material created by the researcher in the development of improve Level Fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

3.3.2. Specific Objectives

3.3.2.1.To guide students in the use of the grammar video lessons at home as a technique which fosters self-study.

3.3.2.2.To work with the proposed lesson plans and worksheets in class with the teacher's guide motivating high order thinking skills development.

3.3.2.3.To improve high order thinking skills development by using online discussion forums.

3.4. RATIONALE

What are high order thinking skills?

High order thinking skills are those which involve mental effort. High order thinking takes thinking to higher levels than restating the facts and requires students to do something with the facts – understand them, infer from them, connect them to other facts and concepts, categorize them, manipulate them, put them together in new ways and apply them.

According to the revised Bloom's taxonomy the three higher levels which were changed from nouns to verbs are analyze, evaluate, and create.

Analyze. - Students can break the information down into its component parts.
Evaluate. - Students assess the value of the input information.
Create. - Students use the input to create something new.

In this proposal one verb from each level has been applied. During the intervention students worked with inferences, deduction, and on line discussions.

What are inferences?

An inference is coming to a logical conclusion made from evidence and reasoning about

something we see, read or experience. Making inferences is to read between the lines because you pick up ideas which are not directly stated in what you are reading. Inferences thus tend to reflect one's stake in a situation or one's interests in the outcome. Students may reason differently or bring different assumptions or promises to bear, because inferences are the result from evidence and schema.

When do the students deduct?

According to the Webster Dictionary deduct is a process in which a conclusion must follow from the premises presented; reasoning or concluding from the general to the particular or specific. Students learn to deduct by watching the grammar video lessons created by the researcher. In the videos all the information regarding the grammar content is presented and then students conclude on to the grammar rules and use. For this activity the WSQ (Watch, Summarize, and Question) Chart must be used to monitor students' active participation in deducting new grammar content.

WSQ Chart

For taking the most advantage of the grammar video lessons which students watch at home, three steps must be followed. First, students watch the video, which is in the Virtual Classroom, at home; once they have watched it as many times as needed, they have to fill in the WSQ Chart, and finally in the class they check the gathered information with their classmates and the teacher who answers the questions they still have.

What are online discussions?

One of the verbs in the last level of Bloom's taxonomy pyramid is discussing. For this proposal discussion forums were considered. Discuss is the act of talking or writing about something with another person or group of people; a speech or piece of writing that gives information, ideas, opinions, etc. Therefore, it is important to mention that despite the benefits of developing the ability of students to discuss issues of importance and interest in English, many teachers quickly abandon planned discussion. This usually happens when students display a lack of interest in developing discussion topics. For that reason for this proposal the use of discussion forums in a VLE (Virtual Learning Environment) was considered.

In each Unit students have to participate in at list one forum, this activity is developed in class with the teacher's guide since it is considered the production stage. Then, to evaluate their participation a rubric is applied.

Why flipping the English classroom?

The flipped movement started with the simple idea of changing the traditional classroom where the teacher gives the lecture (grammar content explanation) in class and then sends the practical activities to be developed as homework, to the idea of recording video lessons of the lectures for students to watch at home and then students will be able to put content in to practice in the classroom with the teacher's guide.

During my years of experience as a teacher I have noticed that students do not really do homework, they usually copy or ask for help; then, the results might be biased, this is one of the main reasons why I decided to flip my English classroom. But, it does not end here, from flipped classroom emerged flipped learning or teaching, which is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter. By moving from a flipped class to actively engaging in a Flipped Learning, teachers are able to implement new and

various methodologies into their classrooms. It frees up class time, allowing for more individual and small group instruction. (Yarbro, 2014).

What is a Virtual Classroom?

A virtual classroom is a virtual learning environment that allows participants to communicate with one another, view presentations or videos, interact with other participants, and engage with resources in work groups. Just like in real-world classrooms, a student in a virtual classroom participates in synchronous instruction, which means that the teacher and students are logged into the virtual classroom at the same time.

In the Escuela Superior Politécnica de Chimborazo the Moodle Platform is available to work in the Virtual Classroom activities with the students. This valuable tool allows permanent communication and interaction among participants.

FIGURE N° 3.4. 1. FLIPPED VIRTUAL CLASSROOM
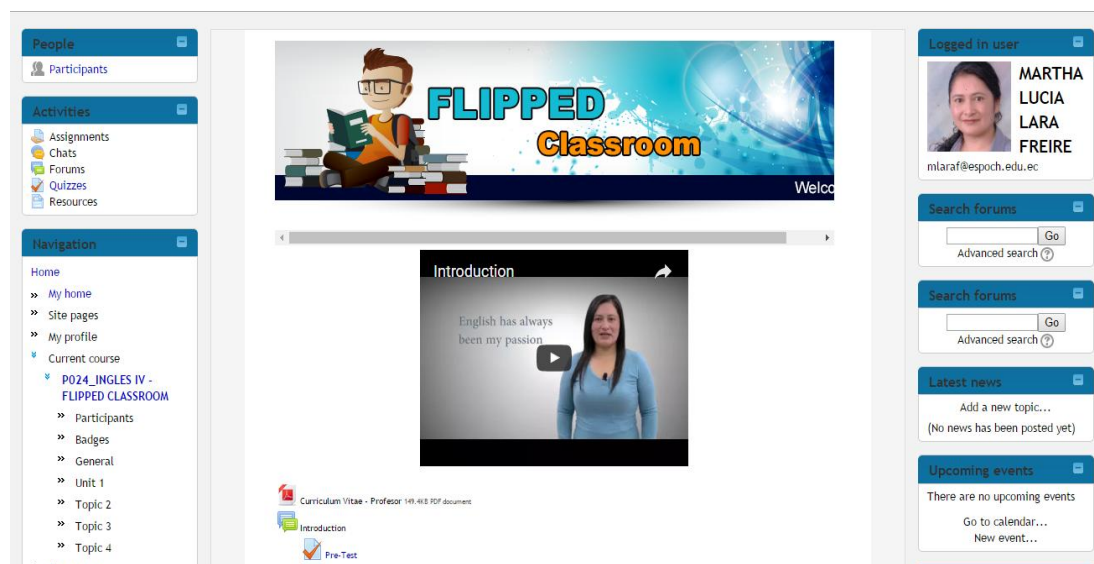
Source: Moodle Platform – Escuela Superior Politécnica de Chimborazo
Author: Martha Lara

Evaluation

Preformative, Formative, and summative assessment are used in this proposal.

Preformative is a new way of assessment related specifically with flipped teaching; it refers to assessments given while students are learning new material independently, before any group interaction has taken place. Preformative assessments can serve not only as data-gathering opportunities but also as learning experiences (Talbert, 2015).

The formative assessment process provides information needed to adjust teaching and learning while they are still happening. The process serves as practice for the student and a check for understanding during the learning process. In the flipped classroom students watch a video before coming to class that serves as a lecture, and then they have the opportunity to work collaboratively during class time on their homework (practical activities) in class. In this proposal observation, questioning, and discussion have been applied during the formative assessment process to collect evidence of student learning.

Summative assessments are used to evaluate student learning, skill acquisition, and academic achievement at the conclusion of a defined instructional period – typically at the end of a project, unit, course, or semester. Therefore, for the flipped classroom first of all a pre- test was given; then students took a test per topic or unit; and finally, a post-test was applied, but in order to take advantages of all the benefits of the flipped learning approach, all the tests were taken in the virtual classroom.

One of the purposes for summative assessment in this proposal was also to collect the necessary data to prove the research hypotheses, which are quantitative.

3.5. CONTENT

Lessons Structure

The proposed material is divided into three parts: video lessons, lesson plans with practical and inferential reading activities and online discussion forums in the Virtual Classroom.

There are 8 grammar lessons tutorials about expressing wishes, conditional sentences, adjective clauses and inferences.

The lessons are focused on activities which require students to think, deduce, conclude, infer, and create their own sentences or short paragraphs.

In the virtual classroom in addition to the videos and material regarding each one of the contents mentioned above, students participate in discussion forums about different topics
such as the importance of online discussions, media, volunteering, and health.

TABLE N° 3.4.1. "THINK" LESSON PLANS CONTENT

Lesson	Topic	Content
Lesson One	Expressing Wishes in Present	*Worksheet No.1* **Activity 1:** What are these people wishing for right now? **Activity 2:** What do you wish for right now? Write at least four wishes. Share your wishes with the class.
Lesson Two	Wishes and Inferences	*Worksheet No.2* **Activity 1:** How do you wish your life were different? **Activity 2:** Walk around the classroom and ask the question "How do you wish your life were different?" to three different classmates. Take notes and share the answers with the class.

		Activity 3: Read an extract of the article "Ecuador faces big challenges in 2015 as falling oil prices pressure government to rein in spending". **Activity 4:** Write 5 real situation statements about the article above and then write sentences saying how you wish things were different.
Lesson Three	Regrets	***Worksheet No. 3*** **Activity 1:** Look at the pictures below and write sentences about what these people regret about. **Activity 2:** Read the sentences about some past disasters. Then write sentences about the speakers' wishes. Use past wish forms. Sometimes more than one answer is possible. **Activity 3:** Write sentences with *wish* to express the people's wishes and regrets.
Lesson Four	Conditionals	***Worksheet No. 4*** **Activity 1:** Read the information in the chart. Then write unreal conditionals about the results of the natural disasters. Use *would* to express a predicted result. Use

		could to express a possible result. **Activity 2:** Do all the news sources you read (websites, magazines, newspapers, etc.) have similar viewpoints about current topics and issues? Read the article about the news media in Ecuador. **Activity 3:** Read the tips on how to detect bias in the media. Then rewrite the tips as present real conditionals with the words in parentheses and *(not) be*. Emphasize the result by using then. **Activity 4:** The media show that they are biased or fair. Write two sentences using *if* clauses. Answer the questions with information that is true for you. Write present real conditionals. **Activity 5:** Describe 2 mistakes you have made and ways that you could have avoided making the mistakes.
Lesson Five	Social Responsibility	***Worksheet No.5*** **Activity 1:** Read the article with tips on how individuals can be more socially responsible. **Activity 2:** Answer the questions below as in the example. *Example*:

		Why is it important for more people to safely recycle their old electronics?
		If more people safely recycled their old electronics, it would reduce toxins in the environment.
		Activity 3: Discussion. How the community can get young and old people involved in solving issues that affect the quality of living? Why are people not involved?
Lesson Six	Conditional Sentences and Making Inferences.	***Virtual Classroom Activities*** **Conditionals Video Part B:** https://youtu.be/VED3d62kgO4 **Virtual Classroom inferential reading activity:** Technology Addicts.
Lesson Seven	Adjective Clauses	***Worksheet No.6*** **Activity 1:** Rewrite the sentences using adjective clauses. **Activity 2:** Use the given information to complete the sentences.
Lesson Eight	Dependent and Independent Clauses: Using commas.	***Worksheet No. 7*** **Activity 1:** Complete these sentences with a suitable relative pronoun or adverb. **Activity 2:** Join these sentences using relative pronouns.
Lesson Nine	Making Inferences	***Worksheet No. 8*** **Activity 1:** Read the given passage.

		Answer the following inferential questions about the passage.
		Worksheet No. 9
		Activity 1: Read each passage below, write your inference and explain your answer.
		Activity 2: Now, write your own passage, posted in the inferences forum and try to infer at least two questions from your partner's passages.

