

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

UNDERGRADUATE RESEARCH



TO WHAT EXTENT DO TEACHING STRATEGIES USED BY THE TEACHERS IN THE SEMESTERS IV, VI, AND VIII OF THE B.A IN THE TEACHING OF ENGLISH INFLUENCE THE CRITICAL THINKING SKILLS DEVELOPMENT OF STUDENTS FROM THE FOREIGN LANGUAGES DEPARTMENT AT THE UNIVERSITY OF EL SALVADOR?

**IN ORDER TO OBTAIN THE DEGREE OF
B.A IN THE TEACHING OF ENGLISH**

PRESENTED BY

AMAYA TORRES, OSCAR GILBERTO	AT07026
GIRÓN GUILLEN, GUADALUPE	GG07054
RENDEROS DE JUAREZ, KARLA JAZMIN	RD08008

ADVISOR

MsE. CESAR AUGUSTO GUZMÁN

SAN SALVADOR, EL SALVADOR, 25 DE FEBRERO DEL 2014

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THE DEGREE PROCESSES**

MsE. CESAR GUZMÁN
ADVISOR

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Introduction

Students who are exposed to teaching strategies have a better chance of successfully developing their own set of critical thinking skills. Without fostering these skills in the classroom, students have little opportunity to develop their ability to think critically when sheer memorization is the expectation (Baildon&Baildon, 2008; Tiwari, Lai, So, & Yuen, 2006). Its mean, that the teaching strategies afforded the students the opportunity to provide insight and reasoning into their comprehension, while cultivating their critical thinking skills. However, Critical thinking has been considered the focal point missed in many students' educations. Students are taught memorization with little time left for the development of critical thinking skills which allows for a deeper understanding and a richer experience. As a result, the lack of critical thinking skills utilized within the classroom greatly diminishes the students' chance for success (Irfaner, 2006).

The purpose of this research was to identify gaps in the students' critical thinking development and the teaching strategies used by the teachers in the classroom, also, determine the teachers ability not only to transmit their knowledge through the material but also how the students understand the material enough to create an insightful question showcasing their comprehension of the content. A secondary motivation of this research was to determine if the teaching strategies used by the teachers are focused to the student's critical thinking development.

This final report presents all the aspects concerning the research carried out by the team of undergraduate students of the B.A in the teaching of English. The topic that the team investigated about is "Critical Thinking Skills Development" Since this was an exploratory research, the team intended to explore how the teaching strategies used by the teachers in the semesters IV, VI and VIII of the B.A in the teaching of Englishinfluenced in the development of the students' thinking abilities. Indeed, the main objective of this study was to determine the extent to what the teaching strategies used by the teachers in the semesters IV, VI and VIII of B.A in the teaching of Englishinfluencedin the development of students thinking abilities. There is no doubt that university students are expected not to be passive thinkers, accepting everything they are told, but rather, critical ones who

analyzed, question and draw reasonable conclusions about the issues present in the society. However, in the reality, many university students are not prepared to face such issues because of the lack of instruction they have had during their learning and teaching process.

The team carried out the research during the semester II-2013 in the Foreign Language Department in order to know whether the teaching strategies used by the teachers in the semesters IV, VI and VIII of the B.A in the teaching of English would be useful to overcome this problematic. The sample treated was composed of 225 students who represent the 30% of the total population, who were taking from the different content subjects coursed in the semesters IV, VI and VIII of the B.A in the teaching of English, and 16 teachers who were teaching the different subjects taken at the same time. The research has three stages: the diagnostic test, which was taken by students, meaning 30% of the students per subject in the semesters IV, VI and VIII of the B.A in the teaching of English in order to measure their critical thinking skills development. Besides that, the team passed a face to face interview to the teachers, who were teaching the different courses during the semesters IV, VI and VIII. The interviews were recorded in order to keep a track of their opinions and determine whether the teaching strategies used by the teachers were or were not oriented to develop critical thinking skills. Finally, the team used checklist that was completed by the observers focused in the teaching strategies used by the teacher in 19 groups involved in the research, this was done in order to explore how the teaching strategies used in the classroom influence in the developing students' thinking abilities. The results were acceptable for the team since according to the data collected does exist a slight influence of the teaching strategies used by the teachers in the classroom and the students' critical thinking skills development. But probably as teachers had not found the best link between the material and how to use Critical Thinking abilities, in order to have students not only learn or memorize the material but also to adapt it to the real world.

I. Statement of the Problem

Developing critical thinking skills on students has been considered one of the primary goals in the educational system of El Salvador for them to play a good role both as professionals and as citizens within society. Certainly, this is explicit in the general Educational Law in its article 3, literal “d” which states that “the national education has the following objective: To foster the creative imagination, the habits of thinking and planning, the persistence to achieve the goals, the determination of priorities and the development of critical thinking. It can be seen that Salvadorian education is oriented toward promoting critical thinking within the classroom for students to be better prepared to deal with real issues, Oliver & Utermohlen (1995) see students as too often being passive receptors of information. Students need a guide to weed through the information and not just passively accept it. Students need to "develop and effectively apply critical thinking skills to their academic studies, to the complex problems that they will face, and to the critical choices they will be forced to make as a result of the information explosion and other rapid technological changes" (Oliver & Utermohlen, p. 1).

However, in a real scenario college students do not actually accomplish this objective in their academic preparation since critical thinking is hardly implemented in the classroom. According to the report of the Association of America Colleges and Universities (AACU) as few as 6% of colleges graduates were not prepared in the key areas such as critical thinking, writing and general knowledge. Similarly, college students in El Salvador overlap in this issues even though they have already reached a high educational level they lack the skills of thinking, interpreting, analyzing, or evaluating the reality of our society. Mendelman (2007) claimed that: “teaching critical reading is one of the most important and most difficult burdens of the classroom.” Besides that, several researchers such as: (Landsman & Gorski, 2007; Sandholtz, Ogawa, & Scribner, 2004; Sheldon & Biddle, 1998; Wong, 2007) suggested that the current educational trend to standardize curricula and focus on test students just for measuring their knowledge and it limited instructors’ ability to address critical thinking in the classroom. After knowing the entire controversial situation stated before, one question arises:

“To what extent do teaching strategies used by the teachers in the semesters IV, VI and VIII of the B.A in the teaching of English influence the critical thinking skills development of students from the Foreign Language Department at the University of El Salvador?”

A. Significance of the problem

To learn in college, students must process information. The information comes from a variety of sources, including the students' own knowledge, textbooks, lectures and from discussions with other students. No intellectual growth takes place when students seek only to validate their own knowledge or to simply accept information from others at face value. However, Critical thinking stimulates intellectual growth by expanding a student's knowledge based in an informed and reasoned manner. Indeed, according to Clement (1979) “we should be teaching students how to think, instead we are teaching them what to think” (p. 1). Also, Norman (1981) noted that “it is strange that we expect students to learn, yet seldom teach them anything about learning” (p. 1). However, the education system fails to generate a well-rounded student will the necessary critical thinking skills to survive in the classroom and outside world. Without the ability to think on their own students will only become puppets who just memorized information, when the main goal of teaching must be to encourage students to become receptive, perceptive, reflective, critical, and question inconsistencies within the lessons presented (Edmonds, Hull, Janik, & Rylance, 2005; Irfaner, 2006; Sezer, 2008; Slavin, 2012; Webster, 1994). Furthermore, the students' input is a necessity for educators as they must craft creative ways in which to explore and discuss issues, ideas, and concepts in the classroom while facilitating real connections to the material (Chareka, Leyte, & Mills, 2010). Pointed in the real need for students not only to read texts, but also to internalize what they read and produce critical thinking.

However, students from the Foreign Language Department are seldom exposed to promote critical thinking skills development while they are being taught. The lack of this promoting becomes a hurdle for them and as a result they tend to become passive readers, accepting what is presented in the texts and avoiding going beyond their own point of view. Owing to these circumstances the team carried out this research so as to determine students' critical thinking skills development through the exposure to the teaching strategies used by

the teachers getting a better understanding of the importance of the critical thinking skills development in the classroom. In doing so, professors can realize the significance of promoting it since the very beginning of the major. Acquiring the skills for critical thinking takes time but it is crucial for college students to develop these abilities in order to succeed not only in their education but also in their real life. Therefore, the content is important however the process of how students learn the material is equally important. As a result, understanding the connection between the content presented and the need to promote the students' ability to deduce the information is a vital component to encourage teaching strategies in the classroom (Dewey & Bento, 2009; Lucariello, 2012).

B. Objectives

General Objective

- To determine students' critical thinking skills development through the exposure to the teaching strategies used by the teachers in the semesters IV, VI and VIII.

Specific Objectives

- To measure the students' critical thinking abilities development during the semesters IV, VI and VIII of the B.A in the teaching of English.
- To explore students' critical thinking skills development in the semesters IV, VI and VIII of the B.A in the teaching of English.

C. Research Question

“To what extent do teaching strategies used by the teachers in the semesters IV, VI and VIII of B.A in the teaching of English influence the critical thinking skills development of students from the Foreign Language Department at the University of El Salvador?”

D. Subsidiary Questions

Is the literature used by teachers in the semesters IV, VI and VIII oriented to critical thinking skills development?

Are the teaching strategies used by the teachers in the semesters IV, VI and VIII focused to the Critical Thinking Skills Development of the students?

How can the critical thinking skills development be measure in the students?

E. Definition of key terms

Critical thinking:

According to the National Council for Excellence in Critical Thinking defined Critical Thinking as “the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (Scriven & Paul, 2007, p. 1).also, the process of “thinking about thinking” as defined and originally purposed by Flavell (1979). Critical thinking skills are important because they enable students “to deal effectively with social, scientific, and practical problems” (Shakirova, 2007, p. 42). Simply put, students who are able to think critically are able to solve problems effectively. Merely having knowledge or information is not enough. To be effective in the workplace (and in their personal lives), students must be able to solve problems to make effective decisions; they must be able to think critically. “In simpler terms, critical thinking is taking the knowledge you've learned and applying it to the situation at hand. College professors often give assignments in an effort to develop these critical thinking skills in students.

Teaching strategies

According to Strasser (1964); “teaching strategy is a generalized plan for a lesson or lessons which include structures, desired learner behavior, in terms of the goals of instruction, and an outline of tactics necessary to implement the strategy”.

II. Theoretical framework

The primary goal of higher education is to develop students' critical thinking skills for them to play a good role both as a professional and as a citizen within society. In El Salvador, most of the students are immature in critical thinking because their prior learning habits and experiences have been mainly oriented to reproduce what is taught. Though up to university levels it is a little challenging for teachers to change these habits on the students, the use of teaching strategies in the classroom can help to promote critical thinking. Furthermore, by means of this study, the team intended to make students and teachers aware of the importance of critical thinking skills development on the students and the many advantages that teaching strategies provide within and outside the classroom.

In this way, specific teaching strategies were taken into account in the English major. Besides that, the different cognitive skills that made up critical thinking taking into account the followings: interpretation, analysis, evaluation, inference, and explanation. Moreover, there were described four different teaching strategies used to promote critical thinking in the classroom and it was argued that teaching strategies provide the necessary tools to treat critical thinking skills development. Finally, this study was supported by three different theories which inform the entire research. The first one is called "the reader response-theory" by Stanley Fish. This theory which emerged in the 1960's focuses on the reader's point of view. According to Fish there not exist a single interpretation within a text but students' background plays an important role to give meaning to the text and therefore allow students to develop their critical thinking abilities. The second one involves "content-based instruction" in which content is included with the purpose of developing critical thinking. The third one is called "Active learning instruction" by Bonwell and Eison. This theory which emerged in the 1991's suggests that students must do more than just listen: They must read, write, discuss, or be engaged in solving problems. It also sees the educator as a facilitator who promotes the teaching strategies needed to encourage the active learning. In order to have a deeper understanding of what each of them encompasses a brief description of them will be provided.

A. Critical thinking skills can be developed in the classroom making use of teaching strategies

In order to develop critical thinking skills, there are four different strategies that can be applied in the EFL classroom. These strategies have been collected by many teachers whose main aim has been to promote students' critical thinking. Classroom Discussion and debates, Conference Style Learning, Written Assignments, and Dialogues are helpful to teach effectively critical thinking (*Teaching Psychology*, 1995).

Each of them provides the necessary tools in the class to make students think and reflect about what they read. In the following paragraphs there will be described the characteristics of each of them.

Classroom Discussion and Debates

Discussion and debates create enough tension to activate thinking processes. One technique that is useful to promote it is "the negotiation model" developed by Bernstein (1995). In this model, students are faced up to different interpretations of a single text which are compelling and controversial. In this way, students cope with the tension when discussing them handling with a lot of ideas at the same time. In fact, feeling this tension enhances students' opportunities to foster critical thinking skills.

Conference Style Learning

In the conference style learning the teacher does not "teach" the class in the sense of lecturing, because, he is a facilitator in the classroom. Therefore, Students must thoroughly read all required material before class. This kind of readings should be able to be understood by students, but it must also be challenging. The class consists of the students asking questions to each other and discussing these questions. The teacher does not remain passive, but rather helps "direct and mold discussions by posing strategic questions and helping students build on each others' ideas" (Underwood & Wald, 1995, p. 18). Fosters critical thinking, defined as the ability to evaluate inferential reading texts and the confidence to listen to one's own intuitions about what matters, and the sensitivity to recognize and evaluate the goals of others from diverse backgrounds. To benefit from conference-style learning, students must read assigned materials carefully, practice

formulating analytic questions, think aloud about challenging issues, and learn to respect their own intuitions and those of others. The benefits of conference-style learning far outweigh its potential risks, as students learn to practice critical but considerate thinking. (Psyc INFO Database Record (c) 2007 APA, all rights reserved)

Writing Assignments

Written assignments allow students to explore the different aspects of a topic. Wade (1995) points out that "with written assignments, an instructor can encourage the development of dialectic reasoning by requiring students to argue both [or more] sides of an issue". Certainly both, in-class and out-of-class assignments, help significantly in expanding students' thinking processes. But then, assignments whose purpose is to promote thought need to be short and be focused on the aspect of thinking. This will provide the students with a good environment to analyze carefully the problems that they may encounter in real life and be able to form reasonable decisions.

Dialogues

Robertson and Rane-Szostak (1996) presented written dialogues as a very useful method to stimulate discussion in the classroom. In this method, students are organized in small groups and given text which they are asked to analyze. What they have to do is to identify the different viewpoint expressed in the dialogues carried out in the piece of text. Moreover, they have to look for biases, alternative interpretations, and errors in reasoning. Then, they must decide on the most reasonable view and explain their analysis and conclusions to the rest of the class. In this way, students are practicing their thinking processes.

Another method proposed by Robertson and Rane-Szostak (1996) is the spontaneous group dialogue. When using this method, the class has to be divided in five groups to argue about the content. The members of the first group must take different roles in the discussion. For example, one member can be the leader; another one can be the information giver, the opinion seeker, or the disagreement. The other four groups are observers. While the first group performs the dialogue, they are in charge of determining what roles are being played by whom, identifying biases and errors in thinking, and

evaluating reasoning skills. In short, this method encourages the students to see critical thinking in the form of dialogue.