Source: "Think" Lesson Plans
Author: Martha Lara

3.6. OPERABILITY

3.6.1. OPERATIBILITY TABLE

TIME	MONTH 1				MONTH 2				MONTH 3				MONTH 4				MONTH 5				MONTH 6				RESPONSIBLE
ACTIVITIES	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
1.- PLANNING STAGE																									
1.1. Preliminary study and problem analysis.	x	x																							Researcher
1.2. Research papers preparation. Letters and Thesis Theme presentation.	x																								Researcher Authorities
1.3. Literature review					x	x	x	x	x	x	x														Researcher
1.4. Research project design.									x	x	x														Researcher
1.4 Presentation and sustentation of the project.													x												Researcher
1.5. Project final presentation and approval.															x	x									Assigned Committee
1.6. Literature review and elaboration of the theoretical frame.																	x	x	x	x					Researcher and tutor

Activity																							Responsible
1.7. Elaboration of the flipped teaching lesson plans.	x	x	x	x	x	x	x	x	x															Researcher and tutor
2.- EXECUTION																								
2.1. Literature review.					x	x	x	x	x	x	x	x	x	x										Researcher and tutor
2.2 Pre-Test application					x																			
2.3. Application of the flipped teaching proposal.					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			Researcher
2.3. Evaluation of the proposal.																				x	x			Researcher
2.4. Recollection of evidences.																		x	x	x	x			Researcher
3.- INFORMATION																								
3.1. Satisfaction survey application to the experimental group.																				x				Researcher
3.2. Evaluation of the lesson plans and grammar video lessons and analysis of the results and impact.																				x	x			Researcher and tutor
4.- CONCLUSSIONS																					x			Researcher and tutor
5.- RECOMENDATIONS																					x			Researcher and tutor
6.-FINAL REPORT PRESENTATION																					x	x		Researcher

CHAPTER IV

4. EXPOSITION AND DISCUSSION OF RESULTS

4.1. ANALYSIS AND INTERPRETATION OF RESULTS

4.1.1. Analysis of the survey to verify the problem.

Once the experimental group was chosen, in order to verify the existence of the problem, an initial survey was applied, it consisted of 15 questions, 6 of them are general information questions and 9 questions are related directly to the research i.e. flipped teaching, learning independence, high order thinking skills, and technology use in the EFL classroom. The answers to these questions gave the researcher a clear idea about the problem.

A brief explanation about the new method was given to the students who participated in this intervention to avoid deviation of the data.

Descriptive statistic was used to analyze the presence of the research problem.

The data analysis is presented as follows:

Tables: show the frequency of answers in each one of the categories and percentages.

Figures: Show graphically the data expressed in the charts.

Every chart and figure has a caption to explain the source and the author of the charts and figures.

TABLE N° 4.1.1.1.FLIPPED TEACHING

Have you ever heard about the flipped teaching method?

Category	Frequency	Percentage
Yes	10	43%
No	20	57%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1.1.FLIPPED TEACHING

Have you ever heard about the flipped teaching method?
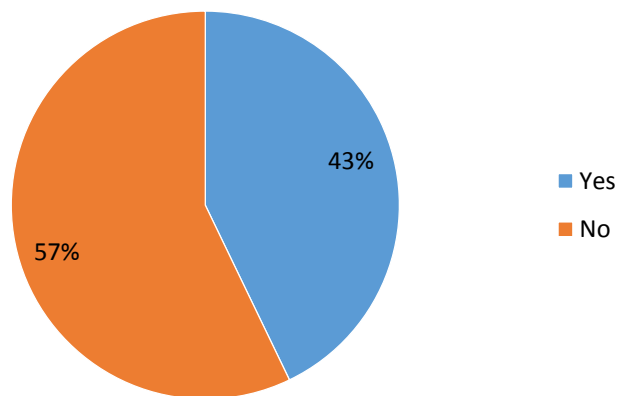
Source: Table No. 4.1.1.1.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.1. shows that 57% of the sample students have never heard about the flipped teaching method, and only 43% are familiar with this new method.

B. Discussion

It is seen that the major percentage corresponds to students who have never heard about the flipped teaching method which means that most students are exposed to the traditional method, lecture in class and practice at home.

TABLE N° 4.1.1 1. GRAMMAR VIDEO LESSONS

Does your teacher use videos to teach grammar?

Category	Frequency	Percentage
Yes	24	31%
No	11	69%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1. 1. GRAMMAR VIDEO LESSONS

Does your teacher use videos to teach grammar?
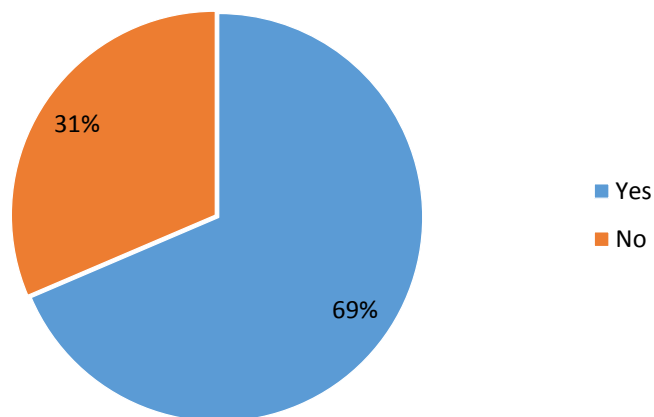
Source: Table No. 4.1.1.2
Author: Martha Lara

A. Analysis

The table N° 4.1.1.2. shows that 69% of teachers use videos in their classrooms to teach grammar and 31% do not use them.

B: Discussion

The majority of sample students have been exposed to grammar video lessons; however, neither teachers nor students are using the videos as part of a flipped classroom.

TABLE N° 4.1.1 2. GRAMMAR VIDEO LESSONS

Do you think that watching videos at home would help you to learn English?

Category	Frequency	Percentage
Yes	32	91%
No	3	9%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1. 2. GRAMMAR VIDEO LESSONS

Do you think that watching videos at home would help you to learn English?
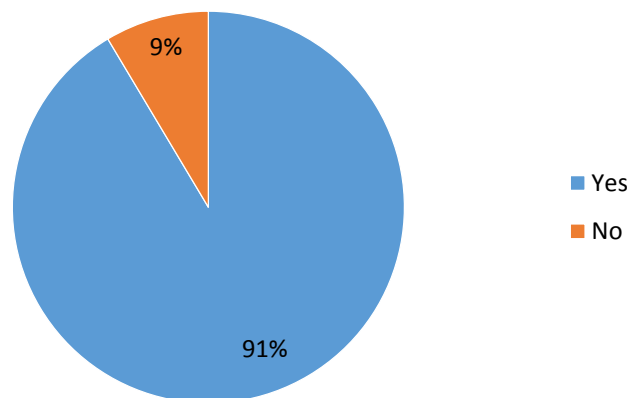
Source: Table No. 4.1.1.3.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.3 shows that 91% of the sample students agree on the importance of using videos to learnt English and only 9% disagree.

B. B: Discussion

Most of the students consider relevant to watch grammar video lessons at home as part of their self-learning.

TABLE N° 4.1.1. 3. GRAMMAR CONTENT VS PRACTICE

What percentage of the English Class is usually dedicated to lecture (grammar content)?

Category	Frequency	Percentage
90%	3	8%
80%	6	17%
70%	10	29%
50%	16	46%
Less than 50%	0	0
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1. 3. GRAMMAR CONTENT VS PRACTICE

What percentage of the English Class is usually dedicated to lecture (grammar content)?
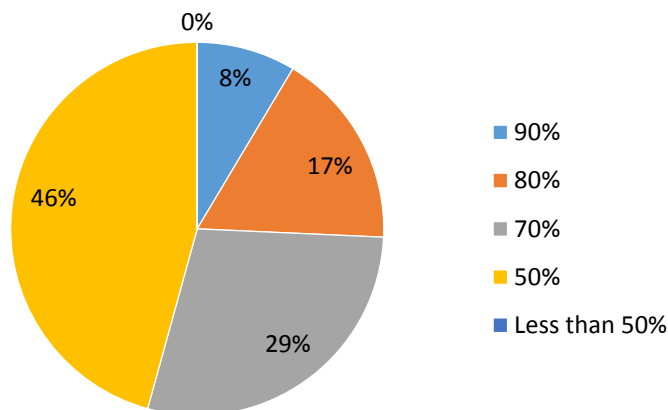
Source: Table No. 4.1.1.4.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.4. shows that 8% of the classes dedicate 90% of the time to lecture, 17% dedicate 80%, and 29% dedicate 70% which makes a total of 54%, whereas 46% of the classes dedicate 50% of the classes to explain grammar content in class.

B. Discussion

Taking into account this question results it can be concluded that 54% of English classes still dedicate more time to lecture than practice, and 46% of teachers consider that theory and practice must be developed in class; for that reason, they use 50% for lecture and 50% for practice.

TABLE N° 4.1.1 4. GRAMMAR CONTENT VS PRACTICE

The English classes should be directed towards production more than content.

Category	Frequency	Percentage
Strongly Agree	5	14%
Agree	26	74%
Disagree	4	12%
Strongly disagree	0	0%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1. 4. GRAMMAR CONTENT VS PRACTICE

The English classes should be directed towards production more than content.
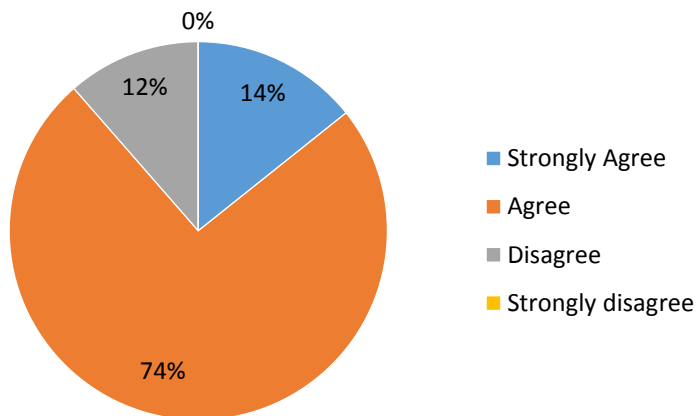
Source: Table No. 4.1.1.5.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.5. shows that 14% strongly agrees with the statement, 74% agrees that classes should be focused more in practice than content, and only 12% disagrees.

B. Discussion

As it is shown in the figure above, students are aware of the importance of practice in class; however in a traditional classroom practice is sent as homework where students struggle because they do not have the teacher's guide. Then, it can be said that students would be interested in trying a new method.

TABLE N° 4.1.1 5. INDEPENDENT LEARNERS

Express your opinion about this statement. "One of the teacher's goals must be foster independent learners."

Category	Frequency	Percentage
Strongly Agree	7	20%
Agree	25	71%
Disagree	2	6%
Strongly disagree	1	3%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1. 5. INDEPENDENT LEARNERS

Express your opinion about this statement. "One of the teacher's goals must be foster independent learners."
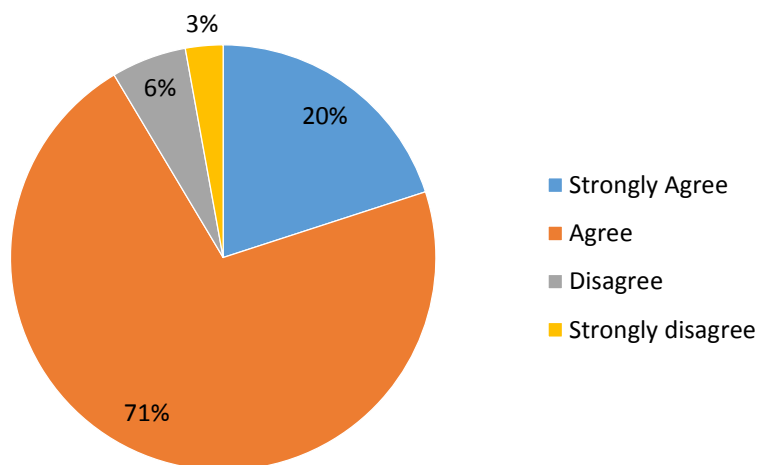
Source: Table No. 4.1.1.6.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.6. illustrates that 20% of the sample students strongly agree with the statement, 71% agrees which means they consider that one of the teacher's goals must be foster independent learners, 6% disagrees, and only 3% strongly disagrees.

Discussion

It is clear how important is to give students the necessary tools to become independent learners, since 91% of the survey participants consider so. Even though, there have been new pedagogical proposals, in reality classes continue being teacher-centered.

TABLE N° 4.1.1 6. HIGH ORDER THINKING SKILLS

Do you consider you have developed inferential thinking and discussion abilities in your English classes?

Category	Frequency	Percentage
Yes	15	43%
No	20	57%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1. 6. HIGH ORDER THINKING SKILLS

Do you consider you have developed inferential thinking and discussion abilities in your English classes?
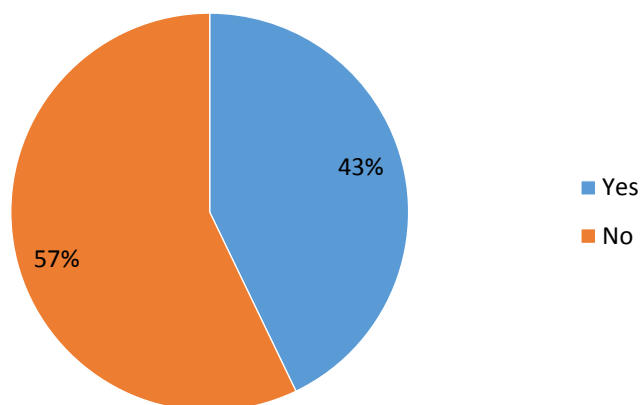
Source: Table No. 4.1.1.7.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.7 illustrates that 43% of students answered yes, and 57% said no.

B. Discussion

At this point it is important to mention that none of the students who answered yes in this question could give an example since the next question was "If yes, what inferential thinking and discussion activities are you familiar with, mention at least two"? The answers were no, I do not know, I cannot mention. Therefore, the students who answered yes maybe had an idea about inferential thinking and discussion, but have never had the opportunity to work deeply in activities to practice these high order thinking skills activities in class.

TABLE N° 4.1.1 7. VIRTUAL LEARNING ENVIRONMENT

How many hours per week do you usually dedicate to work on a Virtual Learning Environment?

Category	Frequency	Percentage
1-2	27	77%
3-4	5	14%
5 or more	3	9%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"
Author: Martha Lara

FIGURE N° 4.1.1. 7. VIRTUAL LEARNING ENVIRONMENT

How many hours per week do you usually dedicate to work on a Virtual Learning Environment?
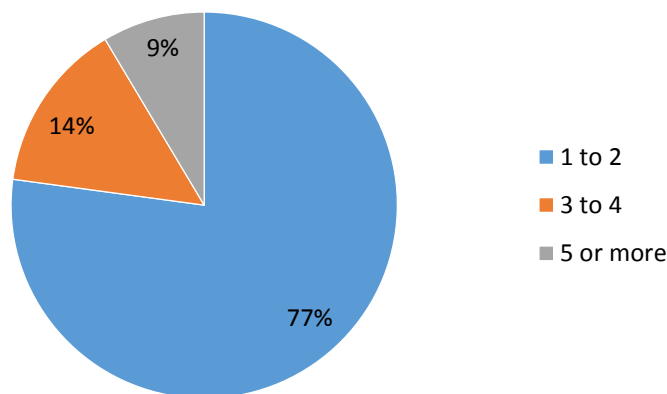
Source: Table No. 4.1.1.8.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.8. shows that 77% of the survey participants dedicate from 1 to 2 hours to work on a Virtual Learning Environment, 14% works from 3 to 4 hours, and only 9% of students dedicate more than 5 hours to work on a VLE.

B. Discussion

The Level Fourth students have 4 hours of English class per week and one of the goals of this study is to motivate students to use technology in their learning process, which means they need to dedicate more than three hours per week to work on the Virtual Classroom developing inferential thinking and online discussion activities, besides the time they have to dedicate to watch the grammar video lessons and research by their own. Then, according to this figure 77% of students' dedication time to work on a VLE has to increase.

TABLE N° 4.1.1 8. HIGH ORDER THINKING SKILLS

Technology is a necessary tool to help students develop high order thinking skills.

Category	Frequency	Percentage
Strongly Agree	11	31%
Agree	23	66%
Disagree	0	0%
Strongly disagree	1	3%
Total	**35**	**100%**

Source: Survey applied to the students of the Level Fourth "P"

Author: Martha Lara

FIGURE N° 4.1.1. 8. HIGH ORDER THINKING SKILLS

Technology is a necessary tool to help students develop high order thinking skills.
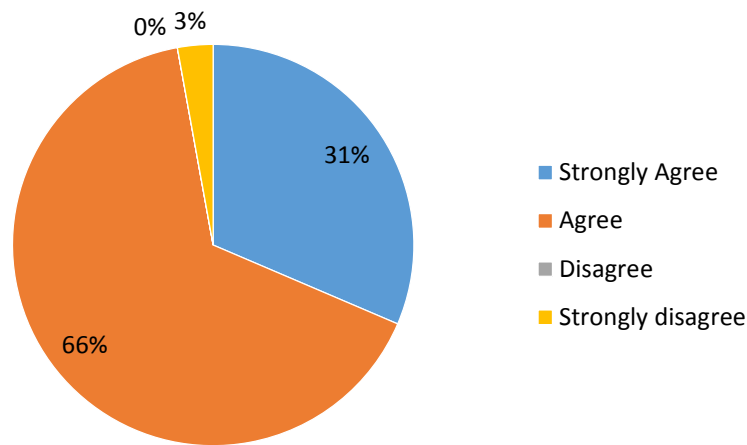
Source: Table No. 4.1.1.9.
Author: Martha Lara

A. Analysis

The table N° 4.1.1.9. shows that 31% of the participants strongly agree with the statement, 66% agreed and said that technology is a necessary tool to help them develop high order thinking skills, and only 3% strongly disagree.

B. Discussion

Technology is a need in this century, everybody used a computer, cell phone, or any other device in everyday life, which means that all these tools can be better exploited when using for educational purposes, youngsters and young adults love technology and in this survey the researcher pretends to take advantage of it.

ANALYSIS

All the questions prove the existence of the problem, specially the one on table 4.1.1.7 since students could not explain what kind of inferential thinking and discussion activities they have work on in past semesters.

DECISION

The problem exists, students have not develop inferential and discussion skills, which are part of high order thinking skills. Also, students do not have qualities of an independent learner, in addition they are not used to watch video lessons as homework at home and practice in class; in other words they have never work with the flipped teaching method; therefore this new method was implemented to fulfill the research objectives which are to develop high order thinking skills and foster independent learners.

4.1.2. ANALYSIS OF THE PRE-TEST

In both the control and experimental group a pre-test was applied in order to establish a baseline of the knowledge students have about Level Fourth contents before the intervention.

TABLE N° 4.1.2. 1. CONTROL AND EXPERIMENTAL PRE –TEST RESULTS

Group	Average	Percentage
Control	1,48	14,8%
Experimental	1,00	10%

Source: Pre-Test
Author: Martha Lara

ANALYSIS

The control group students knew a 14, 8% of all the evaluated contents: expressing wishes, conditionals, adjective clauses, making inferences, and discussion. Whereas the experimental group students percentage was 10%.

DECISION

Based on the results it was decided to implement the flipped teaching method by using the grammar video lessons recorded by the researcher as well as the "Think" lesson plans proposed as part of the intervention to the experimental group.

4.2. HYPOTHESES VERIFICATION

4.2.1. Verification of the specific hypothesis 1

Research Hypothesis H$_i$:

The implementation of flipped teaching method through video lessons as homework trains independent learners at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

Null Hypothesis H$_o$:

The implementation of flipped teaching method through video lessons as homework does not train independent learners at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

Statistical Hypothesis:

- H$_0$: $\mu_A \leq \mu_B$
- H$_i$: $\mu_A > \mu_B$

Level of significance

The level of significance to be used for the verification is 0, 05 which is 95% of reliability.

Criterion

Null hypothesis is accepted if χ^2 calculated is lower than 61.6562 which is the value in the table with 45 degrees of freedom. The result is obtained by applying the following formula:

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

Calculus

In order to obtain the value, first the contingency table of the observed frequencies is made; then, they are registered in the table.

TABLE N° 4.2.1.1. OBSERVED FREQUENCIES CONTINGENCY TABLE

	Level of satisfaction						
	1	2	3	4	5	DA	
Using video lessons to introduce new grammar content is an effective technique?	0	0	1	18	7	4	30
How useful were the video lesson to learn grammar?	0	0	3	11	12	4	30
How would you rate the content of the videos?	0	0	1	8	17	4	30
How would you rate the quality of the videos (audio, image)?	0	0	1	6	19	4	30
On average, how many times you needed to watch each grammar video lesson?	0	3	7	14	2	4	30
The video lessons were enough to understand and apply the grammar contents.	0	1	2	18	5	4	30
How useful was the WSQ chart for understanding the grammar content in the video lessons?	0	1	4	16	5	4	30
Based on your experience would you recommend the use of grammar video lessons in the English classroom?	0	0	1	13	12	4	30
To what extend did the grammar video lessons contribute to the development of the activities in class in an autonomous way?	0	0	3	19	4	4	30
How would you rate your self-study skill after using the grammar video lessons?	0	0	3	16	6	5	30
Overall, how satisfied were you with the grammar video lessons?	0	0	4	14	8	4	30
What percentage of activities included in the video lesson did you develop?	0	1	10	14	1	4	30
	0	6	40	16	98	49	36

	7			0

Author: Martha Lara

Next, the expected frequency is calculated, thus with the calculated data the contingency table with the expected frequency is made and the data is registered appropriately.

TABLE N° 4.2.1.2. EXPECTED FREQUENCIES CONTINGENCY TABLE

	Level of satisfaction						
	1	2	3	4	5	DA	
Using video lessons to introduce new grammar content is an effective technique?	0	0,5	3,3	14	8,2	4,1	30
How useful were the video lesson to learn grammar?	0	0,5	3,3	14	8,2	4,1	30
How would you rate the content of the videos?	0	0,5	3,3	14	8,2	4,1	30
How would you rate the quality of the videos (audio, image)?	0	0,5	3,3	14	8,2	4,1	30
On average, how many times you needed to watch each grammar video lesson?	0	0,5	3,3	14	8,2	4,1	30
The video lessons were enough to understand and apply the grammar contents.	0	0,5	3,3	14	8,2	4,1	30
How useful was the WSQ chart for understanding the grammar content in the video lessons?	0	0,5	3,3	14	8,2	4,1	30
Based on your experience would you recommend the use of grammar video lessons in the English classroom?	0	0,5	3,3	14	8,2	4,1	30
To what extend did the grammar video lessons contribute to the development of the activities in class in an autonomous way?	0	0,5	3,3	14	8,2	4,1	30
How would you rate your self-study skill after using the grammar video lessons?	0	0,5	3,3	14	8,2	4,1	30
Overall, how satisfied were you with the grammar video lessons?	0	0,5	3,3	14	8,2	4,1	30
What percentage of activities included in the video lesson did you develop?	0	0,5	3,3	14	8,2	4,1	30
	0	6	40	167	98	49	360

Author: Martha Lara

Once the expected frequencies have been obtained, the following chi-square formula is applied:

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

Where:

O = obverved frequency in each cell

E = expcted frequency in each cell

Then:

TABLE N° 4.2.1.3. CALCULUS OF CHI-SQUARE TABLE

	Level of satisfaction						
	1	2	3	4	5	DA	
Using video lessons to introduce new grammar content is an effective technique?		0,5	1,6	1,2	0,2	0	3,5
How useful were the video lesson to learn grammar?		0,5	0	0,6	1,8	0	2,946
How would you rate the content of the videos?		0,5	1,6	2,5	9,6	0	14,2
How would you rate the quality of the videos (audio, image)?		0,5	1,6	4,5	14	0	21,01
On average, how many times you needed to watch each grammar video lesson?		13	4	0	4,7	0	21,19
The video lesson were enough to understand and apply the grammar contents.		0,5	0,5	1,2	1,2	0	3,461
How useful was the WSQ chart for understanding the grammar content in the video lessons?		0,5	0,1	0,3	1,2	0	2,175
Based on your experience would you recommend the use of grammar video lessons in the English classroom?		0,5	1,6	0,1	1,8	0	3,995
To what extend did the grammar video lessons contribute to the development of the activities in class in an autonomous way?		0,5	0	1,9	2,1	0	4,518
How would you rate your self-study skill after using the grammar video lessons?		0,5	0	0,3	0,6	0,2	1,626
Overall, how satisfied were you with the grammar video lessons?		0,5	0,1	0	0	0	0,639

What percentage of activities included in the video lesson did you develop?	0,5	13	0	6,3	0	20,12

	0	18	25	13	44	0,2	99,39

Author: Martha Lara

The freedom degrees are determined to obtain the chi-square in tables.

$$Gl = (r-1)(c-1)$$
$$Gl = (12-1)(6-1)$$
$$Gl = 55$$

Where:

- r = number of rows in the contingency table = 12
- c = number of columns in the contingency table = 6

DECISION:

Since 99,39 > 73,31 the null hypothesis is rejected and the research hypotheis is acceepted.