All these strategies have been described to be used as a powerful vehicle to lead students toward the development of their critical thinking abilities. According to Jaffar (2004) “it is useful to think of a text as an actor, which uses different techniques to coax you into its point of view.” So each of these strategies seeks to prepare the students with the necessary tools not to believe and/or accept whatever they are presented. Totally the contrary, applying them will encourage them to be inquisitive and query evidence. Loving, Wilson and Oermann (2000) assure that “thought develops with practice and evaluation over time using multiple strategies”. Taking into consideration that the main purpose of education is higher-order thought outcomes, activities that promote students’ critical thinking should be included as often as possible into the classrooms.

B. Critical thinking involves the use of five cognitive skills

There has been discovered that critical thinking involves the use of various skills. The number of skills involved differs depending on the authors’ point of view. To illustrate, Facione’s study (1990) concluded that at the very core of critical thinking are interpretation, analysis, evaluation, inference, explanation, and self- regulation. Nevertheless, we are going to base our research in five of the skills previously mentioned, namely, interpretation, analysis, evaluation, inference, and explanation. Then, In order to understand better what each of these skills encompasses, a brief description of each of them is presented.

Interpretation

Interpretation refers basically to a personal interpretation of a text using your own ideas to discover the meaning. Then, it can be said that in interpreting we are urged to comprehend and express the meaning or significance of the words of a text according to our own perceptions of the world. Facione’s study identifies three sub-skills involved in interpretation which are categorization, decoding significance, and clarifying meaning. By making use of this skill, students will easily understand the meaning of any text.

Analysis

Analysis is the skill that simply covers the literal understanding of the text. Indeed, it requires the reader to identify the intended and actual message that the writer wants to express among statements, concepts, description without going beyond the words. Analysis is said to include as sub-skills examining ideas, detecting arguments, and analyzing arguments. For example, in a text where it is discussed about war, the analysis will be done about the characteristics of war only. As it has been shown, analyzing a text doesn't demand too much effort on the side of the student.

Evaluation

Evaluating a text requires the learners to validate the source of the information presented. It is "to assess the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion" (Facione, 1990). All texts are representations of the writer's perspective. Therefore, such representations can be questioned by anyone. When evaluating we have to take into account the backgrounds of the writer to understand his point of view. Based on that, we can recognize the aspects that make a given writer's work a credible account of life. This is mainly what evaluation involves determining the credibility of the content of texts.

Inference

In inference, students are able to predict and to draw conclusions based on different clues found in the texts. For instance, most of the texts give the reader the freedom to make hypothesis about what may happen with the content. Besides, before reading, readers are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included. "Inference teaches how to think about what you find and relate facts to one another in a logical and coherent way" Jaffar (2004). In this way, imagination must be used to foretell what is not stated or known yet.

Explanation

Explanation refers to being capable to express and justify one's reasoning. Facione (1990) defines explanation as the ability "to state the results of one's reasoning; to justify that reasoning in terms of the evidential, conceptual, methodological, criterion, logical and contextual considerations upon which one's results were based; and to present one's reasoning in the form of cogent arguments". Then, readers are able to express with their own words what they have understood from the text. Of course, such understanding must be supported by evidence to let others know accurately what occurred in the text.

C. The Reader-Response Theory

The reader-response theory sees the reader as the one who reconstruct the meaning of the text. Certainly, Fisher considers that the meaning of texts does not inhere in the text itself but rather in the readers' perspective of the world. This, of course, will have been influenced by their prior experiences in life. Taking this into consideration, it can be deduced that according to this theory, there's neither a correct nor a wrong interpretation for a specific text. The team strongly believes in this owing to the prior experiences of teachers who want to impose their own thoughts and don't allow students to think by themselves. The team doesn't consider it should be the role of the teacher; rather they should apply the teaching strategies needed to make up students build their own knowledge while learning a text. Based on this theory, it can be known that students are the ones who make their own individual knowledge of a text according to their background.

D. Content Based Instruction

The second one is called "content-based instruction" can be used for different purposes for example it is currently used to teach the language indirectly through a deep immersion in a subject taught in the target language. However, since content-based instruction makes use of extensive readings, it allows students to fully develop their critical thinking abilities. In this way, students can go beyond of what is stated in a text by evaluating and analyzing the content presented. According to Schneider (2002), each lesson, needs to incorporate ways in which the students can solve the issue(s) presented by

discussions and written assignments that will focus on promoting thought and the conference style learning and dialogues to see issues beyond their own perspectives. While ensuring each lesson is a basis to encourage critical thinking, it also allows the teacher to use such strategies throughout the day in general. Each time a student needs to stop and think about something, this helps to build their aptitude to think critically. Additionally, providing students with lessons and an environment that entices them to use their skills provides the practice they need to build their proficiency. Furthermore, ensuring the classroom environment with a positive atmosphere will allow the students to feel comfortable to think out loud without fear of ridicule or mockery by their peers or their teacher. Mainly, thinking and content are marriages in which critical thinking takes shape, thereby, lessons which are devoid of thought only prime the students for test taking (Carr, 1990). Due to these benefits, the team considers content-based instruction as a good mean to enhance students' opportunity to develop their thinking skills through teaching strategies used by the teacher to teach the content in the ESL classroom. Certainly, students partook in the teaching process where they spoke up their mind whenever they were exposed to different texts in the classroom. Furthermore, Critical thinking is a necessary skill all students need to develop in order to fully understand information presented in lessons (Lambert & Cuper, 2008).

E. Active Learning Theory

The Active Learning instruction by Bonwell and Eison (1991) suggests that students must do more than just listen: They must read, write, discuss, or be engaged in solving problems. Most important, to be actively involved, students must be engaged in such higher-order thinking tasks such as analysis, synthesis, and evaluation. Within this context, it is proposed that teaching strategies promoting active learning must be defined as instructional activities involving students in doing things and thinking about what they are doing. The use of these strategies in the classroom is vital because of their powerful impact upon students' learning.

The modification of traditional lectures (Penner 1994) is one way to incorporate active learning in the classroom. For examples: Discussion in class is one of the most

common strategies promoting active learning with good reason. If the objectives of a course are to promote long-term retention of information, to motivate students toward further learning, to allow students to apply information in new settings, or to develop students' thinking skills, then discussion is preferable to lecture (McKeachie et al. 1996). Several additional strategies promoting active learning have been similarly shown to influence favorably students' attitudes and achievement. As a result, Active learning suggests that learners work collaboratively by discussing materials.

The goal of each teacher is to ensure their students learning. Therefore, understanding how their students envelop and process the information presented in the lessons is crucial to their presentation of material and facilitation of critical thinking skills. Using the student's innate curiosity and the teaching strategies connections through the incorporation of critical thinking will enhance the lesson (Rozgay-Miller, 2009).

The three theories that back up this research made possible the implementation of the study. Firstly, the active learning instruction theory gave the teacher the freedom to make his own teaching strategies used to teach the content presented within a text. In doing so, the students did not specifically accept the thoughts of the teacher or how he or she sees the information, rather did he question the apparent truth stated in a piece of text and went beyond of it. Secondly, the content-based instruction exposed students to extensive readings enhancing their chance to develop their critical thinking skills through the different strategies. Thirdly, the active learning instruction encourages the educator to implement specific strategies which engage students to achieve an active learning in the classroom. Consequently, a positive way to distinguish the growth of critical thinking skills within the classroom is to empower students to take a more active role. Therefore, using teaching strategies to promote an active learning and used the content to transmit the information implementing specific techniques in the EFL classrooms will benefit greatly students' development of thinking abilities.

III. Type of the Study

Exploratory

The type of study that was used is the exploratory one. The team decided to use it for measuring how teaching strategies (independent variable) influence in the development of critical thinking skills (dependent variable). So, the variable that was observed by the team was “teaching strategies” that was done in order to explore how the teaching strategies used in the classroom influence in the development of students’ thinking abilities. In order to achieve this, the classes where the observations were carried out were the subjects taught in the courses IV, VI and VIII in the semester II-2013. Furthermore, for achieving this, the team choose a representative sample for each groups then, the sample involved in the research were given a critical thinking test to measure their critical thinking skills and all the teachers in charge of teaching the subjects involved in the research were need to answer a face to face interview designed by the team.

IV. Research Design

Non-Experimental

The research design that was used is the non-experimental one. The team decided to use it because the research only intended to explore how teaching strategies influence in the development of students’ critical thinking skills. Therefore, it was not necessary to use an experimental design because the team was not interested in making any relationship teaching strategies. Having this clear, the researchers decided to observe the teaching strategies implemented inside the classroom and how the students reacted to them. In fact, Tung & Chang (2009) also support this idea since they assure that teaching strategies does help the weak thinkers improve their overall critical thinking. All these characteristics that the study comprises made it a suitable research.

V. Sampling Procedures

The team carried out this study with the students from the semesters: IV, VI and VIII who belonged to the B.A in the teaching of English. This population had a number of 964 students enrolled in the different subjects served in the semesters stated above. Then, the total population was given the 30% for each group, meaning 225 students taken as sample. In order to ease the selection of the sample the team made use of the random sampling technique, which was carried out by developing a raffle using small slips of paper. In order words, all students received slips of paper, but just some of them were marked according to the number of the sample needed, what means that the students who got the lucky paper were the chosen ones for the sample. Moreover, all the professors in charge of the target subjects were face to face interviewed to know their opinion regarding the importance of applying the adequate teaching strategies for developing critical thinking skills on students. Finally each group per subject was naturally observed to explore whether the teaching strategies used by the teacher in the classroom were or were not focused in the students' critical thinking abilities development.

VI. Methods and Instruments of Data Gathering

In order to collect the necessary data to answer the research question, the team made use of mixed data collection methods since, the research required a creative combination of both quantitative and qualitative methods to highlight strength and overcome the limitations inherent in each one. Thus, mixed methods allowed the team to explore the setting through quantitative and qualitative ones. As a result, the team made used of three useful instruments which are: a Critical Thinking test, (quantitative method) and face to face interviews and checklist (two qualitative methods).

The test was administered to all of the students involved as a sample. This was intended to measure the main critical thinking skills that university students should apply in solving real life issues, at the end, a grade could be given to each exam according to the number of correct answers they got. On the other hand, the face to face interviews were given to the sample teachers, who were teaching the different courses during the semesters

IV, VI and VIII. The objective was to know the teachers' opinions about the use of the different teaching strategies and its importance in the development of critical thinking skills in the students. Besides that, the checklist was completed in the classroom where the sample was taken. For a better understanding of the administration of the three instruments, a thorough description of each will be presented.

A. Critical Thinking Test

The students took this test. They took it at the beginning of the research to measure their current level of thinking abilities. Regarding the content of the test, it is worth mentioning that the team considered the test valid in that it certainly measured critical thinking skills. In fact, Facione's study (1990) concluded that at the very core of critical thinking are interpretation, analysis, evaluation, inference, explanation, and self-regulation. Then, the Critical Thinking Test was divided in four different categories, namely, inference, deduction, interpretation, and evaluation of arguments. As it can be seen, the test measured critical thinking skills. First, it is presented how the whole exam looked and then it is described each of the sections that composed the test.

As it is noticeable, the exam is divided by sections which the team recognizes in order to know what skill was evaluating each statement and, this of course, facilitated the way in which it was analyzed the data after it was collected. A grade was given to each exam according to the number of correct answers they got. However, it was needed to pilot the test to be sure about some difficulties that this exam would have. (See annex 1)

B. Pilot Test

The team piloted successfully the Critical Thinking Test that was used to measure students' thinking abilities. In fact, three of the students that were part of the population actually took the exam before it was administered to the target students. Only after doing so, the team realized about some difficulties that this exam had. Such problems made difficult the implementation of the exam. Consequently, the team decided to make some

changes to the whole structure of the exam in order to improve the instrument. All the changes that were made to the exam are described in this section.

The problems that the exam presented were related to the content of the exam, the instructions, and the format of the answers. Regarding the parts of the exam, originally, the exam was composed of five parts, namely, inference, recognition of assumptions, deduction, interpretation and evaluation of arguments. However, the first part, that is, inference, was found difficult to solve for the students. They could not understand clearly the statement from which were derived the first four items; therefore, they could not answer them. Because of this, the team decided to eliminate this part of the test. The other difficulty concerned the instructions given in each section. The descriptions of the skills were too long, so they took too much time to be read. And actually what the students needed to do was to apply the skills not to learn what they were about. Based on that, such instructions or descriptions were also eliminated. Lastly, it was realized about the necessity of classifying the answers with letters and enumerating the items in order to facilitate the coding of the data at the end. These are the features that were modified after the pilot test.

All in all, the team benefited greatly from the pilot test. The exam became shorter, and simpler. In the original version, it had seventeen items. But after excluding the first section, there were just thirteen items left. Of course, this did not affect the validity of the exam since the second section, the one that became the first one at the end, also measured the skill of inference. Furthermore, by eliminating the long descriptions that followed each section, the exam became less tiring and confusing as well. The original and final versions of the Critical Thinking Test are annexed to see clearly the changes that were done. Without a doubt, piloting the test made a very important contribution to the improvement of the instrument. (See annex 2)

B. Checklist

The second instrument that was necessary to use was the Checklist (Naturalistic Observation form) that was intended to explore the setting where the teaching strategies were being used and how they influenced students' thinking abilities. The team decided to

use this instrument since it involves observing and recording the variables of interest in the natural environment without interference or manipulation by the researcher. Although it was important to mention that this checklist was completed only in some of the sample groups due to the lack of time. The members of the team were in charge of the developing this observation. The observation lasted one class in each group in which the team collected the necessary information through checklist previously designed. Baildon & Baildon, (2008); Tiwari, Lai, So, & Yuen, (2006) points out that “Students who are exposed to teaching strategies have a better chance of successfully developing their own set of critical thinking skills. Without fostering these skills in the classroom, students have little opportunity to develop their ability to think critically when sheer memorization is the expectation”. Indeed, Classroom Discussions and debates, Written Assignments, and Dialogues were helpful to teach effectively critical thinking (*Teaching Psychology*, 1995.) That is why the team needed to complete the checklist through the observation of these specific teaching strategies implemented in the classroom by the teachers in order to develop the critical thinking skills. To ease the observation and analysis, the team designed and implemented the following checklist to serve as a guide. (See annex 3)

C. Face to face Interview

The third instrument that was necessary to use was a face to face interview since it intended to know the teachers’ perspective and knowledge about the importance and necessity to use teaching strategies aimed to the students’ critical thinking abilities development. That interview was designed by the team and administered orally to all the teachers, who were teaching the different courses during the semesters IV, VI and VIII. Besides, the interviews were recorded in order to keep a track of their opinions and determine whether the teaching strategies used by the teachers were or were not oriented to develop critical thinking skills. According to Chareka, Leyte, & Mills, (2010) “The students’ input is a necessity for educators as they must craft creative ways in which to explore and discuss issues, ideas, and concepts in the classroom while facilitating real connections to the material”. In doing so, professors can realize the significance of using teaching strategies focused in the critical thinking skills development. To ease the interview, the team designed and asked the following questions to serve as a guide. (See annex 4)

VII. The Coding of the Data

The team used different data collect instruments for instance: Critical Thinking Test, Checklists and Face to face Interview. First at all, after the team got the data scores of the test, the data was organized carefully. Being the test composed of thirteen multiple choice answers, the answers were represented by letters. To illustrate: from question 1 to 10, a) referred to “yes” and b) to “no”. However, the three last questions, which are 11, 12, y 13, a) are represented with “strong” and b) “weak”. The data collected were organized under four different categories which were recognition of assumption, deduction and analysis, interpretation and evaluation of arguments. Then, the first four questions were cataloged under the skill of evaluation of assumptions. From questions 5 to 7 corresponded to the skills of deduction and analysis. The skill of interpretation was measured in questions 8 to 10. Finally, the last skill evaluated is evaluation of arguments which was measured in question 11 to 13. Second at all, the team designed a checklist being the this composed of sixteen statements; the statements are divided in two groups. To illustrate from statements 1 to 7 referred to students’ assessment and from 1 to 9 referred to teachers’ performance. Also each statement was assigned three different values such as: *always*, *sometimes* and *never*. Every time Students and Teachers exhibit specific behavior, the observer put a tally mark. Finally, after the team got the data through face to face interviews, the data was analyzed carefully. Being the interviews designed with ten open questions, from question 1 to 2 were made up general. However, for the six last questions, which are 3, 4, 5, 6, 7 and 8 were make up more specific. This was the form in which the data was presented.

VIII. Data Analysis

After having collected all the necessary data to answer the research question of this project, the team presents the results and analysis of it through this report. Given the design of the study, that is, exploratory, at the end of the data collection process, the team got the grades of the test. Consequently, the team continued to do the statistical analysis of such data for each group tested. The distinct measures of central tendency, that is, the mean, the median and the mode were used to replace all the grades obtained for a typical value. With this, the different results can be easily compared by analyzing the following graphics. Indeed, the result gotten from the test run during the research and the interpretation of each graphic is presented so as to make the understanding of the data easier. Also, at the same time, the team analyzed the checklists and the face to face interviews to the teachers

through comparative charts. The charts were represented in graphic to make the interpretation and understanding of the data easier.

A. THE TESTS RESULTS

➤ COMPOSITION I :

4.6	6.9	5.3	6.9	6.9	6.1	6.4	6.9	5.3	5.3	6.9	6.9	4.6
5.3	8.4	7.7	6.1	6.9	6.9	7.7	7.7	6.9	6.9	5.3	5.3	5.3

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 26, getting 6.3 as the average score in Composition.

$$\text{Formula: } \bar{x} = \frac{\sum_{i=1}^n x_i}{n}$$

$$X = \frac{4.6+6.9+5.3+6.9+6.9+6.1+6.4+6.9+5.3+5.3+6.9+6.9+4.6+5.3+8.4+7.7+6.1+6.9+6.9+7.7+7.7+6.9+6.9+5.3+5.3+5.3}{26}$$

26

$$X = 6.3$$

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 26 of them, the team took the 2 values in the middle of the whole to add them up and divide them by 2 coming up to 6.9.

Critical Thinking Skills Development

$Me = X1=4.6 \quad X2=4.6 \quad X3=5.3 \quad X4=5.3 \quad X5= 5.3 \quad X6= 5.3 \quad X7= 5.3 \quad X8= 5.3$
 $X9=5.3 \quad X10=6.1 \quad X11=6.1 \quad X12=6.4 \quad X13=6.9 \quad X14=6.9 \quad X15=6.9 \quad X16= 6.9$
 $X17= 6.9 \quad X18=6.9 \quad X19= 6.9 \quad X20= 6.9 \quad X21= 6.9 \quad X22=6.9 \quad X23= 7.7$
 $X24=7.7 \quad X25=7.7 \quad X26=8.4$

$Me = X13= 6.9 + X14=6.9 = 13/2 = 6.9$

Me= 6.9

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.9.

<i>GRADES<i>x</i>l</i>	<i>f i</i>
4.6	2
5.3	7
6.1	2
6.4	1
6.9	10
7.7	3
8.4	1
TOTAL	26

Mo= 6.9

➤ **DIDACTICS I :**

6.9	8.4	4.6	5.3	5.3	6.1	7.7	6.9	6.9	8.4	6.1	6.1	6.1	6.1
6.9	5.3	7.7	6.9	4.6	5.3	6.9	6.1	6.9	6.1	6.9	6.1	6.1	5.3

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 28, getting 6.3 as the average score in Didactics.

Formula: $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$

$$X = \frac{6.9+8.4+4.6+5.3+5.3+6.1+7.7+6.9+6.9+8.4+6.1+6.1+6.1+6.1+6.9+5.3+7.7+6.9+4.6+5.3+6.9+6.1+6.9+6.1+6.9+6.1+6.1+5.3}{28}$$

X= 6.3

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 28 of them, the team took the 2 values in the middle of the whole to add them up and divide them by 2 coming up to 6.1.

$Me = X1=4.6 \quad X2=4.6 \quad X3=5.3 \quad X4=5.3 \quad X5= 5.3 \quad X6= 5.3 \quad X7= 5.3 \quad X8= 6.1$
 $X9=6.1 \quad X10=6.1 \quad X11=6.1 \quad X12=6.1 \quad X13=6.1 \quad X14=6.1 \quad X15=6.1 \quad X16= 6.1$
 $X17= 6.9 \quad X18=6.9 \quad X19= 6.9 \quad X20= 6.9 \quad X21= 6.9 \quad X22=6.9 \quad X23= 6.9$
 $X24=6.9 \quad X25=7.7 \quad X26=7.7 \quad X27= 8.4 \quad X28=8.4$

$Me = X14= 6.1 + X15=6.1 = 12.2/2 = 6.1$

Me= 6.1

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.1.

<i>GRADES<i>x</i>l</i>	<i>f<i>i</i></i>
4.6	2
5.3	5
6.1	9
6.9	8
7.7	2
8.4	2
TOTAL	26

Mo= 6.1

➤ **READING AND CONVERSATION I:**

4.6	6.9	7.7	7.7	6.9	4.6	6.1	6.1	6.1	6.1	6.9	6.9	5.3
6.1	6.1	6.1	6.1	7.7	8.4	6.1	5.3	7.7	6.9	6.1	6.1	6.1
9.2	7.7	3.8	6.9	8.4	6.1	7.7	6.9	6.9	6.1	6.9		

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 37, getting 6.5 as the average score in Reading and Conversation I.

Formula: $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$

$$\begin{aligned}
 X = & \frac{4.6+6.9+7.7+7.7+6.9+4.6+6.1+6.1+6.1+6.1+6.9+6.9+5.3+6.1+6.1+6.1}{37} \\
 & \frac{6.1+7.7+8.4+6.1+5.3+7.7+6.9+6.1+6.1+6.1+9.2+7.7+3.8+6.9+8.4+6.1+7.7+6.9}{+6.9+6.1+6.9}
 \end{aligned}$$

X= 6.5

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 37 of them, the team took the 2 right values in the middle of the whole to add them up and divide them by 2 coming up to 6.1.

Critical Thinking Skills Development

$Me = X1=3.8 \ X2=4.6 \ X3=4.6 \ X4=5.3 \ X5= 5.3 \ X6= 6.1 \ X7= 6.1 \ X8= 6.1 \ X9=6.1$
 $X10=6.1 \ X11=6.1 \ X12=6.1 \ X13=6.1 \ X14=6.1 \ X15=6.1 \ X16= 6.1 \ X17= 6.1$
 $X18=6.1 \ X19= 6.1 \ X20= 6.9 \ X21= 6.9 \ X22=6.9 \ X23= 6.9 \ X24=6.9 \ X25=6.9$
 $X26=6.9 \ X27= 6.9 \ X28=6.9 \ X29=7.7 \ X30=7.7 \ X31=7.7 \ X32=7.7 \ X33=7.7$
 $X34=7.7 \ X35=8.4 \ X36=8.4 \ X37=9.2$

$$Md = \frac{n+1}{2}$$

$Me = (37+1)/2 = 19 = X14 = 6.1$

Me = 6.1

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.1.

<i>GRADES<i>x</i>i</i>	<i>f_i</i>
3.8	1
4.6	2
5.3	2
6.1	14
6.9	9
7.7	6
8.4	2
9.2	1
TOTAL	37

Mo = 6.1

➤ **PHONOLOGY AND MORPHOLOGY:**

4.6	6.1	6.9	6.9	6.1	6.1	4.6	4.6	8.4	6.9
6.1	6.1	3.8	7.7	6.1	5.3	8.4	7.7	6.9	

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 19, getting 6.1 as the average score in the Phonology and Morphology.

Formula: $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$

$$X = \frac{4.6+6.1+6.9+6.9+6.1+6.1+4.6+4.6+8.4+6.9+6.1+6.1+3.8+7.7+6.1+5.3+8.4+7.7+6.9}{19}$$

X = 6.1

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 19 of them, the team took the 2 values in the middle of the whole to add them up and divide them by 2 coming up to 6.1.

Me = X1=3.8 X2=4.6 X3=4.6 X4=4.6 X5= 5.3 X6= 6.1 X7= 6.1 X8= 6.1
 X9=6.1 X10=6.1 X11=6.1 X12=6.9 X13=6.9 X14=6.9 X15=6.9 X16= 7.7
 X17= 7.7 X18=8.4 X19= 8.4

$$Md = \frac{n+1}{2}$$

$$Me = (19+1) = 20/2 = X10 = 6.2$$

$$Me = 6.1$$

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.1.

<i>GRADES<i>x</i>1</i>	<i>f<i>i</i></i>
3.8	1
4.6	3
5.3	1
6.1	6
6.9	4
7.7	2
8.4	2
TOTAL	19

$$Mo = 6.1$$

➤ **LITERATURE I:**

6.9	5.3	6.1	7.7	7.7	6.9	6.1	6.1	6.1	6.9	6.9	4.6	6.9	4.6
5.3	5.3	6.1	4.6	6.9	4.6	7.7	6.1	4.6	5.3	5.3	4.6	6.1	7.7

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 28, getting 5.9 as the average score in Literature I.

Formula: $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$

$$X = \frac{6.9+5.3+6.1+7.7+7.7+6.9+6.1+6.1+6.1+6.9+6.9+4.6+6.9+4.6+5.3+5.3+6.1+4.6+6.9+4.6+7.7+6.1+4.6+5.3+5.3+4.6+6.1+7.7}{28}$$

28

X= 5.9

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 28 of them, the team took the 2 values in the middle of the whole to add them up and divide them by 2 coming up to 6.2.

Me= X1=4.6 X2=4.6 X3=4.6 X4=4.6 X5= 4.6 X6= 4.6 X7= 5.3 X8= 5.3
 X9=5.3X10=5.3 X11=5.3 X12=6.1 X13=6.1 X14=6.1 X15=6.1 X16= 6.1 X17=
 6.1 X18=6.1 X19= 6.9 X20= 6.9 X21= 6.9 X22=6.9 X23= 6.9 X24=6.9
 X25=7.7 X26=7.7 X27= 7.7 X28=7.7

$$Me = X_{14} = 6.1 + X_{15} = 6.1 = 12.2/2 = 6.1$$

Me = 6.1

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.1.

<i>GRADESxI</i>	<i>fi</i>
4.6	6
5.3	5
6.1	7
6.9	6
7.7	4
TOTAL	28

Mo = 6.1

➤ **DIDACTICS III:**

7.7	6.9	6.1	6.3	5.3	6.9	6.9	6.1	6.1	6.9	8.4
6.9	8.4	3.8	6.1	6.9	6.9	7.7	5.3	6.9	6.9	6.1
6.9	6.9	8.4	6.1	6.1	4.6	6.1	6.9	6.1		

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 31, getting 6.4 as the average score in Didactics III

Formula: $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$

$$X = \frac{7.7+6.9+6.1+6.3+5.3+6.9+6.9+6.1+6.1+6.9+8.4+6.9+8.4+3.8+6.1+6.9+6.9+7.7+5.3+6.9+6.9+6.1+6.9+6.9+8.4+6.1+6.1+4.6+6.1+6.9+6.1}{31}$$

31

X= 6.4

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 31 of them, the team took the 2 values in the middle of the whole to add them up and divide them by 2 coming up to 6.9.

Me= X1=3.8 X2=4.6 X3=5.3 X4=5.3 X5=6.1 X6=6.1 X7= 6.1 X8= 6.1 X9=6.1
 X10=6.1 X11=6.1 X12=6.1 X13=6.1 X14=6.3 X15=6.9 X16= 6.9 X17= 6.9
 X18=6.9 X19= 6.9 X20= 6.9 X21= 6.9 X22=6.9 X23= 6.9 X24=6.9 X25=6.9
 X26=6.9 X27= 7.7 X28=7.7 X29=8.4 X30=8.4 X31=8.4

Me = $\frac{n+1}{2}$

Me= (31+1)/2 = 32/2 = X16= 6.9

Me= 6.9

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.9.

<i>GRADES_xi</i>	<i>f_i</i>
3.8	1
4.6	1
5.3	2
6.1	9
6.3	1
6.9	12
7.7	2
8.4	3
TOTAL	31

Mo= 6.9

➤ **RESEARCH METHODS:**

6.1	7.7	7.7	6.9	5.3	5.3	6.9	8.4	5.3	7.7	7.7	6.1
6.1	6.9	6.1	6.9	7.7	5.3	6.1	6.1	5.3	3.8	6.9	

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 23, getting 6.3 as the average score in Research Methods.

$$\text{Formula: } \bar{x} = \frac{\sum_{i=1}^n x_i}{n}$$

$$X = \frac{6.1+7.7+7.7+6.9+5.3+5.3+6.9 +8.4+5.3+7.7+7.7+6.1+6.1+6.9+6.1+6.9+7.7+5.3+6.1+6.1+5.3+3.8+6.9}{23}$$

$$X = 6.3$$

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 23 of them, the team took the 2 values in the middle of the whole to add them up and divide them by 2 coming up to 6.1.

$$Me = X1=3.8 \quad X2=5.3 \quad X3=5.3 \quad X4=5.3 \quad X5= 5.3 \quad X6= 5.3 \quad X7= 6.1 \quad X8= 6.1 \\ X9=6.1 \quad X10=6.1 \quad X11=6.1 \quad X12=6.1 \quad X13=6.9 \quad X14=6.9 \quad X15=6.9 \quad X16= 6.9 \\ X17= 6.9 \quad X18=7.7 \quad X19= 7.7 \quad X20= 7.7 \quad X21= 7.7 \quad X22=7.7 \quad X23= 8.4$$

$$Md = \frac{n+1}{2}$$

$$Me = (23+1) = 24/2 = X12 = 6.1$$

$$Me = 6.1$$

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.1.