4.2.2. Verification of the specific hypothesis 2

Research Hypothesis H$_i$:

The application of inferential thinking lessons improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

Null Hypothesis H$_o$:

The application of inferential thinking lessons does not improve level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

Level of significance

The level of significance to be used for the verification is 0, 05 which is 95% of reliability.

Selection of the statistical test

In order to accept the hypothesis the *t*-student statistical will be applied since the data which correspond to the pre-test and post-test are numerical and related to the ability to make inferences. By using the informatics program Excel the results are

TABLE N° 4.2.2.1. *T*-STUDENT TEST FOR TWO SAMPLES WITH DIFFERENT VARIANCES

	Control Group	*Experimental Group*
Average	0,106571429	0,255714286
Variance	0,017348952	0,022395238
Observations	7	7
Hypothetical differences of the averages	0	
Degrees of freedom	12	
T statistic	1,979313792	
P(T<=t) one line	0,035594455	
Critical Value of T (one line)	1,782287556	
P(T<=t) two lines	0,07118891	
Critical Value of T (two lines)	2,17881283	

4.2.3. Verification of the specific hypothesis 3

Research Hypothesis H$_i$:

The use of a Virtual Learning Environment improves high order thinking skills.

Null Hypothesis H$_o$:

The use of a Virtual Learning Environment does not improve high order thinking skills.

Statistical Hypothesis:

- $H_0 : \mu_A \leq \mu_B$
- $H_i : \mu_A > \mu_B$

Level of significance

The level of significance to be used for the verification is 0, 05 which is 95% of reliability.

Criterion

Null hypothesis is accepted if χ^2 calculated is lower than 21.0261 which is the value in the table with 12 degrees of freedom. The result is obtained by applying the following formula:

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

Calculus

In order to obtain the value, first the contingency table of the observed frequencies is made; then, they are registered in the table.

TABLE N° 4.2.3.1. OBSERVED FREQUENCIES CONTINGENCY TABLE

	Excellent	Good	Acceptable	Unacceptable	Does not apply	
Quality of post	37	91	11	0	11	150
Frequency	57	39	35	6	13	150
Relevance of post	70	62	5	1	12	150
Content Contribution	60	55	21	3	11	150

224	247	72	10	47	600

Source: Flipped Virtual Classroom discussion forums
Author: Martha Lara

Next, the expected frequency is calculated, thus with the calculated data the contingency table with the expected frequency is made and the data is registered appropriately.

TABLE N° 4.2.3.2. EXPECTED FREQUENCIES CONTINGENCY TABLE

	Excellent	Good	Acceptable	Unacceptable	Does not apply	
Quality of post	56	61,75	18	2,5	11,75	150
Frequency	56	61,75	18	2,5	11,75	150
Relevance of post	56	61,75	18	2,5	11,75	150
Content Contribution	56	61,75	18	2,5	11,75	150
	224	247	72	10	47	600

Source: Flipped Virtual Classroom discussion forums
Author: Martha Lara

Once the expected frequencies have been obtained, the following chi-square formula is applied:

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

Where:

O = obverved frequency in each cell

E = expcted frequency in each cell

Then:

TABLE N° 4.2.3.3. CALCULUS OF CHI-SQUARE TABLE

	Excellent	Good	Acceptable	Unacceptable	Does not apply	
Quality of post	6,446429	13,8553	2,7222222	2,5	0,04787234	25,57
Frequency	0,017857	8,38158	16,055556	4,9	0,132978723	29,49
Relevance of post	3,5	0,00101	9,3888889	0,9	0,005319149	13,8
Content Contribution	0,285714	0,73785	0,5	0,1	0,04787234	1,671
	10,25	22,9757	28,666667	8,4	0,234042553	70,53

Source: Table 4.2.3.1 and 4.2.3.2
Author: Martha Lara

The freedom degrees are determined to obtain the chi-square in tables.

$$Gl = (r-1)(c-1)$$
$$Gl = (4-1)(5-1)$$
$$Gl = 12$$

Where:

- r = number of rows in the contingency table = 4
- c = number of columns in the contingency table = 5

DECISION

Since 70,526 > 21,0261 the null hypothesis is rejected and the research hypotheis is accepted.

4.2.4. Verification of the general hypothesis

Research Hypothesis H_i:

The flipped teaching method lessons implementation improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

Null Hypothesis H_o:

The flipped teaching method lessons implementation does not improve level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

Level of significance

The level of significance to be used for the verification is 0, 05 which is 95% of reliability.

Selection of the statistical test

This research is a transversal study of independent samples which compares the grades obtained after the intervention of the experimental group against the control group analyzed at the same time, for this reason the t-student Test is used according to the following table:

TABLE N° 4.2.4.1. SELECTION OF THE STATISTICAL TEST TABLE

Specific Variable	Random Variable	NONPARAMETRIC TESTS			PARAMETRIC TESTS
		DICHOTOMOUS NOMINAL	POLYTOMOUS NOMINAL	ORDINAL	NUMERICAL
Transversal Study Independent samples	One group	χ^2 Binomial goodness-of-fit	χ^2 Goodness-of-fit	χ^2 Goodness-of-fit	T-student(one sample)
	Two groups	χ^2 Goodness-of-fit Yates corrections Exact Test of Fisher	χ^2 of homogeneity	U Mann-Withney	T-student(independent samples)
	More than two groups	χ^2 Goodness-of-fit	χ^2 Goodness-of-fit	H Kruskal-Wallis	ANOVA with INTERrsubjects factor
Linear Study Related Samples	Two averages	Mc Nemar	Q of Cochran	Wilcoxon	T −Student (related samples)
	More than two averages	Q of Cochran	Q of Cochran	Friedman	ANOVA for repeated averages (INTRAsubjects)

By using the excel spreadsheet the following results were obtained.

TABLE N° 4.2.4.2. *T*-STUDENT TEST FOR TWO SAMPLES WITH DIFFERENT VARIANCES

	Control Group	Experimental Group
Average	12,20588235	14,0333333
Variance	5,198752228	1,68850575
Observations	34	30
Hypothetical differences of the averages	0	
Degrees of freedom	54	
T statistic	3,995557179	
P(T<=t) one line	9,84682E-05	
Critical Value of T (one line)	1,673564906	
P(T<=t) two lines	0,000196936	
Critical Value of T (two lines)	2,004879288	

Source: Teachers grades record
Author: Martha Lara

DECISION

Since the value of *t* (calculated) is higher than the critical value, the research hypothesis is accepted.

4.2.5. CONTROL AND EXPERIMENTAL POST –TEST RESULTS

Group	Average	Percentage
Control	2,68	26,80%
Experimental	7,00	70,00%

Source: Post-Test
Author: Martha Lara

ANALYSIS

The control group students demonstrated to have 26, 80% of knowledge regarding the topics studied during the semester. Whereas the experimental group students percentage was 70%.

DECISION

Based on the results it can be said that the flipped teaching method application presents better results than the traditional method.

TABLE N° 4.2.6. PRE-TEST AND POST-TEST COMPARISON

Pre-Test				Post-Test			
Control Group		Experimental Group		Control Group		Experimental Group	
Average	Percentage	Average	Percentage	Average	Percentage	Average	Percentage
1,48	14,80%	1,00	10,00%	2,68	26,80%	7,00	70,00%

Source: Table No. 4.1.2.1. and Table 4.2.5.
Author: Martha Lara

ANALYSIS

The control group Pre-Test results show that the students' knowledge of the studied topics is 14,80%, and the experimental group percentage is 10,00%, while in the Post-Test the control group students could demonstrate 26,80% of management of the learned topics, whereas the experimental group students percentage is 70,00%.

DECISION

Students who were exposed to the implementation of the flipped teaching method through video lessons, inferential activities, and discussions on the Virtual Classroom could demonstrate a better management of the studied contents and development of high order thinking skills according to the grades they obtained in the Post-Test.

CHAPTER V

5. CONCLUSIONS AND RECOMMNENDATIONS

5.1. CONCLUSIONS

This research project was directed to evidence to what extend the flipped teaching method implementation improves high order thinking skills. The application of the method, the activities proposed in the "Think" lesson plans, and video grammar lessons reached the objectives set at the beginning of the project and the conclusions are the following:

✓ It was proved through the use of the video grammar lessons, the WSQ chart, and the satisfaction survey data that students were motivated to become independent learners.

✓ It was verified that by using the inferential thinking activities included in the "Think" lesson plans students improve high order thinking skills development since according the pre-test and post-test results in the t-student test the value t calculated is higher than the value t critical.

✓ The satisfaction survey and the discussion forums data evidenced that students improved high order thinking skills by using the Virtual Classroom, in the chi-square calculus table it is shown $70,526 > 21,0261$.

5.2. RECOMMENDATIONS

After the implementation of the project the recommendations are the following:

- ✓ Consider the grammar video lessons, which can be used at any level, to foster independent learners.

- ✓ Use the "Think" lesson plans inferential thinking activities to improve students' high order thinking skills.

- ✓ Take into account the Virtual Classroom discussion forums activities proposed in the lesson plans worksheets to improve students' high order thinking skills and motivate teachers to get trained to manage Virtual Learning Environments.

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ANNEXES

ANNEX 1. THESIS PROJECT

UNIVERSIDAD NACIONAL DE CHIMBORAZO

VICERRECTORADO DE POSGRADO E INVESTIGACIÓN

INSTITUTO DE POSGRADO

PROGRAMA DE MAESTRÍA EN LINGÜISTICA APLICADA AL APRENDIZAJE
DEL IDIOMA INGLÉS
DECLARACIÓN DEL PROYECTO DE INVESTIGACIÓN

TEMA:

FLIPPED TEACHING METHOD IMPLEMENTATION TO IMPROVE LEVEL
FOURTH STUDENTS' HIGH ORDER THINKING SKILLS AT ESCUELA
SUPERIOR POLITÉCNICA DE CHIMBORAZO DURING THE ACADEMIC
PERIOD MARCH 2015-JULY 2015.

PROPONENTE:

MARTHA LARA

RIOBAMBA – ECUADOR

AÑO 2016

1. THEME

FLIPPED TEACHING METHOD IMPLEMENTATION TO IMPROVE LEVEL FOURTH STUDENTS' HIGH ORDER THINKING SKILLS AT ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO DURING THE ACADEMIC PERIOD MARCH 2015-JULY 2015.