<i>GRADES<i>x</i>l</i>	<i>f<i>i</i></i>
3.8	1
5.3	5
6.1	6
6.9	5
7.7	5
8.4	1
TOTAL	23

Mo= 6.1

➤ **STATISTICS :**

6.9	4.6	6.1	6.9	4.6	6.9	6.1	6.1	5.3	6.1
6.1	6.1	6.9	7.7	6.9	7.7	6.9	6.1	5.3	6.9
8.4	3.8	6.1	6.1	3.8	7.7	7.7	6.9	6.1	4.6

MEAN

In order to get the average point of the results, the formula below was used. With it, all the grades gathered were added up and divided by the total of values observed, namely 30, getting 6.1 as the average score in Statistics.

$$\text{Formula: } \bar{x} = \frac{\sum_{i=1}^n x_i}{n}$$

$$X = \frac{6.9+4.6+6.1+6.9+4.6+6.9+6.1+6.1+5.3+6.1+6.1+6.1+6.9+7.7+6.9+7.7+6.9+6.1+5.3+6.9+8.4+3.8+6.1+6.1+3.8+7.7+7.7+6.9+6.1+4.6}{30}$$

30

$$X = 6.1$$

MEDIAN

To continue looking for another typical value, the median was also used to get the halfway point in the distribution. The results were arranged from the lowest one to the highest one to get the central value. Since there were 24 of them, the team took the 2 values in the middle of the whole to add them up and divide them by 2 coming up to 6.1.

$$\begin{aligned} \mathbf{Me} = & X1=3.8 \quad X2=3.8 \quad X3=4.6 \quad X4=4.6 \quad X5=4.6 \quad X6=5.3 \quad X7= 5.3 \quad X8= 6.1 \\ & X9=6.1 \quad X10=6.1 \quad X11=6.1 \quad X12=6.1 \quad X13=6.1 \quad X14=6.1 \quad X15=6.1 \quad X16= 6.1 \\ & X17= 6.1 \quad X18=6.9 \quad X19= 6.9 \quad X20= 6.9 \quad X21= 6.9 \quad X22=6.9 \quad X23= 6.9 \\ & X24=6.9 \quad X25=6.9 \quad X26=7.7 \quad X27= 7.7 \quad X28=7.7 \quad X29=7.7 \quad X30=8.4 \end{aligned}$$

$$\mathbf{Me} = X15 = 6.1 + X16 = 6.1 = 12/2 = 6.1$$

$$\mathbf{Me} = 6.1$$

MODE

Finally, in order to get the most common value in the distribution, the team made use of the mode. The chart below shows the grades gotten and how often they were repeated. Certainly, it clearly reflects the grade that was most commonly gotten by the participants that is 6.1.

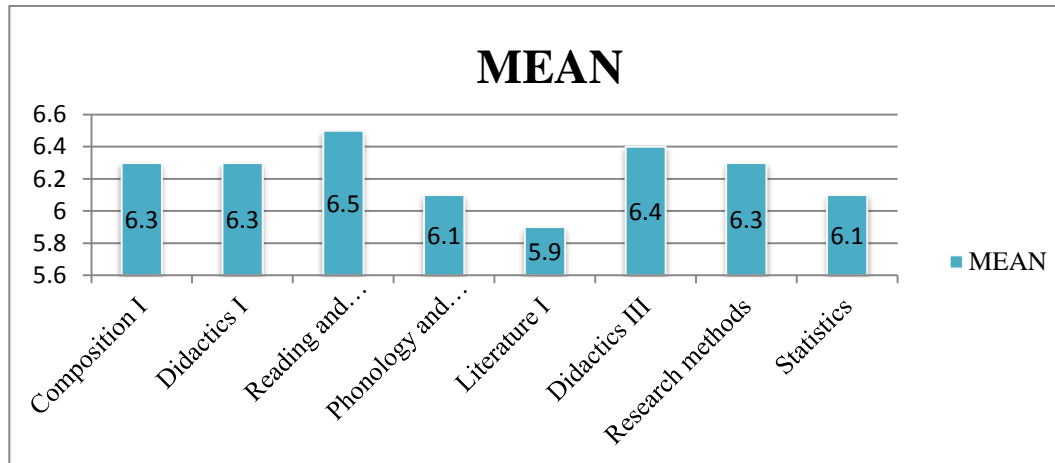
<i>GRADES<i>x</i>1</i>	<i>f<i>i</i></i>
3.8	2
4.6	3
5.3	2
6.1	10
6.9	8
7.7	4
8.4	1
TOTAL	31

Mo= 6.1

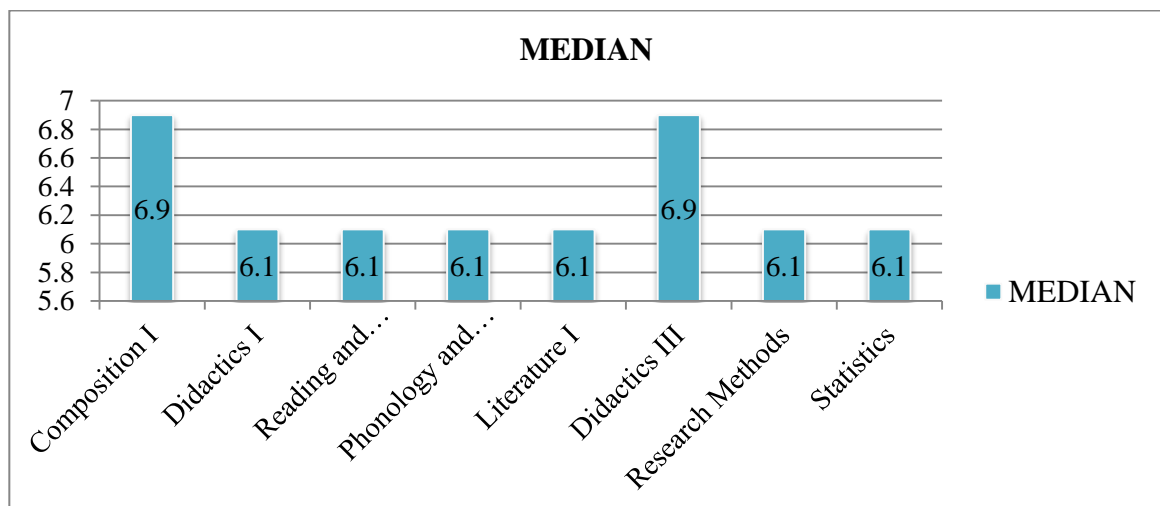
THE ANALYSIS

After getting the measures of Central Tendency, which are, the mean, the median and the mode from the Critical Thinking Test, in each subject, a comparison was made using different graphics to facilitate the understanding of each of them. The first graphic presents the mean for the eight results altogether, the second graphic reflects the median for the eight of them and the last graphic illustrates the most commonly repeated value in each tests, namely, the mode.

Critical Thinking Skills Development

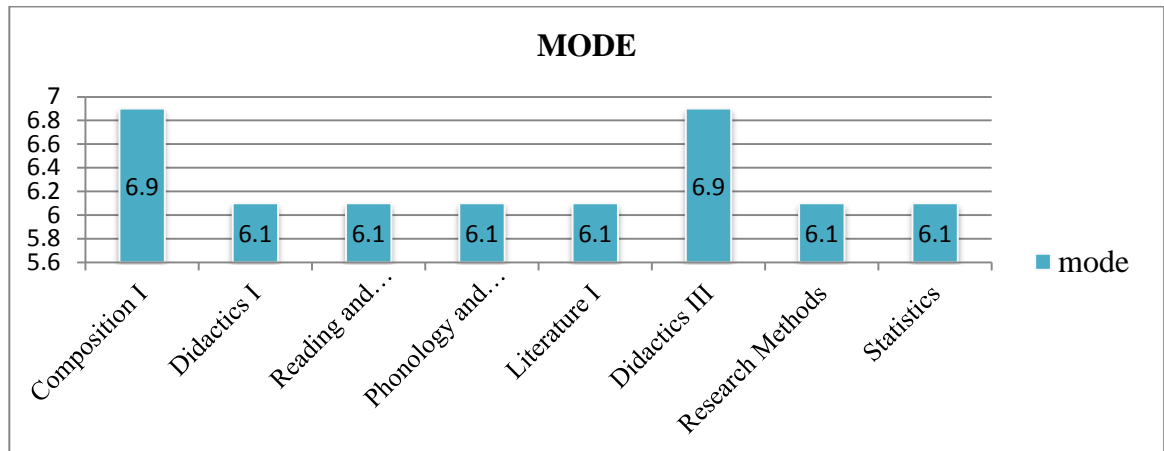


The above chart shows the mean of the eight results the team got from the test in the different subjects. Each of them reflects the average score students reached at the end of the test. As it is shown the average gotten in composition I comes up to 6.3, English Didactics I 6.3, Reading and Conversation I 6.5, Phonology and Morphology 6.1, Literature I 5.9, English Didactics III 6.4, Research Methods 6.3 and statistics with 6.1. Observing the mean of each course there is a slight difference among the results, meaning that the students who were taking Reading and Conversation I and English Didactics III kept the highest average in the test. It basically shows a slight improvement in the test, which means that the teachers who were in charge of these courses did influence on the critical thinking skills development of the students.



Critical Thinking Skills Development

As the chart shows, there is a remarkable difference between the median of the eight courses. Six of the eight courses of distributions had the same grade in the middle of each. Just two groups, Composition I and the English Didactics III, got the highest grades on the median. Therefore, the teacher in-charge of these groups had reflected a marked difference in this measurement.



The chart showed above displays a strong difference in the mode of the eight results gotten from the groups. It is clearly illustrated that the most commonly repeated value within the eight results was 6.1. Indeed, the two groups namely English Composition and English Didactics III got 6.9 which were the most repeated and highest scores in each test.

➤ **B. THE CHECKLISTS RESULTS:**

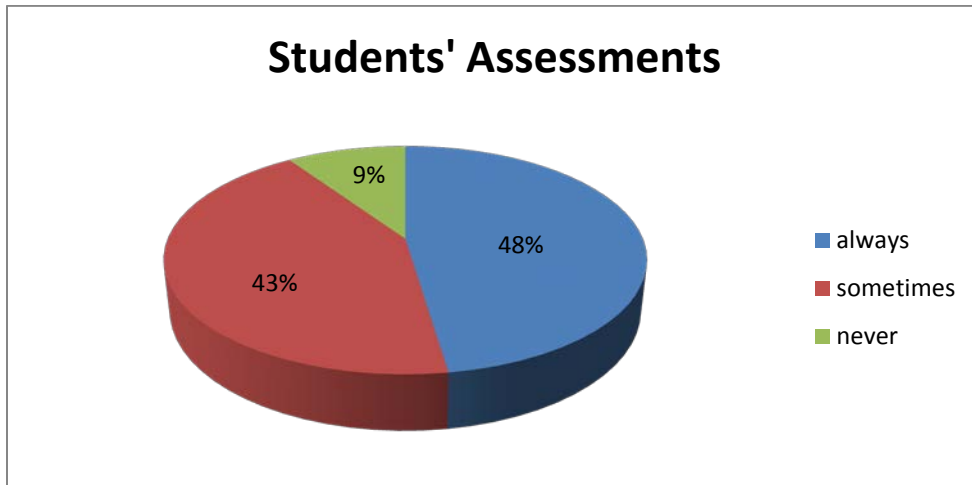
Composition 1				3 groups
Students' assessments				
	always	sometimes	never	
1. Students understand the material	3			3
2. Students ask question, comments during the class	1	1	1	3
3. Students give their personal interpretation of a text using their ideas to discover the meaning.	2	1		3
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.	2	1		3
5. Students question the credibility of the content of the text.		2	1	3
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.	1	2		3
7. Students are capable to express and justify their reasoning.	1	2		3
TOTAL	10	9	2	21
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	3			3
2. Engage students to read before the class.	2	1		3
3. Provide students will enough time for clarifying doubts.	3			3
4. Encourages students to analyze the materials and reconstruct the meaning of the texts	3			3
5. Development tasks that promote active learning	2	1		3
6. Open- minded to students' opinions.	3			3
7. Allows the students the same chance to speak up their minds	2	1		3
8. Attended students question, comments during the class.	2	1		3
9. Implemented tasks oriented to CTS Development.	1	2		3
TOTAL	21	6		27

Critical Thinking Skills Development

Composition I

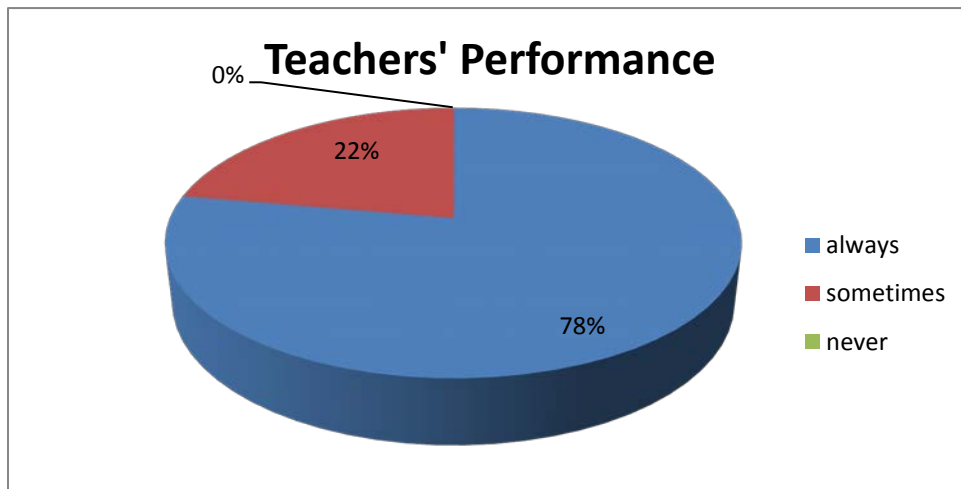
Critical thinking skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



Teaching strategies applied in the classroom by teachers.