2. PROBLEM IDENTIFICATION

2.1 . Location where the research is going to take place

This research will be conducted at Escuela Superior Politécnica de Chimborazo, English Center; the population is English Level Fourth students.

2.2 . Initial Problem Situation

According to the National English Curriculum regulations and expectations regarding English learning in Ecuador have changed, but changes are not always considered easy or possible.

One of the aims of the English language learning reform launched in 2012 was to create opportunities for a broader cross-section of students to study at top-ranking universities around the world. (Council, 2015).

As reported by the International Commission on Education, Equity, and Economic Competitiveness in Latin America (Torres, 2007) in Latin America and the Caribbean enrollment has increased rapidly and significantly over the past three decades, the equality of education has declined in the same proportion. The teaching of language is very poor in most countries. Few students develop appropriate skills in the areas of critical thinking, problem solving and decision making. In an era when good schools are increasingly crucial to economic development, Latin America is falling behind and the situation in Ecuador is consistent.

Another interesting fact is that by 2001, the country had achieved universal primary education, but academic performance has remained low and has even declined in the past decade (UNESCO, 2005).As far as the language material tested, students in all grades knew an average of 60 percent or less (Paul Carrillo, 2010).

The Escuela Superior Politécnica English Center was founded in 1974 with the objective of increasing the possibilities to apply the knowledge in the teaching-learning of languages such as English, in all the professional fields, under an institutional-academic excellence paradigm with scientific, technological and humanistic permanent innovation in a global world. Then, it is the teacher-researcher job to guarantee that this objective is being fulfilled. Students must be ready to face real life situations, using English as the necessary tool in the 21st century.

The English Center offers a program of six levels of English directed to students from different Faculties, and all teachers must follow the same curriculum which is mostly grammar-based, according to Level Fourth syllabus, at the end of the semester students should be able to: apply critical thinking, use English to solve problems related to the students' major, choose the best resources in problem solving, express ideas, opinions, and feelings adequately, design their critical thinking process in their learning habits, and discuss current, national and international events related to the major.

Furthermore, the Article 34 of the Academic Regulation Regimen states that students must demonstrate their outcome by taking a proficiency test once they have approved 60% of their career program.

Nevertheless, none of the outcomes have been evaluated or proved to be fulfilled, since the syllabi format classes continue to be traditional, where grammar rules or lectures are developed in class and practical activities are sent as homework, ending up in a limited opportunity for students to achieve the goals, since teachers do not use the class time for inferential thinking or discussion activities, which are two of many tools which could be used to foster high order thinking skills.

Even though, the students' learning outcomes included in the syllabus are based on Bloom's Taxonomy, the activities developed in class are not correctly directed to

improve high order thinking skills. Then, the first is to implement a new method which contributes to students' holistic training in a global world.

The second detected problem was the inability to become independent learners. The National Curriculum Guidelines for English as a Foreign Language proposed by the Ministerio de Educación del Ecuador published on August 2004 states that "Language techniques are designed to engage learners in the authentic, functional use of language for meaningful purposes". Unfortunately this statement does not apply to our surrounding, students in Level Fourth at the English Center are not independent learners, and have not developed high order thinking skills.

Finally, it is well known that students are highly identified with technology and spend a considerable amount of time working online. The English Center provides a Virtual Learning Environment which allows creating online activities and enrolling students in them. Inside the course various resources such as quizzes, questionnaires, structured lessons and forums can be combined, but teachers are not taking advantage of this tool to train students in high order thinking activities as discussion forums.

2.3 . Problem Formulation

To what extend has the traditional applied methodology developed Level Fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo?

2.4 . Originated Problems

2.4.1 How does the traditional applied methodology to learn grammar help students to become independent learners?

2.4.2 Are traditional classes focused on improving high order thinking skills through inferential thinking activities?

2.4.3 Does the use of a Virtual Learning Environment contribute to improve high order thinking skills?

3. JUSTIFICATION

By taking into account the demands of today's world and the deficiencies that have been detected in Level Fourth students at the English Center which comply the need to apply new methods and techniques and the importance of combining face-to-face with online instructions, this project is relevant for both students and teachers.

The relevant benefits of this project aim to solve the identified problem and they will be explained in detail.

First of all, this project presents social relevance since the material presented such as lesson plans and grammar video lessons could be used and applied by any English as a Foreign Language teacher. The grammar video lessons will present an animated and interesting explanation of grammar contents and could be watched as many times as needed, since they will not only be recorded on a CD but also will be uploaded on YouTube. The lesson plans will be prepared by considering the students' needs and will be very clear structured for any reader or user to be able to apply them in their own context.

Secondly, the lesson plans and the grammar video lessons are practical, and the information provided is useful for its content and easy to apply mode. The provided activities will be focused on improving students' high order thinking skills through inferential reading and online discussions which could be adjusted as needed.

In addition, students will have extra time to work on practical activities in class since the lecture or content will be studied at home, besides that through the readings students will increase their vocabulary and be able to apply it by interacting in the Virtual Learning Environment forums.

Rubrics will be provided to students beforehand; in this way they can reinforce the areas in which they have more difficulty.

Moreover, this project is feasible because the proponent relies on self-financing. As an English teacher of the English Center at Escuela Superior Politécnica the Chimborazo I have the support of the Director, the English teachers and students.

Importantly, this project is original because the flipped method is relatively new; it started in 2004 when Jonathan Bergmann and Aaron Sams started teaching at Wooddland Park High School in Woodland Park, Colorado in the Chemestry Department. Flipped teaching has also mostly been applied in physics, chemistry and math classes. Researchers and teachers are just now considering in taking advantage of this method to teach English, and there are not records of flipped English as a Foreign Language classroom in Riobamba. It is also relevant to mention that the originality of this work relays on the grammar video lesson which will be recorded by the researcher-teacher.

Finally, it is innovative and challenging, the flipped classroom has evolved, there are hundreds of valuable materials which can be used and taken advantage of. This research also promotes the correct and effective use of Virtual Learning Environments, in this space student will be best monitoring, communication among students and teacher will be more effective and fast, students will have the opportunity to ask, answer, express their opinion and discuss.

In sum, implementation of flipped teaching method is feasible, relevant, and innovative and also will solve the problems encountered in high order thinking skills poor development.

4. OBJECTIVES

4.1 . General Objective

To apply flipped teaching method lessons to improve Level Fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

4.2 . Specific Objectives

4.2.1   To use the flipped teaching method through grammar videos as homework in the training of independent learners at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

4.2.2   To improve students' high order thinking skills development by applying inferential thinking lessons at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

4.2.3   To improve high order thinking skills by using the Virtual Learning Environment available at Escuela Superior Politécnica de Chimborazo.

5. THEORETICAL FOUNDATION

5.1. Previous researches background

This research is original because there have not been previous similar studies directed to improve high order thinking skills through the flipped teaching implementation in the Escuela Superior Politécnica de Chimborazo, furthermore there are not similar studies in the Universidad Nacional de Chimborazo library.

As mentioned above the flipped method has mostly been applied in science. Cheryl Morris in her blog dedicated to help English teachers posted: "For people who want to flip science or math, there are a wealth of resources available, but in English there are not many people flipping and writing about it. I think it is partially a problem of definition; there aren't many people who can define what English flipping looks like". (Thomasson, 2012).

In Chapter 10, English was made to flip, of the book "Flipped Learning: Gateway to Student Engagement" Bergmann and Sams focus on English Teacher April Gudenrath and her story as she adopted flipped teaching and learning. (Sams, 2014).

5.2. Scientific Foundation

5.2.1. Epistemological Foundation

This paper is based on two specific aspects: Critical Pedagogy and Blended Learning. Critical Theory was born in the trauma of the Weimar Republic, grew to maturity in expatriation, and achieved cultural currency on its return from exile. Passed on from its founding first generation – among others Max Horkheimer, Friedrich Pollock, Herbert Marcuse, and Theodor Adorno – to the leader of its second, Jurgen Habermas, Critical Theory remained central to European philosophical, social, and political thought throughout the Cold War period. It is still a vital philosophical and political perspective, and a third generation of critical theorists, among whom Axel Honneth is most prominent; continue to press its concerns largely in terms of the tradition that began in the Weimar years. Along with phenomenology in its various forms and the philosophy and social theory gathered loosely under the headings of structuralism and post structuralism, Critical Theory is a preeminent voice in twentieth-century continental thought. (Cambridge, 2014).

Critical pedagogy does not ignore nor replace well-developed teaching methods. Instead, it adds critical quality to the existing textbooks and everyday instruction. Critical pedagogy is a teaching approach attempts to help students question and challenge domination, and the beliefs and practices that dominate. This to say that, it is a theory and practice of helping students achieve critical consciousness. Luke and Gore (1992) pointed out that critical pedagogy is not single-strategy pedagogies of empowerment and liberation but should be able to evolve in response to local contexts and needs. Critical teaching is principled and it has a coherent view of society and the role of power in forming relationships in society. The critical language educator relates knowledge of grammar and vocabulary to knowledge of social problems and how to act to solve these problems. Learners are active in the classroom and in society in critical pedagogy. We focus on a critical pedagogy in teaching education because of the goal of preparing citizens for participation in a democratic society. It is not always easy to distinguish critical pedagogy, active learning, and the learner-centered or learning centered approaches. Each is predicated through student engagement and suggests

involvement via such strategies including collaborative and cooperative learning and problem-based learning. (Riasati, 2012).

Thus, critical pedagogy is the foundation which is being considered in this project, since the researcher main goal is to improve high order thinking skills through inferential thinking activities.

Moreover, flipped teaching model is part of blended learning, for that reason this research paper also considers b-leaning dimensions.

Blended learning is a term increasingly used to describe the way e-learning is being combined with traditional classroom methods and independent study to create a new, **hybrid teaching** methodology. It represents a much greater change in basic technique than simply adding computers to classrooms; it represents, in many cases, a fundamental change in the way teachers and students approach the learning experience. It has already produced an offshoot – the flipped classroom – that has quickly become a distinct approach of its own. (Stwart, 2012).

5.2.2   Axiological Foundation

One of the goals on this paper is to foster independent learners, for this reason actions will be taken to guide students towards their learning. Students are expected to become independent and competent in English which can cause frustration and anxiety, for this reason axiological adjectives such as "it is crucial, it is excellent" will be used. (Tassinari, 2013).

In addition, since students are expected to improve their high order thinking skills, the Escuela Superior Politécnica de Chimborazo Educational Model 2014, Article 3.2 Formative Values which states "Institutional formative values which deal exclusively with the function of forming competent and honest professionals will be fostered".

5.2.3. Legal Foundation

The legitimacy of this research lies on the article 208 of the regulation of the academic

regimen, item c) that literally says "Once the class courses are over, every student must present and support a scientific research thesis paper which shows innovation and problem originality". Furthermore, the Good Living Plan Goal 4.8 is "To achieve 85.0% of university professors with an education fourth level title. (Senplades, 2013).

The LOES (Higher Education Organic Law) supports the research on the article 124. - " Values and right training".- it is the responsibilities of the Higher Education Institutions to provide the students who finish their major at any school or program, the effective knowledge of their rights and obligations and the social-economic, cultural and ecological reality of the country: the mastering of a foreign language and the effective management of informatics tools. Also, the National Plan of Good Living objective 4.8i says "Promote learning a foreign language within the parameters of international accreditation from early education to the next level. (Senplades, 2013). In addition, the study of a foreign language is based on the European Common Frame of Reference for Languages which marks the criteria of teaching English as a Foreign Language and the standards which every student should reach at the end of every level and every skill.

5.3. Theoretical Foundation (Theoretical Support)

5.3.1. English language teaching methods

Firstly, it is necessary to define the root word of this thesis: method. A method is an established, habitual, logical or systematic process of achieving certain ends with accuracy and efficiency, usually in an ordered sequence of fixed steps, according to BusinessDictionary.com (Dictionary.com).

A method provides useful techniques and tools to be used in the classroom, therefore Level Fourth "N" need to improve high order thinking skills, for that reason it was decided that for this research the flipped teaching method will be implemented.

5.3.1.1. The traditional Method

Traditional teaching is concerned with the teacher being the controller of the learning environment. Power and responsibility are held by the teacher and they play the role of the instructor (in the form of lectures). The traditional teacher views that it is the teacher that causes learning to occur. (Jasmine Griffiths).

The traditional methods focus and emphasize mainly on the learning of grammar rules and vocabulary. The student tries to understand every single word and its grammatical form; he believes it is essential for understanding the text. Besides, in the traditional methods, there is lack of attention being paid towards speaking and learning of pronunciation. (Walia, 2012)

5.3.1.2. Flipped teaching Method

Once a new idea becomes a buzzword, pinning down the definition can become a tad more challenging. The flipped learning network has developed what they hope will be seen as the definitive definition:

"Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter."

That gets the idea across, but it's a bit of a mouthful. The gist, in somewhat simpler terms, is that it's about moving the more passive elements of learning (watching a lecture, reading a chapter, etc.) outside of the classroom, so that more class time is available for interactive, hands-on learning.

Most people hear "flipped learning" and picture kids watching videos at home, but proponents of it suggest that it doesn't have to be exclusively about videos. Teachers are encouraged to give students options – some students will still learn better by reading a textbook chapter, but others will benefit from videos, audio files, or any other type of material you can find or create that covers a given topic. (Edudemic)

Flipped teaching offers a wide range of advantages some of them are listed below:

Flipped teaching keeps students more engaged. - The flipped classroom model addresses how students learn best. We all know how hard it can be to stay focused during a long lecture, even if it is on a subject we are especially interested in. Discussions and hands-on activities tend to keep students' interest. While you work with students directly as they explore the concepts they are learning in class, you can provide immediate feedback that helps them improve their learning as they go.

Teachers provide more personalized attention. - Not all students learn at the same pace and in the same ways. That has always been a complicating factor in teaching. The question of how to meet thirty or more unique students at their own levels is one that keeps teachers up at night.

The flipped classroom model gives teachers more opportunities to work directly with students. They can therefore clearly see when an individual student is having trouble with a concept and work with them directly to get through it. The increased interaction with students in the classroom will help teachers gain a clearer idea of the different learning styles of their students, so they can tailor their instruction to the needs of each one.

Students can work at their own pace. - A student sitting in a lecture, diligently taking notes will almost certainly miss one thing the professor says while writing down another. And that is still a vast improvement over the student whose mind wanders so they do not catch much of anything.

If they are watching a video at home instead, they have the power to pause the lecture while they write something down, and rewind and re-watch a particular part they did not fully understand the first time. If they feel they could really use a second viewing to better understand the concept, they have that option. They have more power over the way and process by which they study and learn. (Edudemic).

Flipped Classroom changes the way traditional teaching and learning is conducted. In this model, teacher takes a different approach in which students gets first exposed to digital learning in the form of video lectures, mind maps, or regular books on the topic prior to coming into the classroom, and the class time is focused on processing this

learning. In this mode, primary focus of the classroom time is to assimilate, synthesize, analyze, apply, design and develop this knowledge with the help of their peers and teachers. The campus can be transformed into a place of innovation, creation and critical evaluation. (Dharmardhikari, 2015).

For the development of this research grammar video lessons recorded by the teacher-researcher will be used. Thanks to a group of proactive students and colleges from the Graphic Design School, the videos will be recorded at Escuela Superior Politécnica de Chimborazo, the idea is to present a familiar and interactive material for students to use at home at their own pace.

Another tool will be a Virtual Learning Environment and a Facebook group named "Flipped Classroom", in these environments students will be able to discuss not only about the topics covered in class, but also they could ask questions, share information, comments and ideas.

5.3.2. High Order Thinking Skills

It has already been proved that English Fourth "N" need to improve their high order thinking skills development. For this reason it is important to clarify some relevant concepts to be managed in this research.

Higher order thinking skills include critical, logical, reflective, metacognitive, and creative thinking. They are activated when individuals encounter unfamiliar problems, uncertainties, questions, or dilemmas. Successful applications of the skills result in explanations, decisions, performances, and products that are valid within the context of available knowledge and experience and that promote continued growth in these and other intellectual skills. Higher order thinking skills are grounded in lower order skills such as discriminations, simple application and analysis, and cognitive strategies and are linked to prior knowledge of subject matter content. Appropriate teaching strategies and learning environments facilitate their growth as do student persistence, self-monitoring, and open-minded, flexible attitudes. (FJ King).

This definition is consistent with current theories related to how higher order thinking skills are learned and developed. Although different theoreticians and researchers use different frameworks to describe higher order skills and how they are acquired, all frameworks are in general agreement concerning the conditions under which they prosper. (FJ King).

As mentioned above critical thinking is part of high order thinking skills and in order to narrow the problem the research will be directed to two critical thinking activities: inferences and online discussions.

Critical thinking has been recently introduced and gained a high position in foreign language teaching (FLT) settings so that nowadays enhancing critical thinking in learners is considered one of the foreign language teachers' tasks. Many different factors can affect learners' critical thinking skills. Materials used and types of activities introduced and worked on in the classroom are two of these factors. (Shirkhani, 2011).

High Order Thinking Skills and Critical Thinking present a wide variety of techniques, activities and tools to be used in order to improve the population skills, therefore this research will focus on inferential reading and online discussion.

Inferential Strategy seeks to connect a reader's prior knowledge and experiences with their comprehension of a text. This strategy rests on constructivist theory that learners "build" knowledge constructs when they interpret new information in light of past experiences and rethink past knowledge in light of new information.

Unlike many reading strategies, the Inferential Strategy does not encourage "breaking up" a text—stopping throughout the narrative to comment on or evaluate a specific point. Rather, this strategy poses poignant questions prior to reading and encourages discussion after reading. (Reading Educator, 2015).

Due to flipped teaching is part of blending learning, discussions will be directed on line. Online discussions are a great tool to extend classroom conversations and learning by getting students to engage with class material online. Online discussions are often arranged by discussion boards, forums, and threads. (CTE).

Discussion boards, or threaded discussions, are one of the most commonly used tools in online teaching. Discussion forums provide the ability for asynchronous discussion to occur over a period of time. The ability to learn asynchronously is one of the primary benefits of online learning. Students are able to reflect upon their ideas before sharing them with the class, leading to more reflective responses and in-depth learning. (Eutopia, 2009).

6. HIPOTHESES

6.1. General Hypothesis

The flipped teaching method lessons implementation improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

6.2. Specific Hypotheses

6.2.1. The implementation of flipped teaching method through video lessons as homework trains independent learners at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

6.2.2. The application of inferential thinking lessons improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

6.2.3. The use of a Virtual Learning Environment improves high order thinking skills.

7. HYPOTHESES OPERATIONALIZATION

7.1. Operationalization of the Specific Hypothesis 1

INDEPENDENT VARIABLE	CONCEPT	CATEGORY	INDICATOR	TECHNIQUE AND TOOL
Video Lessons	A video lesson is an outside class material which students have available on a Virtual Learning Environment	Grammar structure video lessons	Level of comprehension of video lessons content Students' satisfaction with the content of videos at home Effectiveness of the video lessons in the learning of specific grammar points.	Survey
			Number of grammar exercises developed by students at home Number of correct answers for the proposed exercises Application of grammar studied in the videos in information presented.	Test (Multiple choice, matching and gap filling grammar exercises, identifying the mistake, inferring the rule).

DEPENDENT VARIABLE	CONCEPT	CATEGORY	INDICATOR	TECHNIQUE AND TOOL
Independent learners	Independent learners are students who invest extra time outside the classroom to learn, they manage their own learning effectively.	Independent learning activities developed by students at home	Time dedicated to watch videos. Time management for activities planned for each video. Level of self-motivation to do activities on their own. Self-evaluation of learning. Effectiveness in the development of activities proposed for the videos. Confidence in asking questions regarding the contents of the videos. Appropriate note taking and organization of information	Independent learning survey.

7.2. Operationalization of the Specific Hypothesis 2

INDEPENDENT VARIABLE	CONCEPT	CATEGORY	INDICATOR	TECHNIQUE AND TOOL
Inferential thinking	Inferential thinking is reading between the lines. Inferring in reading is figuring out answers from the facts to which the reader has access. Inferential thinking is the ability to make conclusions based on evidence and prior knowledge.	Inferential thinking lessons: making inferences and drawing logical conclusions.	Level of capacity to make inferences Students' ability to draw logical conclusions from a given text. Students' ability to grasp the content of a given text Number of correct answers students get when solving inferential reading exercises.	Inferential reading test. Inferential reading questions: Can you infer…? What can you infer…? What conclusion does the author imply? Why does the author…?

DEPENDENT VARIABLE	CONCEPT	CATEGORY	INDICATOR	TECHNIQUE AND TOOL
High Order Thinking Skills	High order thinking skills are skills which take thinking to deeper levels than just restating facts, and require application of what is learnt.	High order Critical thinking skills improvement.	Students' ability to analyze a text by breaking information into parts and establishing relationships Students' skills to evaluate information from a given text by providing their opinions, critiques and appraisals. Students show competence to create, plan and construct new information from the one provided in written texts.	Test. High order thinking skills

7.3. Operationalization of the Specific Hypothesis 3

INDEPENDENT VARIABLE	CONCEPT	CATEGORY	INDICATOR	TECHNIQUE AND TOOL
Virtual Learning Environment	Virtual learning environment is a web-based platform used to support and extend face-to-face lessons.	Delivery of learning materials to support students' language acquisition.	Amount of time dedicated to work on the virtual platform.	Record of visits (VLE automatic tracker).
			Number of times students participate in discussion forums	Discussion Forums rubric.
			Quality of the information students produce in the forums	
			Student's satisfaction regarding the use of the platform to support their learning	Virtual Classroom use survey

DEPENDENT VARIABLE	CONCEPT	CATEGORY	INDICATOR	TECHNIQUE AND TOOL
High Order Thinking Skills	High order thinking skills are skills which take thinking to deeper levels than just restating facts, and require application of what is learnt.	High order thinking skills improvement.	Students' ability to analyze a situation posed by the teacher in the virtual platform by breaking information into parts and establishing relationships Students' skills to evaluate information by providing their opinions, critiques and appraisals. Students show competence to create, plan and construct new information	Rubric for VLE high order thinking skills development

8. METHODOLOGY

8.1. Type of research

This project will be developed by applying the quali-quantitative research.

8.1.1. Qualitative. - The methodology used in the English Center will be analyzed in order to know if it is contributing to improve high order thinking skills, then the flipped teaching method will be studied to work on the proposal.

8.1.2. Quantitative.- The pre-test and post-test instruments will be applied in the experimental and control group to gather statistical data.

8.2. Research Design

This is a quasi-experimental design because the groups are not chosen randomly; the groups are already assigned before the experiment: they are unimpaired groups (the way they are formed is independent or alienated to the experiment) (Hernández & Fernández, Metodología de la investigación, 2003).

There will be two groups, the experimental group where the proposal will be applied and the control group with no involvement. The groups will be compared in the Pre-Test and Post-Test to analyze the intervention and its effect on the dependent variable.

This design is valid since it proposes a new learning methodology.

8.3. Population and Sample

Table **N° 8.3.1**

English IV "N" Students
35
Total 35

Source: Escuela Superior Politécnica de Chimborazo-Secretaría Centro de Idiomas

8.3.2. Sample

The sample for this research is considered the whole population because it is not large.