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)



Critical Thinking Skills Development

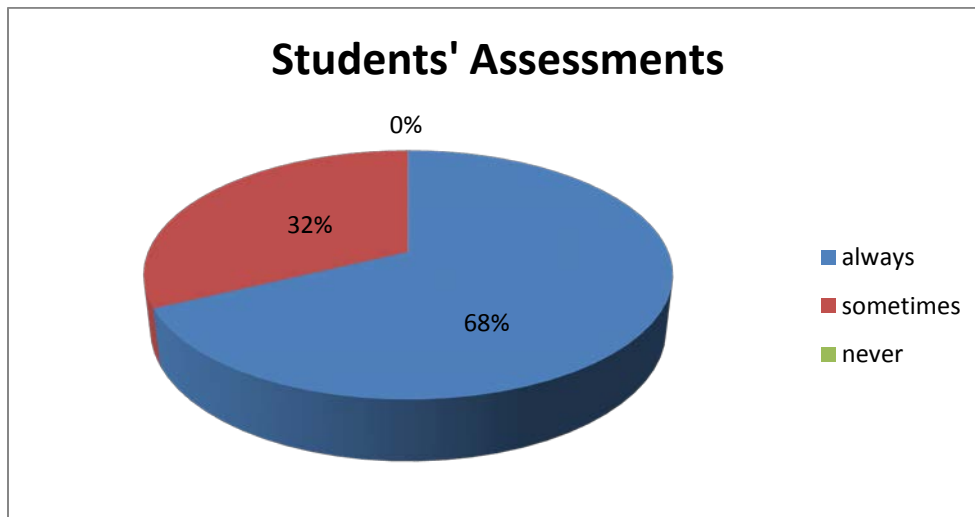
Didactic 1				4 groups
Students' assessments				
	always	sometimes	never	
1. Students understand the material	4			4
2. Students ask question, comments during the class	3	1		4
3. Students give their personal interpretation of a text using their ideas to discover the meaning.	3	1		4
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.	3	1		4
5. Students question the credibility of the content of the text.	1	3		4
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.	3	1		4
7. Students are capable to express and justify their reasoning.	2	2		4
TOTAL	19	9		28
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	4			4
2. Engage students to read before the class.	3	1		4
3. Provide students will enough time for clarifying doubts.	4			4
4. Encourages students to analyze the materials and reconstruct the meaning of the texts	4			4
5. Development tasks that promote active learning	4			4
6. Open- minded to students' opinions.	4			4
7. Allows the students the same chance to speak up their minds	4			4
8. Attended students question, comments during the class.	4			4
9. Implemented tasks oriented to CTS Development.	3	1		4
TOTAL	34	2		36

Critical Thinking Skills Development

Didactics I

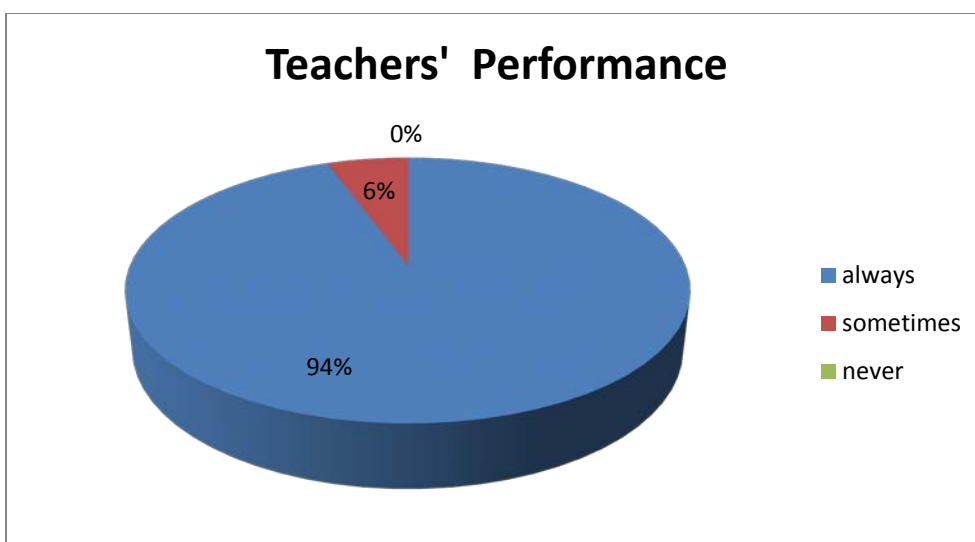
Critical thinking skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



Teaching strategies applied in the classroom by teachers

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)



Critical Thinking Skills Development

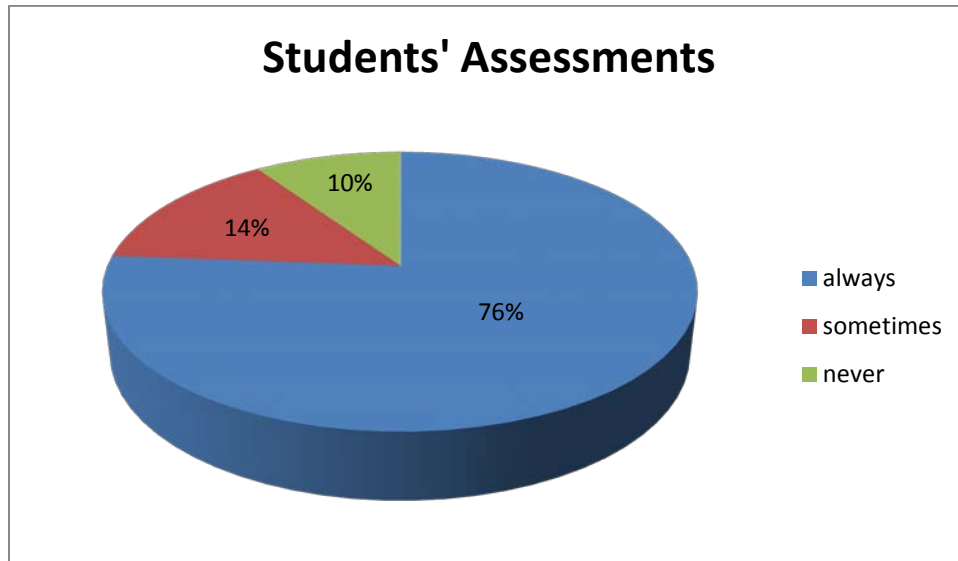
Readings and Conversation				3 groups
Students' assessments				
	always	sometimes	never	
1. Students understand the material	3			3
2. Students ask question, comments during the class	2		1	3
3. Students give their personal interpretation of a text using their ideas to discover the meaning.	3			3
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.	3			3
5. Students question the credibility of the content of the text.		2	1	3
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.	2	1		3
7. Students are capable to express and justify their reasoning.	3			3
TOTAL	16	3	2	21
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	3			3
2. Engage students to read before the class.		2	1	3
3. Provide students will enough time for clarifying doubts.	3			3
4. Encourages students to analyze the materials and reconstruct the meaning of the texts	3			3
5. Development tasks that promote active learning	3			3
6. Open- minded to students' opinions.	3			3
7. Allows the students the same chance to speak up their minds	3			3
8. Attended students question, comments during the class.	2	1		3
9. Implemented tasks oriented to CTS Development.	3			3
TOTAL	23	3	1	27

Critical Thinking Skills Development

Reading and Conversation I

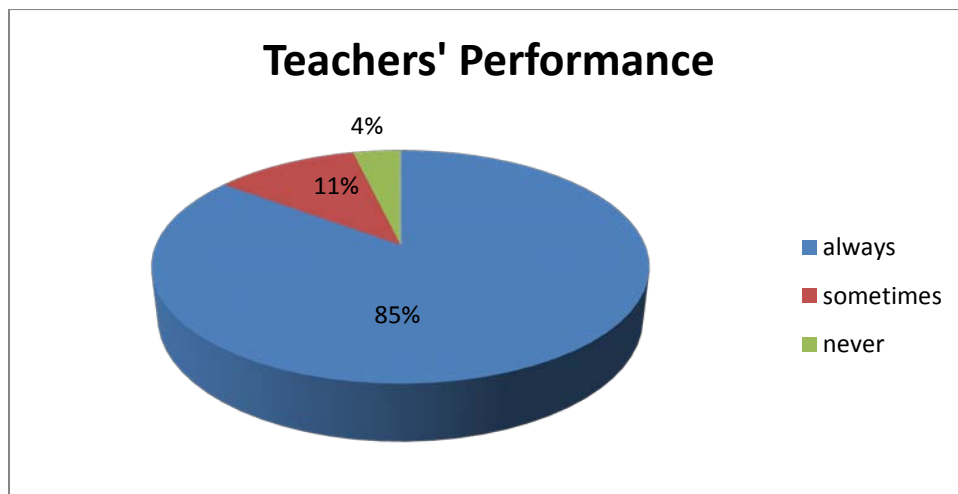
Critical thinking skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



Teaching strategies applied in the classroom by teachers.

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)



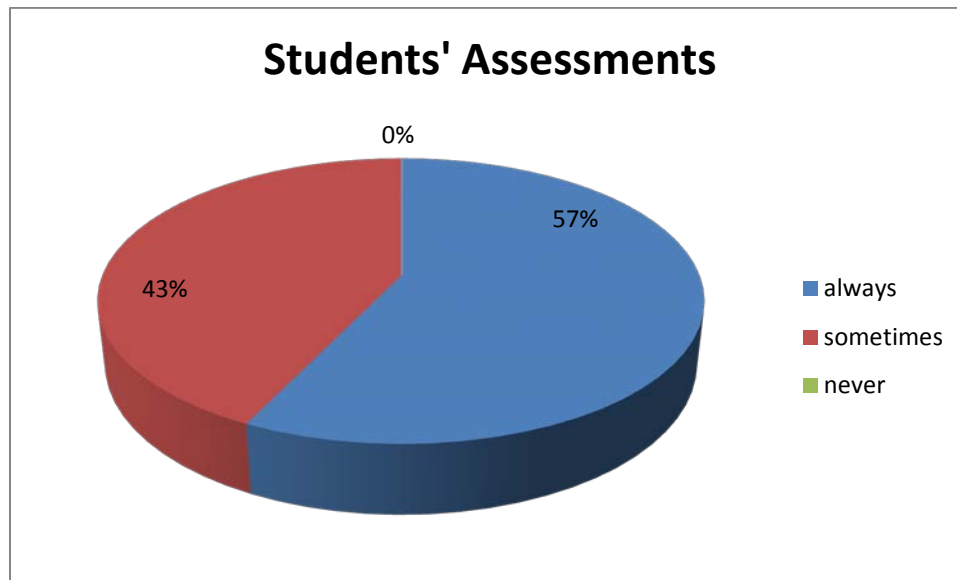
Phonology and Morphology				2 groups
Students' assessments				
	always	sometimes	never	
1. Students understand the material	1	1		2
2. Students ask question, comments during the class	2			2
3. Students give their personal interpretation of a text using their ideas to discover the meaning.	1	1		2
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.	2			2
5. Students question the credibility of the content of the text.		2		2
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.	2			2
7. Students are capable to express and justify their reasoning.		2		2
TOTAL	8	6		14
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	1	1		2
2. Engage students to read before the class.	2			2
3. Provide students will enough time for clarifying doubts.	2			2
4. Encourages students to analyze the materials and reconstruct the meaning of the texts	2			2
5. Development tasks that promote active learning	1	1		2
6. Open- minded to students' opinions.	2			2
7. Allows the students the same chance to speak up their minds	2			2
8. Attended students question, comments during the class.	2			2
9. Implemented tasks oriented to CTS Development.	2			2
TOTAL	16	2		18

Critical Thinking Skills Development

Phonology and Morphology

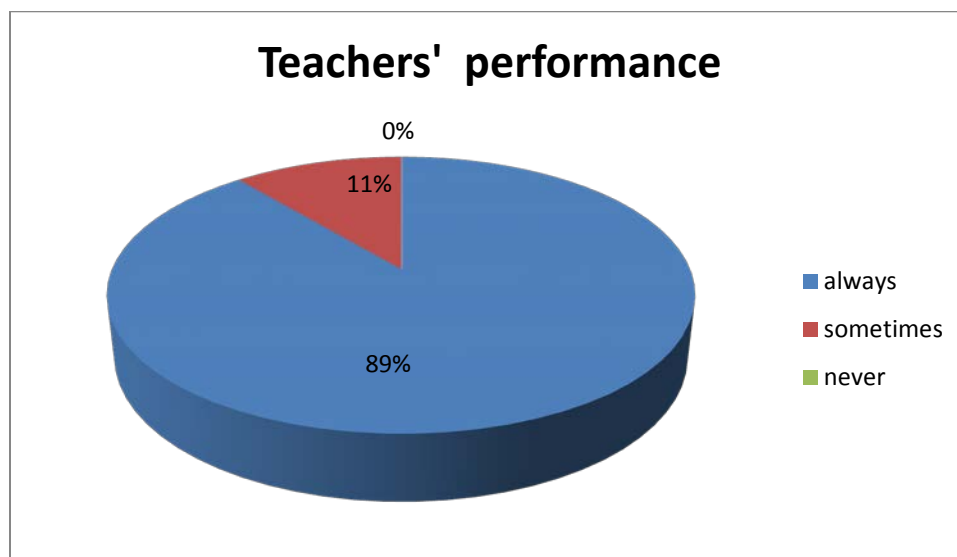
Critical thinking skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



Teaching strategies applied in the classroom by teachers.

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)



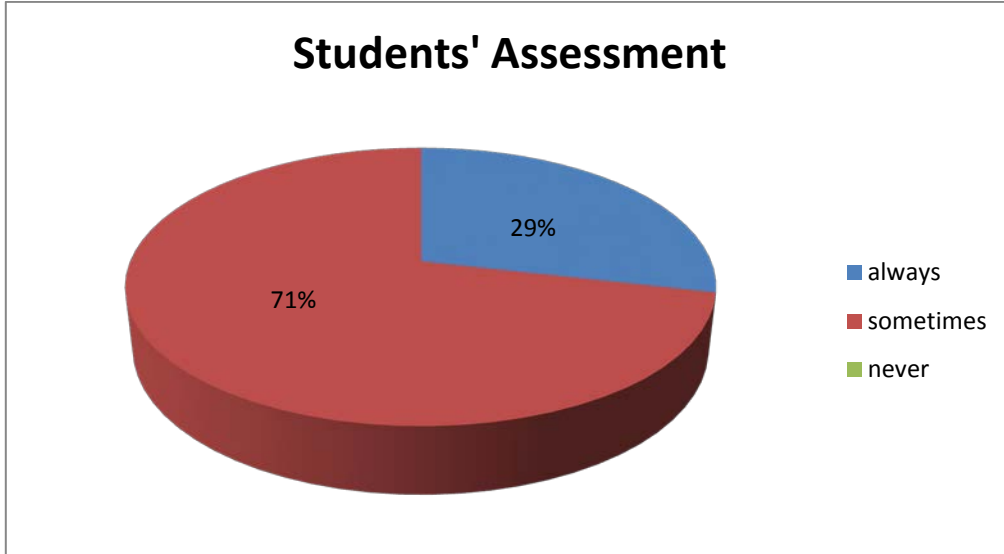
Critical Thinking Skills Development

Literature I				1 group
Students' Assessment				
	always	sometimes	never	
1. Students understand the material		1		1
2. Students ask question, comments during the class	1			1
3. Students give their personal interpretation of a text using their ideas to discover the meaning.		1		1
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.		1		1
5. Students question the credibility of the content of the text.	1			1
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.		1		1
7. Students are capable to express and justify their reasoning.		1		1
TOTAL	2	5		7
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	1			1
2. Engage students to read before the class.		1		1
3. Provide students will enough time for clarifying doubts.		1		1
4. Encourages students to analyze the materials and reconstruct the meaning of the texts		1		1
5. Development tasks that promote active learning	1			1
6. Open- minded to students' opinions.		1		1
7. Allows the students the same chance to speak up their minds		1		1
8. Attended students question, comments during the class.		1		1
9. Implemented tasks oriented to CTS Development.	1			1
TOTAL	3	6		9

Literature I

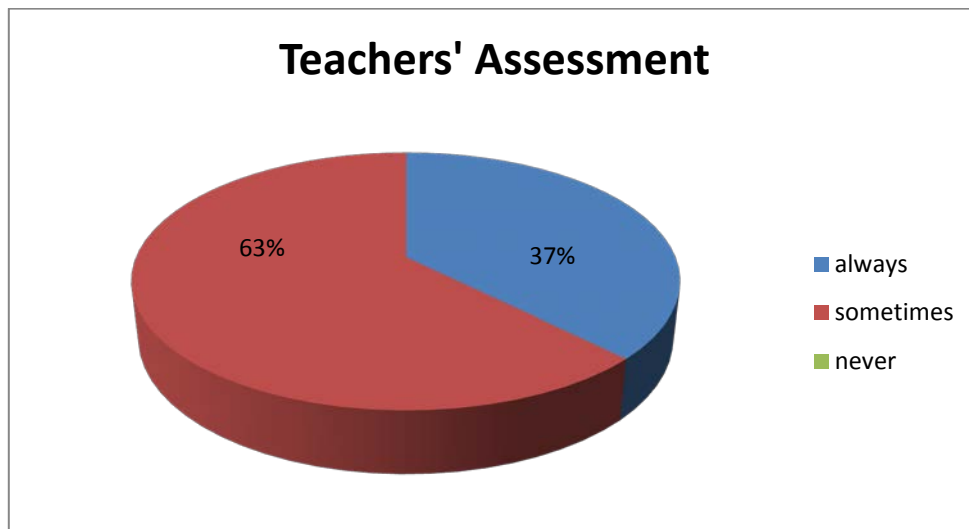
Critical thinking skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



Teaching strategies applied in the classroom by teachers.

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)



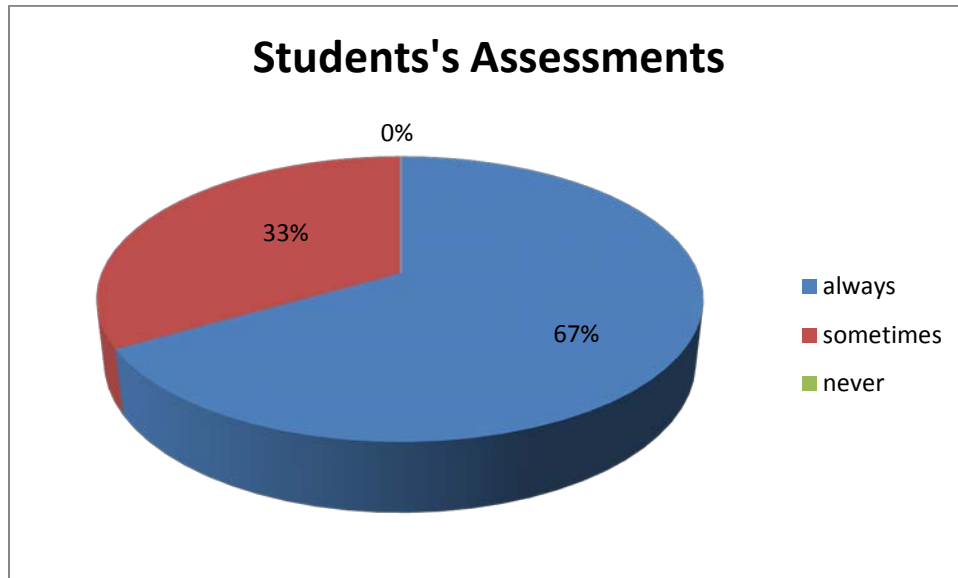
Critical Thinking Skills Development

Didactics III				3 group
Students' Assessments				
	always	sometimes	never	
1. Students understand the material	2	1		3
2. Students ask question, comments during the class	3			3
3. Students give their personal interpretation of a text using their ideas to discover the meaning.	3			3
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.	2	1		3
5. Students question the credibility of the content of the text.		3		3
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.	3			3
7. Students are capable to express and justify their reasoning.	1	2		3
TOTAL	14	7		21
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	3			3
2. Engage students to read before the class.	3			3
3. Provide students will enough time for clarifying doubts.	3			3
4. Encourages students to analyze the materials and reconstruct the meaning of the texts	3			3
5. Development tasks that promote active learning	3			3
6. Open- minded to students' opinions.	3			3
7. Allows the students the same chance to speak up their minds	3			3
8. Attended students question, comments during the class.	3			3
9. Implemented tasks oriented to CTS Development.	3			3
TOTAL	27			27

Didactics III

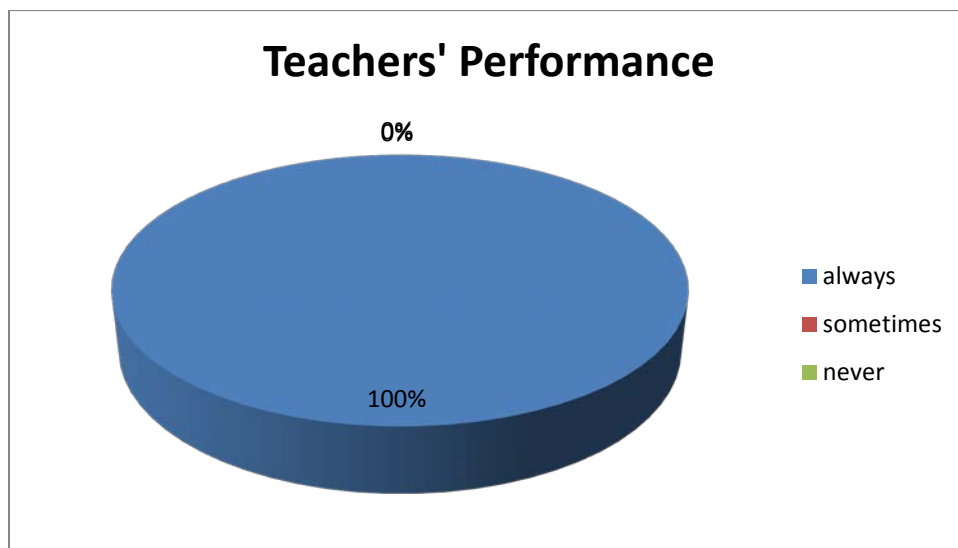
Critical thinking skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



Teaching strategies applied in the classroom by teachers.

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)



Critical Thinking Skills Development

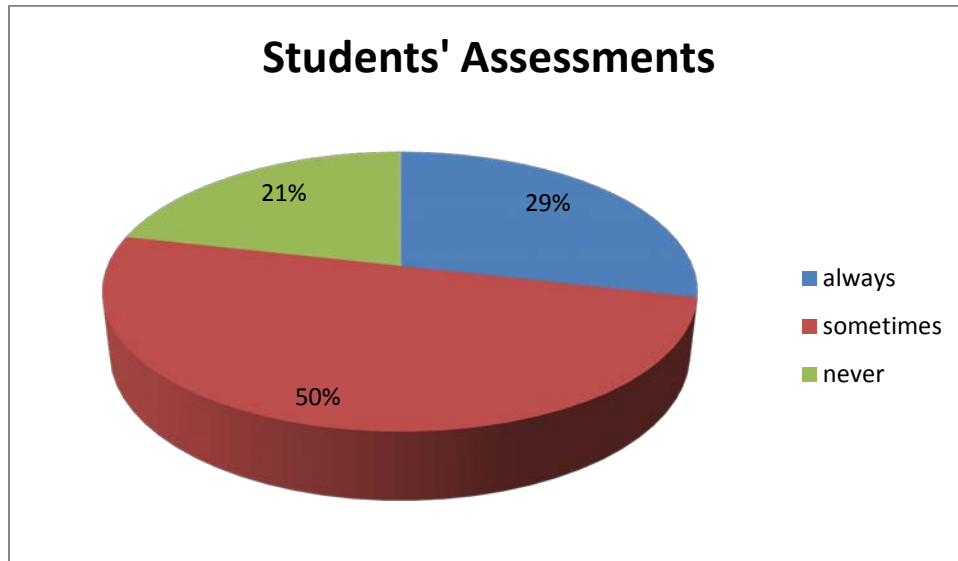
Research Methods				2 groups
Students' assessments				
	always	sometimes	never	
1. Students understand the material	1	1		2
2. Students ask question, comments during the class		2		2
3. Students give their personal interpretation of a text using their ideas to discover the meaning.	1		1	2
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.		2		2
5. Students question the credibility of the content of the text.	1		1	2
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.	1	1		2
7. Students are capable to express and justify their reasoning.		1	1	2
TOTAL	4	7	3	14
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	2			2
2. Engage students to read before the class.	2			2
3. Provide students will enough time for clarifying doubts.		2		2
4. Encourages students to analyze the materials and reconstruct the meaning of the texts	1	1		2
5. Development tasks that promote active learning	1	1		2
6. Open- minded to students' opinions.		1	1	2
7. Allows the students the same chance to speak up their minds	2			2
8. Attended students question, comments during the class.	2			2
9. Implemented tasks oriented to CTS Development.	1	1		2
TOTAL	11	6	1	18

Critical Thinking Skills Development

Research Methods

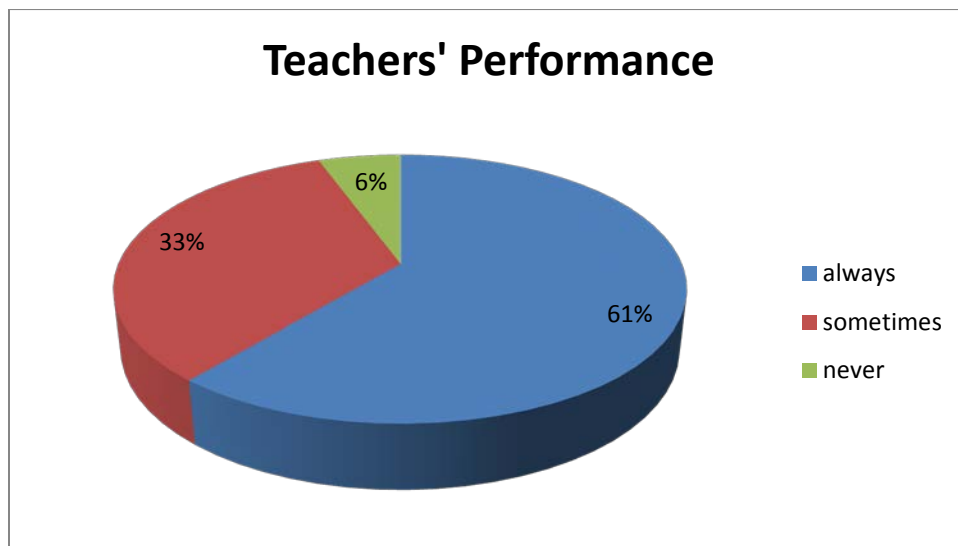
Critical Thinking Skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



Teaching Strategies applied in the classroom by teachers.

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)



Critical Thinking Skills Development

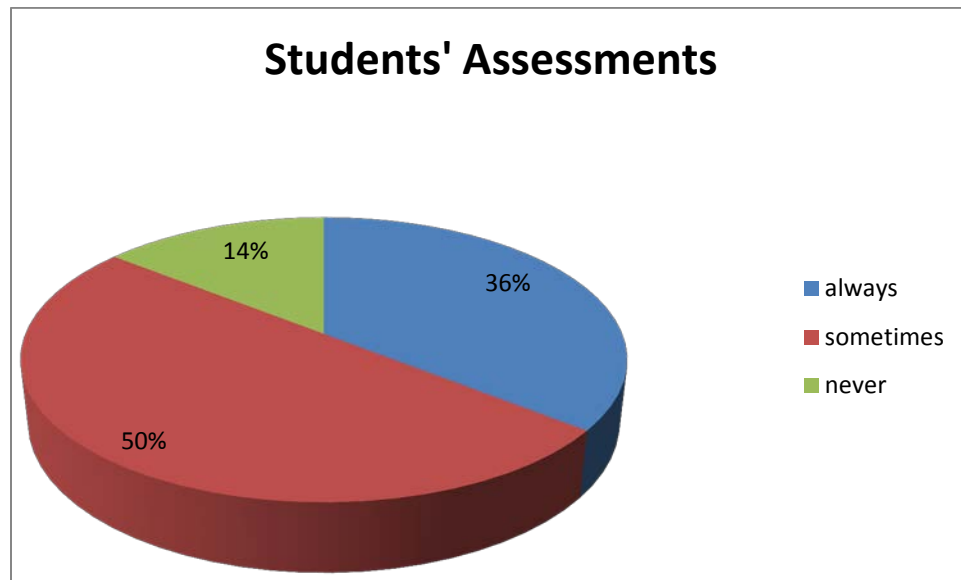
Statistics				2 groups
Students' assessments				
	always	sometimes	never	
1. Students understand the material	2			2
2. Students ask question, comments during the class		2		2
3. Students give their personal interpretation of a text using their ideas to discover the meaning.		2		2
4. Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.		2		2
5. Students question the credibility of the content of the text.	1		1	2
6. Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.	1		1	2
7. Students are capable to express and justify their reasoning.	1	1		2
TOTAL	5	7	2	14
Teachers' Performance				
1. Involve the whole class to sharing opinions about the content.	1	1		2
2. Engage students to read before the class.	2			2
3. Provide students will enough time for clarifying doubts.		2		2
4. Encourages students to analyze the materials and reconstruct the meaning of the texts	2			2
5. Development tasks that promote active learning		1	1	2
6. Open- minded to students' opinions.	1	1		2
7. Allows the students the same chance to speak up their minds	1		1	2
8. Attended students question, comments during the class.	2			2
9. Implemented tasks oriented to CTS Development.		2		2
TOTAL	9	7	2	18

Critical Thinking Skills Development

Statistic

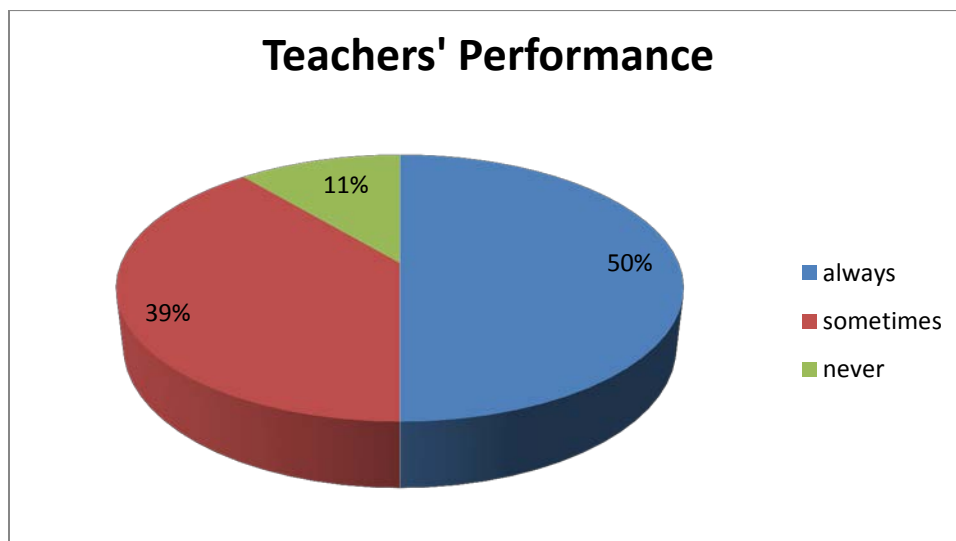
Critical Thinking Skills used in the classroom by students.