8.4. Research Methods

8.4.1. Scientific Method. - The scientific method process is considered to identify the problem in the English Center at Escuela Superior Politécnica de Chimborazo, with the purpose of implementing a different method from the traditional one and improve Level Fourth students' high order thinking skills.

8.4.2. Deductive Method. - through the application of this method general facts will be deducted to identify the specific ones, for this research the related problems will be considered to work on practical class activities, inferential thinking and discussion activities and finally determine the existing problems in the English language teaching in the English Center at Escuela Superior Politécnica de Chimborazo.

8.4.3. Inductive Method. - By applying the pre-test and post-test the specific problems of each student will be identified to generalize the facts and phenomena through which possible solutions will be found to improve the current problem.

8.4.4. Descriptive Method.- The research will be developed through a logical process, it will start with the facts and phenomena description about the formulated problem. Then the data obtained through the initial survey will be tabulated and finally, the results of the pre-test and post-test applied to the Level Fourth students will be analyzed.

8.5. Techniques and instruments for data collection

- Survey application to verify the presence of the problem.
- Pre-test application.
- Design and application of inferential reading and online group discussion strategies.

- Post-test application
- Satisfaction survey application

8.6. Techniques and procedures for results analysis

- Organization of the information.
- Pre-test collected information analysis.
- Analysis of the evidences collected from the students during the proposal implementation.
- Post-test analysis.
- Tables, charts and graphs design.
- Statistical results analysis looking for objectives and hypothesis tendencies.
- Drawn of conclusions.

9. FINANTIAL AND HUMAN RESOURCES

9.1. Human Resources

Tutor – The tutor is the person in charge of control, correct and suggest changes to the project until the thesis paper is finished and ready for its dissertation.

Maestrante – The Maestrante is the researcher who carries out the thesis project.

Escuela Superior Politécnica de Chimborazo Authorities: they are all the involved parties who are in charge of making decisions about the research paper and assign dates for the project presentation.

9.2. Finantial Resources

Table N° 9.2.1 Finantial Resrouces

Ord.	Detail	Amount
1	Graphic Designers	$ 400
2	Thesis Tutor	$250
3	Videos Recording	$100
4	Paper	$30
5	Printer ink	$50
6	Pen drive (8 GB)	$15
7	Photocopies	$20
8	4 Covers	$40
9	Photos	$20
10	Books	$150
11	10 CDs	$15
12	Document binding	$20
13	Transportation	$300
	Total	1,410

Author: Martha Lara

This thesis project will cost 1,410 dollars approximately which will be paid by the researcher.

10. SCHEDULE

TABLE N° 10.1. ACTIVITIES SHEDULE

TIME	MONTH 1				MONTH 2				MONTH 3				MONTH 4				MONTH 5				MONTH 6				RESPONSIBLES
ACTIVITIES	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
1.- Planning stage																									
1.1 Preliminary study	x	x																							Maestrante
1.2 Papers related to the stakeholders participation.	x																								Maestrante and Escuela Superior Politécnica de Chimborazo Authorities.
1.3 Literature review	x	x	x	x	x																				Maestrante
1.4 Project design		x	x	x	x																				Maestrante
1.5. Presentation and sustentation of the project.						x																			Maestrante
1.6. Project final presentation and approval						x	x	x	x	x	x														Comisión de Carrera
1.7. Literature review and elaboration of the theoretical frame.						x	x	x	x	x	x	x	x	x											Maestrante and Tutor
1.8. Elaboration of the assessment	x	x	x	x	x	x	x	x	x	x	x	x	x	x											Maestrante and Tutor

Activity																									Responsible
guide.																									
2.- EXECUTION														x	x	x									
2.1. Literature review																									Maestrante y Tutor
2.2. Application of the assessment guide.															x	x	x	x	x						Maestrante
2.3. Application of the feedback given to students.															x	x	x	x	x						Maestrante
2.4. Recollection of evidences of the use of the guide																	x	x							Maestrante
2.5. Application of conferences and portfolio.															x	x	x	x	x						Maestrante
3.- INFORMATION																									
3.1. Application of a survey to measure the level of satisfaction of the stakeholders.																				x					Maestrante
3.2. Evaluation of the guide and analysis of the results and impact.																					x	x			Maestrante y Tutor
4. CONCLUSIONS																							x		Maestrante and Tutor
5. RECOMMENDATIONS																							x		Maestrante and Tutor
6.FINAL REPORT PRESENTATION																								X	Maestrante

11. LOGIC MATRIX

PROBLEM FORMULATION	GENERAL OBJECTIVE	GENERAL HYPOTHESIS
To what extend has the traditional applied methodology developed Level Fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo?	To apply flipped teaching method lessons to improve level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.	The flipped teaching method lessons implementation improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.
ORIGINATED PROBLMES	**SPECIFIC OBJECTIVES**	**SPECIFIC HYPOTHESIS**
How does the traditional applied methodology to learn grammar help students to become independent learners?	To use the flipped teaching method through grammar videos as homework in the training of independent learners at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.	The implementation of flipped teaching method through video lessons as homework trains independent learners at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.
Are traditional classes focused on improving high order thinking skills through inferential thinking activities?	To improve students' high order thinking skills development by applying inferential thinking lessons at Escuela Superior Politécnica de Chimborazo during the	The application of inferential thinking lessons improves level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the

	academic period March 2015-July 2015.	academic period March 2015-July 2015.
Does the use of a Virtual Learning Environment contribute to improve high order thinking skills?	To improve high order thinking skills by using the Virtual Learning Environment available at Escuela Superior Politécnica de Chimborazo.	The use of a Virtual Learning Environment improves high order thinking skills.

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ANNEX 2. INSTRUMENTS FOR DATA COLLECTION

Annex 2.1. Problem Identification Survey

ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO

CENTRO DE IDIOMAS

FLIPPED TEACHING METHOD AND BLOOM'S TAXONOMY SURVEY

Dear students,

Please take your time to answer this questionnaire honestly. The objective is to improve the teaching-learning process in the English Center.

1. Gender

_____ Male

_____ Female

2. Have you ever heard about the flipped teaching method?

_____ Yes

_____ No

3. Does your teacher use videos to teach grammar?

_____ Yes

_____ No'

4. Do you think that watching grammar videos at home would help you to learn English?

_____ Yes

_____ No

5. What percentage of the English class is usually dedicated to lecture (grammar content)?

_____ 90%

_____ 80%

_____ 70%

_____ 50%

_____ Less than 50%

6. What percentage of the English class is usually dedicated to apply contents (practical activities)?

_____ 90%

_____ 80%

_____ 70%

_____ 50%

_____ Less than 50%

7. Do you always feel engaged when performing the different activities in your English class?

____ Yes

____ No

8. Do you consider that working at home (alone doing homework) is the best way to practice and learn English?

____ Yes

____ No

9. Do you have a Facebook account?

____ Yes

____ No

10. How often do you check your Facebook account?

____ More than once a day

____ Once a day

____ Two times a week

____ Less than two times a week

11. Do you use the social network Facebook as a tool to practice and learn English?

____ Yes

____ No

12. Express your opinion about this statements. "One of the teacher's goal must be foster independent learners".

____ Strongly agree

____ Agree

____ Disagree

____ Strongly disagree

13. Do you consider you have developed critical thinking (inference, discussion) in your English classes?

____ Yes

____ No

14. If yes, what critical thinking activities are you familiar with, mention at least two?

_____

_____

_____

_____

15. Do you consider that what you have learn in your English classes is preparing you to face real life challenges?

____ Yes

____ No

Thank you for your time!

ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO
ENGLISH CENTER

Flipped teaching method implementation to improve level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

April 18th, 2016
Martha Lara
PRE-TEST

Student's name: _____

PART 1: Grammar

1. - Expressing wishes in present, past and future. Fill in the blanks with the correct form of the verbs in brackets.

1) My brother wishes he _____ (not/buy) the Suzuki. He has taken it to the mechanic twice already.

2) My sister, Leticia wishes she _____ (be) on a spa holiday relaxing rather than working on the ESPOCH now.

3) I wish my dad _____ (pass) away. I miss him so much.

4) My son is overweight. I wish he _____ (attend) a gym next vacation.

5) My 4th Level students wish they _____ (study) more. They all got bad marks from the final exam.

6) I wish I _____(know) more about baking. I have to prepare a cake for my home church members.

2. - I have an adolescent son and it is kind of hard to deal with his temper and behavior. I wish some things were different. Write what I am thinking, beginning each sentence with I wish.

1) My son's room is always a mess.

_____

_____

2) He spends too much time on the internet chatting with his friends.

_____

_____

3) My son does not have a clear schedule. He goes to bed too late.

_____

_____

4) He drinks three or four cans of soda every day.

_____

_____

5) When we are trying to get to an agreement, he always stays quiet.

_____

_____

3. - Restate the following using a conditional construction.

Example: I really do not understand politics, so I can't make any comment.

If I understood politics, I could make some comments.

1)   Marco's mother is afraid of flying, so they can't visit the Galapagos Islands.

_____

_____

2)   Martha does not have a car, so she has to get up really early to get to work on time.

_____

_____

3)   Henry forgot to unplug his laptop, now the battery is broken.

_____

_____

4)   The weather in Riobamba is very cold, so people have to wear heavy clothes.

_____

_____

4.   Read the information below about the experiences of some Ecuadorian students in New York City. For each sentence given write a corresponding conditional sentence.

1)   Eduardo was driving 80 mph on the freeway and got a speeding ticket.

_____

_____

2)   Lorena visited the new 5th Avenue shopping mall and spent too much money.

_____

_____

3)   Isabel asked a stranger for directions to the Penn Station. She got lost because she was given wrong directions.

_____

_____

4)   Silvia won't be able to see the Empire State Building because she probably won't have enough time.

_____

_____

5. – Read the conversations. Then use the first sentence in each conversation to help you write a summary. Use adjective clauses. Remember to use commas where necessary.

1) A: This article is really interesting.

    B: What is it about?

    A: It discusses the different types of friendship.

    Summary

    _____

2) A: Inés and Maria are not close friends with the Medina.

    B: No. The Medina's interests are very different from theirs.

    Summary

    _____

3) A: I was just laughing to an old picture of my family.

    B: Which one? You have a lot.

    A: You know the one – its shows all your family when you and your brothers were still little children.

    Summary

    _____

4) A: My friend Romeo let me a lot of plants to water.

    B: How come?

    A: He went to Cuenca for two weeks.

    Summary

    _____

PART 2: Inferences

6. - Read each paragraph and answer the inference question that follows.

1) Paula, who loves winter, was getting ready to walk to school. She put on her coat, which her mother just bought, and grabbed her backpack. As she was leaving her mother, who is a nurse, said, "I love you. Be careful."

You can infer that…

a) Paula is in kindergarten or first grade.

b) Paula lives close to school.

c) Paula is never late for school.

d) Paula is excited about going to school.

2) Luis, who is a very punctual person, hurried out of the house so he was not late for work. He wore overalls, which are his uniform, and carried a toolbox with wrenches in it. He hopped in his truck and drove off. The sign on his truck said, "Pipe Masters."

You can infer that…

a) Luis is an auto mechanic.

b) Luis enjoys his job.

c) Luis works as a plumber.

d) Luis is a truck salesman.

3) Cristina, who lives in an apartment building, came out of the elevator. She ran to the curb and held up her arm to hail a taxi. When she hopped in, and said, "Please take me to 345 45th Street."

You can infer that…

a) Cristina´s car is broken.

b) Cristina is going on vacation.

c) Cristina is going shopping.

d) Cristina lives in a large city.

7. - Read each passage below, write your inference and explain your answer.