(Inference, deduction, questioning, interpretation, and evaluation of arguments)



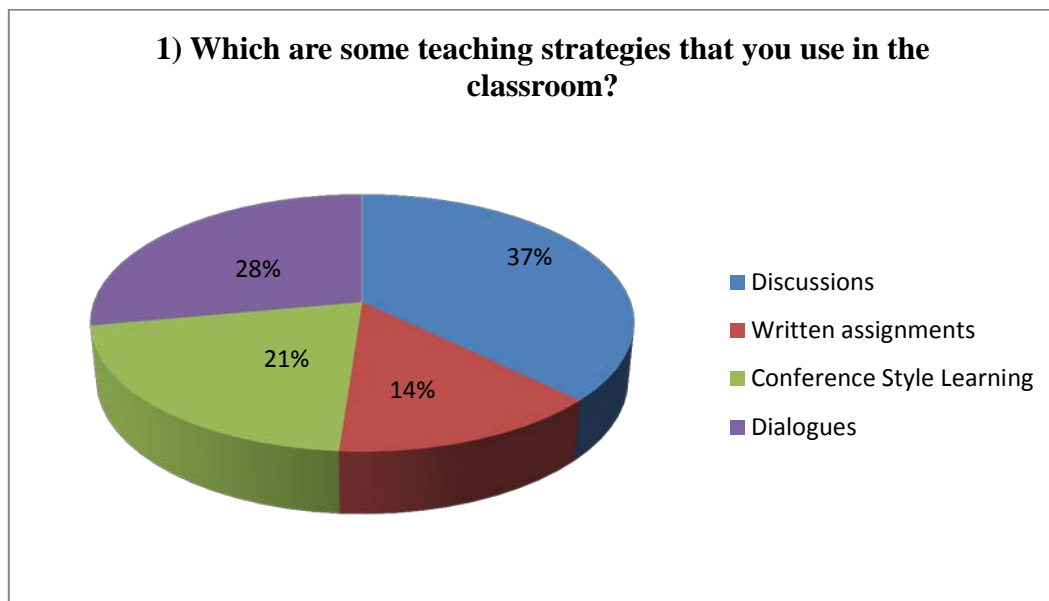
Teaching Strategies applied in the classroom by teachers:

(Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.)

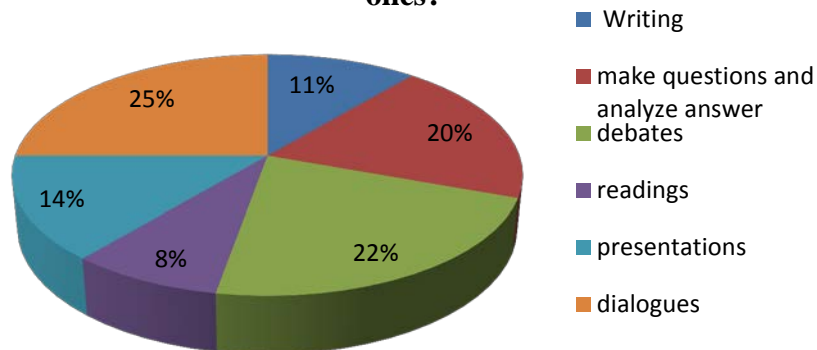


The above charts show the observation's outcomes, that the team noticed in the different courses, in which both, students and the teachers, were involved in the critical thinking skills development. As can be seen, in the charts the teachers almost always made use of teaching strategies focused on the Critical Thinking Skills Development of their students. At the same time, students showed a significant use of the critical thinking skills in the classroom, since they recurrently analyzed, questioned and interpreted the information gotten in the classroom. Analyzing both results the *students' assessments* with the *teachers' performance* there is no high difference among the results which means that in most of the courses the teachers were focused in implementing teaching strategies that promote critical thinkers. However, Didactic III was the subject that got the best result because; teachers always applied teaching strategies, which were focused on the critical thinking skills development. Indeed, Literature I, which is supposed to be a good subject to allow critical thinking skills development in students, was pointed out with the lowest result instead. It basically showed a slight connection with the test results since in both (the checklist and the critical thinking test) Didactics III got the best results, regarding teaching strategies and influencing on the critical thinking skills development.

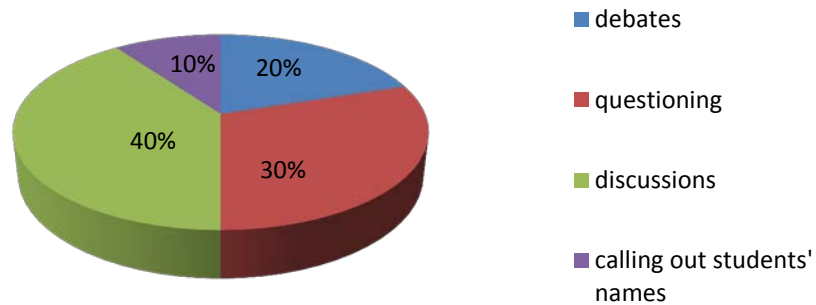
➤ **C. THE FACE TO FACE INTERVIEWS RESULTS:**



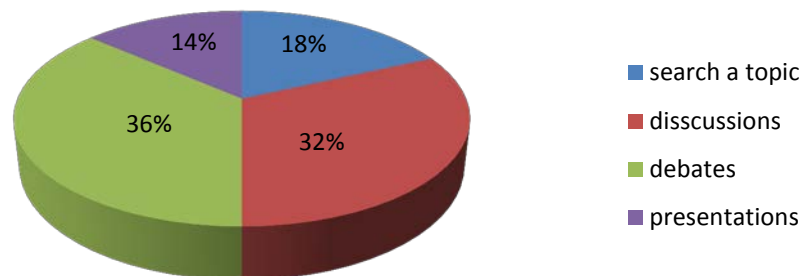
2) Do you know any assessment that promotes critical thinking skills development in the classroom? Which ones?



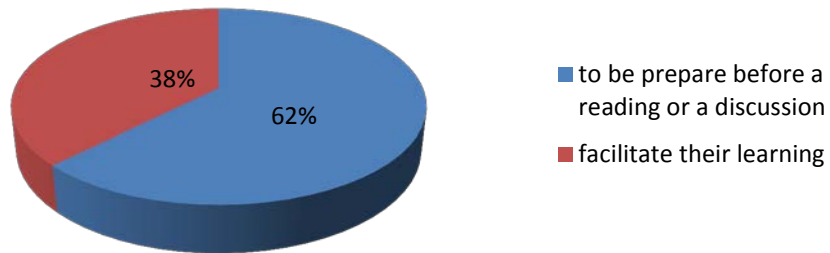
3) Do you involve the whole class in sharing opinions about the content developed in the class? How?



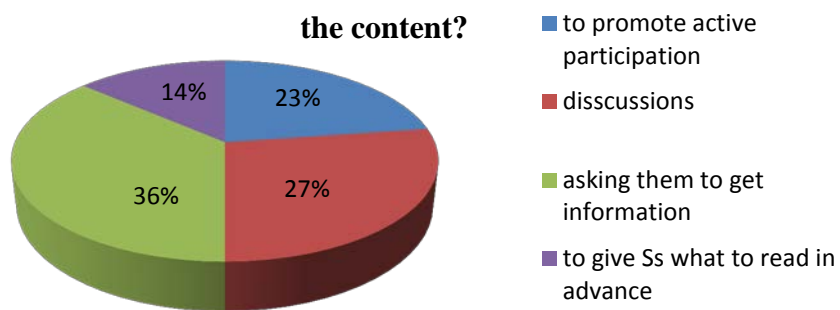
4) Do you provide tasks that promote active learning? If you answer yes, mention some of them



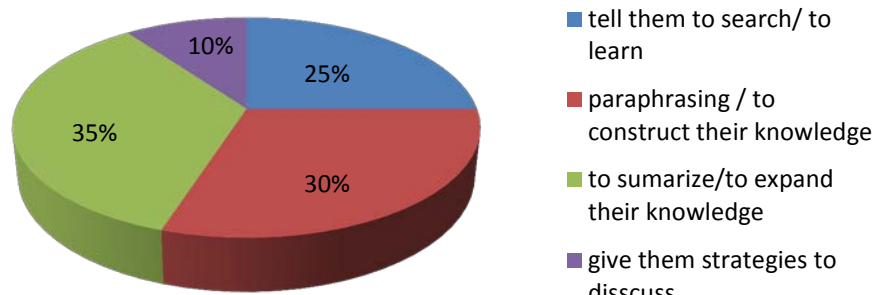
**5) Do you engage students to read before the class?
Why?**



**6) What is the best way to facilitate the knowledge or
make the students build their own knowledge about
the content?**



**7) Do you encourage students to analyze the material and
reconstruct the meaning of the text? How and Why?**



8) Do you think there is any influence between the teaching strategies used by the teachers and the students' critical thinking skills development?

Generally speaking, this question was the most important in the interview since it summarized the different teachers' points of view. Most of the teachers consider that there is a huge influence among the teaching strategies used by the teachers and the critical thinking skills development; they also think that thinking is not something that can be developed overnight, because it needs time. However, the teacher can help if he works as a model, being a critical thinker in order to lead and promote Critical Thinking in their students. Furthermore, according to some teachers' opinions there are three steps that teachers can take into account in order to develop students' critical thinking skills: First, students should be asked to read before the class. Second, the teacher should prepare students in the class about any given topic. Third, teachers should foster students to produce and give critical points of view. Besides that, teachers have to make students reflect about what they learn and how they'll apply it in the future. However, the teachers had not found the best link between the material and how to use Critical Thinking abilities, in order to have students not only to learn or memorize the materials, but also to adapt them to the real world. The teachers from the Foreign Languages Department believe that the problem is that most of the students are only receiving information; they are not becoming users of that information, or going beyond the texts. Summing up, most teachers are not providing the students with opportunities to apply the theory stated above in the real context.

THE ANALYSIS

The use of teaching strategies within the classroom as a powerful vehicle to promote and develop the Critical Thinking Skills among students was the basis for this research. Certainly, the team tried to observe how much this type of teaching strategies influences on students' thinking abilities. For this, the team carried out the exploratory research in the semesters IV, VI and VIII where there were nine content subjects with different amounts of groups each one, (26 groups),also 20 groups were observed and 16 teachers were interviewed. This study produced several findings. First, each of the 26 groups went

through a Critical Thinking Test. Most of the courses tested got an acceptable score between 6.1 and 6.9 in the median but, just one, Literature I failed the test. This is a little self-contradictory since Literature reading is eminently congenial to the essential traits of critical thinking for the following reasons. First, the mental process of literature reading requires critical thinking skills. Literature reading is a complex process that requires readers to recall, retrieve and reflect on their prior experiences or memories to construct meanings of the text. While they are doing so, they need to demonstrate the following capacities: to differentiate facts from opinions; to understand the literal or implied meanings and the narrator's tone; to locate details related to the issues discussed; to find out the causal relationship or the connections between the events or actions; to detect an inferential relationship from the details observed; to be perceptive of multiple points of views; to make moral reasoning and fair-grounded judgments; and most of all, to apply what they have learned from this process to other domains or the real world. In a sense, readers are exercising what the Critical Thinking experts termed "explanation," "analysis," "synthesis," "argumentation," "interpretation," "evaluation," "problem-solving," "inference" "logical reasoning," and "application" (Brunt, 2005; Facione, 2007; Halpern, 1998; Lazere, 1987).¹⁷ All these abilities, in sum, are critical thinking skills. That is why Lazere argued that "literature...is the single academic discipline that can come closest to encompassing the full range of mental traits currently considered to comprise critical thinking" (1987, p. 3).¹⁸ Second, it was noted a influence between English Didactic III which was the subject that got the best result in the critical thinking test, that at the same time, it was the course in which the teacher always applied teaching strategies which were focused in the students' critical thinking skills development. Consequently literature I, which was the subject that got the lowest score in the tests, was the same that got a poor teacher's performance in the use of teaching strategies in the observation. Finally, it was found, that the teachers really know the importance of the use of teaching strategies to promote critical thinking abilities, they also tried to apply those strategies to encourage critical thinkers being the most common discussion. It is important to mention that each teacher applies specific teaching strategies according with the subject that he or she is teaching. Therefore, the findings of this study support that teaching strategies did help the weak thinkers improve their overall critical thinking, but they especially demonstrate better skills in analysis and interpretation.

IX. Conclusion

At the end of this research, it can be concluded that the use of teaching strategies within the classroom was a useful tool to develop the critical thinking skills in students. Certainly, the samples showed an improvement after taking them, in spite of the fact that the exposure to teaching strategies was not the same in all of the courses. It is worth to mention that the strategies that were applied during those courses were very helpful for the students, as well as they promoted both: thinking abilities and active learning. By active learning, it is understood that they learned to respect others point of views. Besides, they also learned to defend their own reasoning becoming active readers, that is, they did not accept as true or real everything they were presented, instead they questioned every single statement read. And even most important, this was intended to be applied to real issues and so they did. During the research the team observed that the students felt free to express their ideas and arguments and to listen to others' opinions in order to arrive to a conclusion as a group. All this have cleared up the problematic stated by the team at the beginning of the research. The research showed the effective influence that the teaching strategies had on the students' thinking abilities. The team expects that this result might be taken into consideration for future generations of students in order to have better citizens and professionals in the society.

X. Recommendation

Making students think critically is a real challenge for educators nowadays, but the use of teaching strategies in the classroom, in fact facilitates the opportunities for students to achieve it. Although this requires time, commitment, and modifications in the teaching process that is being implemented currently at the University of El Salvador in the Foreign Languages Department. Given that the teaching of thinking abilities themselves is not very common within the classroom, there is a big need of investing more on it in order to train both teachers and students to use critical thinking skills in the courses and the strategies needed to develop critical thinking. Besides that, it is also necessary to have committed teachers who are willing to inform themselves about the use of teaching strategies in the classroom to develop thinking abilities, so they get a solid understanding of critical thinking skills and the way to teach them. Without a doubt, teachers should be the first ones in knowing, practicing, and modeling critical thinking skills to their students. Finally, the last recommendation based on the research outcomes, recommends making the modifications officially to the curriculum of the mayor for current and future teachers in order to reach critical thinking abilities making use of teaching strategies that promote critical thinking abilities; so students become successful in their personal and professional lives. In spite of sounding difficult, the team widely believes that the change is highly worth the efforts.

XI. Limitations

- One problem was to decide and find the adequate instruments which would allow the researchers to measure the two variables of the study.

- During the research, one of the main troubles was to find the sample since the groups that the team had already chosen not all of them were able to participate in the research. So, the team had to omit those groups.

- As part of the study, it was required to expose the participants to take a critical thinking test. However, the time allowed by the teachers was not enough to implement and develop each critical thinking test. As a result the students were not provided with the necessary time and condition for them to take it.

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ANNEXES

ANEXX 1



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

Topic: Critical Thinking Skills Development.

Objective: The team seeks to measure individuals' critical thinking skills.

Critical Thinking Test

Instructions: After reading each statement, please, circle the most appropriate answer.

Section 1: Inference

Statement

The proper aim of education in a free society is to prepare the individual to make wise decisions.

1. People who have been educated in a free society will not make unwise decisions.

- a) Yes
- b) No

2. Some education systems in our society do not have the proper aim.

- a) Yes
- b) No

3. Some kinds of education can help individuals make wise decisions.

- a) Yes
- b) No

4. In a society that is not free, the individual cannot make any decisions.

- a) Yes

b) No

Section 2: Deduction

Statement

No responsible leader can avoid making difficult decisions. Some responsible leaders dislike making difficult decisions. Therefore:

5. Some difficult decisions are distasteful to some people.

a) Yes

b) No

6. Irresponsible leaders avoid things they dislike.

a) Yes

b) No

7. Some responsible leaders do things they dislike doing.

a) Yes

b) No

Section 3: Interpretation

Statement

In 1970, 60.4% of adults (people 25 years of age and older) had completed 11 years or less of schooling, while 4.6% had completed three or more years of university. In 1990, 40.0% of adults had completed 11 years or less of schooling, while 7.1% had completed three or more years of university.

8. In 1970, most adults had not entered the sixth form.

a) Yes

b) No

9. If the trend toward more education continues at the rate indicated by the above figures, then by 2000 more than 25% of adults will have completed three or more years of university.

a) Yes

b) No

10. In 1990, for every adult who had completed three or more years of university, there were more than five adults who had completed not more than 11 years of schooling.

- a) Yes
- b) No

Section 4: Evaluation of Arguments

Statement

Should the government provide 'baby grants' to help support each dependent child in a family so that the family standard of living is not lowered by having children?

11. Yes; many families who cannot now afford it would then provide better childcare, and this would greatly improve the general health of the nation.

- a) Strong
- b) Weak

12. No; such grants would seriously undermine parents' sense of personal responsibility for their own families.

- a) Strong
- b) Weak

13. No; government provision of 'baby grants' would involve additional public expenditure of money.

- a) Strong
- b) Weak

Inference

The first section of the exam regarded the skill of inference. According to Facione (1990) inference is to identify and secure elements needed to draw reasonable conclusions. That is why in the test, first it was presented a controversial “statement” from which four possible conclusions derived. So, students were expected to read carefully the statement and the inferences and decide whether each inference was a reasonable one or not. Then, if

they considered the inference justifiable they had to circle “yes” or if they did not consider it justifiable they had to circle “no”. Here we have how this section looked in the test.

Statement

The proper aim of education in a free society is to prepare the individual to make wise decisions.

1. People who have been educated in a free society will not make unwise decisions.

- a) Yes
- b) No

2. Some education systems in our society do not have the proper aim.

- a) Yes
- b) No

3. Some kinds of education can help individuals make wise decisions.

- a) Yes
- b) No

4. In a society that is not free, the individual cannot make any decisions.

- a) Yes
- b) No

Deduction

The second statement evaluated the skill of deduction. Students were required to read carefully the statement because, based on that, they had to consider whether the conclusions that were drawn from it were sensible or not. In order to do so, they needed to analyze thoroughly the deductions presented and relate them with the statement.

Statement

No responsible leader can avoid making difficult decisions. Some responsible leaders dislike making difficult decisions. Therefore:

5. Some difficult decisions are distasteful to some people.

- a) Yes
- b) No

6. Irresponsible leaders avoid things they dislike.

- a) Yes
- b) No

7. Some responsible leaders do things they dislike doing.

- a) Yes
- b) No

Interpretation

The third section of the test involved the skill of interpreting. This was a little bit complex since students were required to comprehend and express the meaning or significance of a wide variety data or criteria (Facione, 1990). They had to decode the meaning of the information they were exposed to. Then, to answer the following items, they had to read carefully the statement especially because it included statistical data. After that, they had to analyze the items derived from it and answer “yes” if they considered it was a reasonable one or “no” if it was not.

Statement

In 1970, 60.4% of adults (people 25 years of age and older) had completed 11 years or less of schooling, while 4.6% had completed three or more years of university. In 1990, 40.0% of adults had completed 11 years or less of schooling, while 7.1% had completed three or more years of university.

8. In 1970, most adults had not entered the sixth form.

- a) Yes
- b) No

9. If the trend toward more education continues at the rate indicated by the above figures, then by 2000 more than 25% of adults will have completed three or more years of university.

- a) Yes
- b) No

10. In 1990, for every adult who had completed three or more years of university, there were more than five adults who had completed not more than 11 years of schooling.

- a) Yes
- b) No

Evaluation of arguments

The last section of the test measured the students' skill of evaluation. The statement presented required the students to differentiate between "strong" and "weak" arguments. Facione (1990) assures that evaluation involves "assessing the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion". Then, the arguments that were important and related to the statement were considered "strong arguments". While the ones that were not related to the statement or they were not important are considered "weak arguments". Then, the students had to evaluate each item carefully to determine whether

they were weak or strong. With this, they finished their evaluation about the critical thinking skills.

Statement

Should the government provide 'baby grants' to help support each dependent child in a family so that the family standard of living is not lowered by having children?

11. Yes; many families who cannot now afford it would then provide better childcare, and this would greatly improve the general health of the nation.

- a) Strong
- b) Weak

12. No; such grants would seriously undermine parents' sense of personal responsibility for their own families.

- a) Strong
- b) Weak

13. No; government provision of 'baby grants' would involve additional public expenditure of money.

- a) Strong
- b) Weak

ANEXX 2

Original Version (deleted sections after the pilot test; modified features after the pilot test)



UNIVERSITY OF EL SALVADOR SCHOOL OF ARTS AND SCIENCES FOREIGN LANGUAGE DEPARTMENT

Topic: Critical Thinking Skills Development.

Objective: The team seeks to measure individuals' critical thinking skills.

Critical Thinking Test

Instructions: After reading each statement, please, circle the most appropriate answer.

Section 1: Inference

An inference is a conclusion that a person can draw from certain observed or supposed facts. For example, if the lights are on in a house and music can be heard coming from the house, a person might infer that someone is at home. But this inference may or may not be correct. It is possible that the people of the house did not turn the lights and the radio off when they left the house. In this test, each exercise begins with a statement of fact that you are to regard as true. After each statement of fact you will find several possible inferences i.e., conclusions that some persons might draw from the stated facts. Examine each inference separately, and make a decision as to its degree of truth or falsity.

Statement

Studies have shown that there is relatively much more heart disease among people living in the north of England than people living in the south of England. There is little if any difference, however, in rate of heart disease between northerners and southerners who have the same level of income. The average income of southerners in England is considerably higher than the average income of northerners.

Inference 1

The easiest way to eliminate heart disease in England would be to raise the general standard of living.

- This is true
- This is probably true
- There is inadequate data to support this statement
- This is false
- This is probably false

Inference 2

People in high income brackets are in a better position to avoid developing heart disease than people in low income brackets.

- This is true
- This is probably true
- There is inadequate data
- This is false
- This is probably false

Inference 3

There is a lower rate of heart disease among northerners with relatively high incomes than among northerners with much lower incomes.

- This is true
- This is probably true
- There is inadequate data
- This is false
- This is probably false

Inference 4

Whether northerners have high incomes or low incomes makes no difference to the likelihood of their developing heart disease.

- This is true
- This is probably true
- There is inadequate data
- This is false
- This is probably false

Section 2: Recognition of Assumption

An assumption is something presupposed or taken for granted. When you say, 'I'll be a qualified solicitor in two months', you take it for granted that you will be alive in two months, that you will pass the relevant examinations, and similar things. Below are a number of statements. Each statement is followed by several proposed assumptions. You are to decide for each assumption whether a person, in making the given statement, is really making that assumption i.e., taking it for granted, justifiably or not.

Statement

The proper aim of education in a free society is to prepare the individual to make wise decisions.

Inference 1

People who have been educated in a free society will not make unwise decisions.

- Yes
- No

Inference 2

Some education systems in our society do not have the proper aim.

- Yes
- No

Inference 3

Some kinds of education can help individuals make wise decisions.

- Yes
- No

Inference 4

In a society that is not free, the individual cannot make any decisions.

- Yes
- No

Section 3: Deduction

In this test, each exercise consists of several statements (premises) followed by several suggested conclusions. For the purpose of this test, consider the statements in each exercise as true without exception. Read the first conclusion beneath the statements. If you think it necessarily follows from the statements given, mark 'YES' under 'Conclusion follows' in the proper place on the Answer Sheet. If you think it is not a necessary conclusion from the statements given mark 'NO' under 'Conclusion follows', even though you may believe it to be true from your general knowledge. Similarly, read and judge each of the other conclusions. Try not to let your prejudices influence your judgment – just stick to the given statements (premises) and judge whether each conclusion necessarily follows.

Statement

No responsible leader can avoid making difficult decisions. Some responsible leaders dislike making difficult decisions. Therefore:

Deduction 1

Some difficult decisions are distasteful to some people.

- Yes
- No

Deduction 2

Irresponsible leaders avoid things they dislike.

- Yes
- No

Dedication 3

Some responsible leaders do things they dislike doing.

- Yes
- No

Section 4: Interpretation and analysis

Each of the following exercises consists of a short paragraph followed by several suggested conclusions. For the purpose of this test, assume that everything in the short paragraph is true. The problem is to judge whether or not each of the proposed conclusions logically follows beyond a reasonable doubt from the information given in the paragraph. If you think that the proposed conclusion follows beyond a reasonable doubt (even though it may not follow absolutely and necessarily), mark 'YES' under 'Conclusion Follows' in the proper place on the answer sheet. If you think that the conclusion does not follow beyond a reasonable doubt from the facts given, mark 'NO' under 'Conclusion Follows'. Remember to judge each conclusion independently.

Statement

In 1970, 60.4% of adults (people 25 years of age and older) had completed 11 years or less of schooling, while 4.6% had completed three or more years of university. In 1990, 40.0% of adults had completed 11 years or less of schooling, while 7.1% had completed three or more years of university.

Interpretation 1

In 1970, most adults had not entered the sixth form.

- Yes
 No

Interpretation 2

If the trend toward more education continues at the rate indicated by the above figures, then by 2000 more than 25% of adults will have completed three or more years of university.

- Yes
 No

Interpretation 3

In 1990, for every adult who had completed three or more years of university, there were more than five adults who had completed not more than 11 years of schooling.

- Yes
 No

Section 5: Evaluation of Arguments

In making decisions about important questions, it is desirable to be able to distinguish between arguments that are strong and arguments that are weak, as far as the question at issue is concerned. For an argument to be strong, it must be both important and directly related to the question. An argument is weak if it is not directly related to the question (even though it may be of great general importance), or if it is of minor importance, or if it is related only to trivial aspects of the question.

Statement

Should the government provide 'baby grants' to help support each dependent child in a family so that the family standard of living is not lowered by having children?

Interpretation 1

Yes; many families who cannot now afford it would then provide better childcare, and this would greatly improve the general health of the nation.

- Strong
 Weak

Interpretation 2

No; such grants would seriously undermine parents' sense of personal responsibility for their own families.

- Strong
 Weak

Interpretation 3

No; government provision of 'baby grants' would involve additional public expenditure of money.

- Strong
 Weak

❖ **Final Version**



**UNIVERSITY OF EL SALVADOR
SCHOOL OF ARTS AND SCIENCES
FOREIGN LANGUAGE DEPARTMENT**

Topic: Critical Thinking Skills Development.

Objective: The team seeks to measure individuals' critical thinking skills.

Critical Thinking Test

Instructions: After reading each statement, please, circle the most appropriate answer.

Section 1: Inference

Statement

The proper aim of education in a free society is to prepare the individual to make wise decisions.

1. People who have been educated in a free society will not make unwise decisions.

- a) Yes
- b) No

2. Some education systems in our society do not have the proper aim.

- a) Yes
- b) No

3. Some kinds of education can help individuals make wise decisions.

- a) Yes
- b) No

4. In a society that is not free, the individual cannot make any decisions.

- a) Yes
- b) No

Section 2: Deduction

Statement

No responsible leader can avoid making difficult decisions. Some responsible leaders dislike making difficult decisions. Therefore:

5. Some difficult decisions are distasteful to some people.

- a) Yes
- b) No

6. Irresponsible leaders avoid things they dislike.

- a) Yes
- b) No

7. Some responsible leaders do things they dislike doing.

- a) Yes
- b) No

Section 3: Interpretation

Statement

In 1970, 60.4% of adults (people 25 years of age and older) had completed 11 years or less of schooling, while 4.6% had completed three or more years of university. In 1990, 40.0% of adults had completed 11 years or less of schooling, while 7.1% had completed three or more years of university.

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10. In 1990, for every adult who had completed three or more years of university, there were more than five adults who had completed not more than 11 years of schooling.

- a) Yes
- b) No

Section 4: Evaluation of Arguments

Statement

Should the government provide 'baby grants' to help support each dependent child in a family so that the family standard of living is not lowered by having children?

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- a) Strong
- b) Weak

12. No; such grants would seriously undermine parents' sense of personal responsibility for their own families.

- a) Strong
- b) Weak

13. No; government provision of 'baby grants' would involve additional public expenditure of money.

- a) Strong
- b) Weak

ANEXX 3

CLASSROOM NATURALISTIC OBSERVATION FORM

Subject: _____ **Period/Time:** _____

Teacher: _____ **Date:** ___/___/_____

Observers:

- | Instructions |
|--|
| ✓ Observe the class in one session |
| ✓ Every time Ss and T exhibit a behavior, put a tally mark |
| ✓ At the end put the total tally marks in the last columns |
| ✓ Add any comments at the end of the observation |

II. STUDENTS' ASSESSMENT	always	sometimes	never
1) Students understand the materials.			
2) Students ask questions, comments during the class			
3) Students give their personal interpretation of a text using their own ideas to discover the meaning.			
4) Students identify the intended and actual message that the writer wants to express among the text, without going beyond the words.			
5) Students question the credibility of the content in the texts.			
6) Students are able to predict what the content of the text will be about based on the title, subtitles, and pictures, if included.			
7) Students are capable to express and justify their reasoning.			

COMMENTS	always	sometimes	never
III. TEACHER'S PERFORMANCE	always	sometimes	never
1) Involves the whole class in sharing opinions about the content			
2) Engages students to read before the class			
3) Provides students with enough time for clarifying doubts			
4) Encourages students to analyze the materials and reconstruct the meaning of the text			
5) Develops tasks that promote active learning			
6) Open-minded to students' opinions			
7) Allows all students the same chance to speak up their minds			
8) Attend to students questions, comments during class			
9) Implement task oriented to CTS development			

ANEXX 4



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

Topic: Critical Thinking Skills Development

Objective: To determine students' critical thinking skills development through the exposure to the teaching strategies used by the teachers in the semesters IV, VI and VIII.

Directions: interviewer will ask the teacher specific questions which will be recorded to be analyzed.

- 1) Which are some teaching strategies that you use in the classroom?
Conference Style Learning, Classroom Discussion and Debates, Writing Assignments and Dialogues.
- 2) Do you know any assessment that promotes critical thinking skills development in the classroom? Which ones?
- 3) Do you provide tasks that promote active learning? If you answer yes, mention some of them.
- 4) Do you involve the whole class in sharing opinions about the content developed in the class? How?
- 5) Do you engage students to read before the class? Why?
- 6) What do you considered is the best to transmit your knowledge or make the students built their own knowledge about the content? Why?
- 7) Do you encourage students to analyze the material and reconstruct the meaning of the text? How and Why?
- 8) Do you think is there any relationship between the teaching strategies used by the teachers and the students' critical thinking skills development?