1) I liked walking next to the horse more than riding in it with my father. If I got tired, sometimes my father would let me ride horseback behind him. In the evening, dad, my brothers and I would sleep in the barn, while mom and my sisters slept in the house.

Who Am I?

_____

_____

2) My father, who is a very important person, did not like to wear his crown. He said it was heavy and made his head hurt. While I did not have a crown, my parents made sure I had a silk dress with gold thread to wear for the coronation.

Who Am I?

_____

_____

3) Pedro, who did not have a job yet, stood at the store counter. It was hard to make a decision. On the one hand, he had just enough money to buy the laptop he wanted so badly. However, he has come to the store to buy his mother's birthday present. If he bought her present, he would have to wait another year to have enough money for the laptop. As he looked at the laptop, he remembered that his mother made his favorite soup when he was sick. He also thought about how proud she was when he won the relay race. His mind was made up.

What do you think most likely happen next?

_____

_____

4) It felt wonderful to be outside, even if only for a little while! All the swings, which were new, were already taken, and a group was playing soccer in the field. Ruben and I decided to use the monkey bars until the teacher called us.

Where Am I?

_____

_____

PART 3: Discussion

8. - Below is an extract from an American textbook for the school children. Read the passage and answer the questions that follow.

American Values in Education

Our school system has developed as it has because the American people, who have settled in the United States, value education highly. Some of the traditional values which have developed over the years are:

1. Public education should be free. There should be no hidden charges to prevent any citizen from receiving a good education at public expense.
2. Schooling, which is indispensable, should be equal and open to all. No one should be discriminated against because of race, religion, or financial status.
3. The public schools, which are majority, should be free of any creed or religion. The schools of the United States are open to all Americans regardless of their religious beliefs. The Supreme Court has held that no special prayer or Bible reading shall be required. However, religious schools, which are sometimes called parochial schools, are permitted outside of the public school system.
4. Public schools are controlled by the state and local governments within which they are located. Local school boards run the public schools under laws passed by the state legislature. The State Board of Education assists with advice and information,

but the actual control is located in the local school district, where the people know the local situation.

5. Attendance at school is compulsory. Parents cannot decide to keep their children out of school. Each state compels the attendance of young people, usually between the ages of 7 and 16.

6. Schooling should be enriched and not just confined to the fundamentals. Most Americans believe that schools should be places where young people can grow in body, mind, and spirit. Athletics, clubs, social events, and creative arts are part of each person's education. Schools should be lively places where individuals are encouraged to develop to their greatest potential.

Discussion

Do you think your country fulfills its educational goals? Does the United States live up to the philosophical ideals listed above? To what extend can a country live up to its educational ideals? Give examples to support your opinions.

ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO

ENGLISH CENTER

Flipped teaching method implementation to improve level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

July 26th, 2016

Martha Lara

POST-TEST

Student's name: _____

PART 1: Grammar

1 - Expressing wishes in present, past and future. Fill in the blanks with the correct form of the verbs in brackets.

1) I regret going to the pool last Saturday because I caught a cold. I wish (go) _____.

2) The weather in Riobamba has been terrible lately. I wish the weather (be) _____ nicer.

3) I love the guitar sound. I wish I (buy) _____ a guitar so I could take guitar lessons.

4) Peter's car broke yesterday. He wishes he (repair) _____ it when the mechanic told him.

5) Mercy is late to class, but she does not have money right now. She wishes she (have) _____ money to take a taxi.

6) Mark is going to the gym every day. He wishes he (compete) _____ in bodybuilding context one day.

2.- I have a very good job. I enjoy what I do, but I wish some things could change. Write what I am thinking, beginning each sentence with I wish.

1) Teachers do not look for training opportunities.

_____

_____

2) Students do not always appreciate the teachers' effort.

_____

_____

3) Some schools do not have the appropriate space and material for an English class.

_____

_____

4) Students do not feel motivated to speak English.

_____

_____

5) English is considered as an optative subject.

_____

_____

3.- Restate the following statements using a conditional construction.

Example: I do not know what really happened. I cannot say anything.
If I knew what really happened, I could give my opinion.

1) Alejandra forgot to charge her cell phone battery, so she could not call her boyfriend to wish him Happy Birthday.

_____

_____.

2) Patrick is always stressed because he does not have enough time to rest.

_____

_____

3) Teenagers take bad decisions in their life because they do not understand the real meaning of freedom.

_____

_____

4) Susan forgot her keys inside the car, so she had to break the door's lock.

_____

_____

4. - Read the information below about the experiences of three English teachers in Cuba. For each given sentence write a corresponding conditional sentence.

1. The taxi driver charged the teachers too much money because they did not know the real money change.

_____

_____

2. Isabel did not check her bag before leaving and she forgot her umbrella at the hotel.

_____

_____

3. They took a bus from La Havana to Holguín because they did not know the trip was 14 hours.

_____

_____

4. Now, the teachers do not keep in touch because they work in different Universities.

_____

_____

5. **– Read the conversations. Then use the first sentence in each conversation to help you write a summary. Use adjective clauses. Remember to use commas where necessary.**

1) A: Look! That girl dropped her wallet.
   B: Who?
   A: The one you were just talking to.

Summary:

_____

_____

2) A: Susan and Joel's parents are getting divorced.
   B: How come?
   A: It seems that their goals are different now.

Summary:

_____

_____

3) A: The back and read sneakers looked the best.
   B: Which ones?
   A: The ones on sale.

Summary:

_____

_____

4) A: Erin and Nikki are meeting us at Abuela Rosa Café.

   B: Is that the one by the Condamine?

   A: Yes. We have been there before.

Summary:

_____

_____

PART 2: Inferences

6   - Read each paragraph and answer the inference question that follows.

1) My master still went to school every day. When he had visitors he would continue to complain about his job. I still had nothing to eat so I did not become very fat, but I was healthy enough. I did not become sick because I took things as they came. I did not try to catch rats. I still did not have a name, but you cannot always have what you want. I resigned myself to continue living here at the home of this school teacher.

Who am I?

_____

_____

What clues suggest this conclusion?

_____

_____

2) As I walked in the door, I was amazed at the beautiful colors and smells. I knew it would be hard to decide what I would buy with my $3. The chocolate truffles looked delicious, but they were expensive. The jelly beans were not only cheaper, but so colorful! With so much to choose from, I knew I would be here a long time.

Where am I?

_____

_____

Explain your answer

_____

_____

3) Diana was carrying a large clothes basket from the bedroom down the stairs to the laundry room. The basket was very heavy, so she was struggling. She wished her younger brothers would help her. Instead, they were playing. She had heard them throwing a baseball in the house earlier. She had told them to go outside. They had gone to the backyard, but they had left the baseball on the stairs.

What happens next?

_____

_____

What clues suggest this conclusion?

_____

_____

4) Peter put on his shorts and t-shirt ready for a hot day in the park. Before he left, his Mom covered him in sun screen and packed a bottle of water in his backpack. 1. What season of the year was it?

What season of the year was it?

_____

_____

Explain your answer

_____

_____

PART 3: Discussion

7. - Read the passage below. Do you agree with the highlighted statement "the better quality relationships you have; the more likely you are to be happy"?

A good friend is someone who…
Why good friends are so important

A lot of research has been done looking into the benefits of friendship, and the research has found exactly what you might expect. It turns out that the better quality relationships you have; the more likely you are to be happy. Therefore it's good for your happiness to be a great friend to someone and to have a group of good friends supporting you. But it can be hard to pinpoint exactly what makes a good friend.

Signs of a good friend

Friends will come and go in your life, but more important than how long a friendship lasts, is that a good friend will love you for who you are. The way you can tell the sign of a good friend is by looking at the actions they take –big and small – that show they care.

Some common signs of a good friend include

- someone who will support you no matter what

- someone you can trust and who won't judge you

- someone who won't put you down or deliberately hurt your feelings

- someone who is kind and has respect for you

- someone who will love you because they choose to, not because they feel like they should

- someone whose company you enjoy

- showing loyalty

- being trustworthy and willing to tell you the truth, even when it's hard

- someone who can laugh when you do

- someone who is willing to stick around when things get tough

- someone who makes you smile

- someone who is there to listen

- someone who will cry when you cry.

Annex 2.4. Satisfaction Survey

ESCUELA SUPERIOR POLITÉCNICA DE CHIMBORAZO

ENGLISH CENTER

Flipped teaching method implementation to improve level fourth students' high order thinking skills at Escuela Superior Politécnica de Chimborazo during the academic period March 2015-July 2015.

Grammar Video Lessons use in the Flipped Classroom Satisfaction Survey

The objective of this survey is to know how effective was the use of grammar video lessons in the training of independent learners.

Please put an X in the option which best describes your opinion.

1) **Using video lessons to introduce new grammar content is an effective technique.**

   Strongly disagree _____

   Disagree   _____

   Neither agree nor disagree _____

   Agree

   Strongly agree _____

2) **How useful were the video lessons to learn grammar?**

   Very useful _____

Useful _____

Somewhat useful _____

Not very useful _____

Not at all useful _____

3) **How would you rate the videos content?**

Very good _____

Good _____

Fair _____

Poor _____

Very Poor _____

4) **How would you rate the videos quality (audio, image)?**

Very good _____

Good _____

Fair _____

Poor _____

Very Poor _____

5) **What is the average of times you watched the video lessons?**

1 – 2 _____

3 – 5 _____

5 or more _____

6) **The video lessons were enough to understand and apply the grammar contents.**

Strongly Agree _____

Agree _____

Neither agree nor disagree _____

Disagree   _____

Strongly disagree _____

7) How useful do you consider the WSQ chart was to understand the video lessons grammar content?

Very useful _____

Somewhat useful _____

Not very useful _____

Not at all useful _____

8) Based on your experience would you recommend the use of grammar video lessons in the English classroom?

Definitely will _____

Probably will _____

Might or might not _____

Probably will not _____

Definitely will not _____

9) Overall, how satisfied were you with the grammar video lessons?

Very satisfied _____

Satisfied _____

Somewhat satisfied _____

Not at all satisfied _____

10) What percentage of the activities included in the video lesson did you develop?

100%   _____

70% - 99% _____

50% - 69% _____

Less than 50% _____

11) **To what extend did the grammar video lessons contribute to the development of the activities in class in an autonomous way?**

Autonomous _____

Moderately autonomous _____

Neither autonomous nor dependent _____

Moderately dependent _____

Dependent _____

ANNEX 3. EVALUATION INSTRUMENTS

Annex 3.1. Discussion Forums Rubrics

TABLE N° 3.1.1. DISCUSSION RUBRIC

Criteria	Unacceptable 0 Points	Acceptable 1 Point	Good 1.5 Points	Excellent 2 Points
Quality of post	No posting.	Responds with the minimum effort. (e.g. "I agree").	Appropriate comments, contributes with valuable information with minor mechanics errors.	Thoughtful, reflective, and clear comments formatted in an easy to read style that is free of grammatical or spelling errors.
Frequency	Does not participate.	Participates once.	Participates twice.	Participates more than two times.
Relevance of post	No posting.	Posts topics which do not relate to the discussion content; makes short or irrelevant remarks.	Posts topics that are related to the discussion content.	Posts topics related to discussion topic; prompts further discussions of topic.
Content contribution	Posts information that is off-topic, incorrect, or irrelevant to discussion.	Repeats but does not add substantive information to discussion.	Posts information that is truthful; lacks full development of concepts or thought.	Posts truthful, reflective, and substantive information.

Annex 3.2. WSQ (Watch, Summarize, Question) Chart

TABLE N° 3.2.1. FLIPPED CLASSROOM - WSQ CHART

Name: _____   **Date:** _____

Watch the video	Video Title:
Take notes	Use a graphic organizer to organize your notes
Summarize the video	
Give examples	
Questions you still have	

Annex 3.3. "Think" Lesson Plans and Grammar Video Lessons