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

"CRITICAL THINKING AND THE EFFECT IN STUDENTS IN ADVANCED LEVELS OF THE FOREIGN LANGUAGES DEPARTMENT"

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1. INTRODUCTION

Why is it important for university students to study critical thinking?

It is a question that can be approached from different perspectives. From a purely etymological point of view, it reveals its importance from the Greek and Latin roots of which words like "critical" and "thought" are derived. At the social level, the development of critical thinking reveals its importance for the fundamental role it plays in social processes of democratic nature in which the formation of conscious and responsible citizens is possible. From a pedagogical perspective, this issue, along with its importance, It is supported by institutions like the United Nations Educational, Scientific, and Cultural Organization (UNESCO), which formulates the guiding principles for university education, in which the development of thinking occupies a critical role. Taking the etymology of the word, "critical" comes from the Greek *Kritikós,* meaning "critical, well-judging (from Krino, Judging, distinguish)". Critical is specifically defined in the dictionary of Greek roots of Castilian vocabulary as "related to crisis or to the criticism, who performs criticism" (p. 431). Such definition is a crucial link with another Greek root word "Krísis" as defined in the dictionary as "judgement, decision". This link established from the etymology of the word reveals the relationship between crisis and critical.

In a globalized world, where advances in science, changing values and the diversity of ways of understanding the world at all levels make the crisis a constant condition. The word "thinking" refers to "think from the Latin pensare; think, consider, discuss, examine something good in order to judge" (Royal Spanish Academy of Language, 1970). This definition specifies that thinking is a verb; it is related to concepts such as crisis, and critical thinking. Thinking critically has a fundamental role in a world that is hit by a crisis in all orders, social, politic, and economic that constantly demands the presence of more men and women capableof acting with responsibility in the search for solutions to all kinds of conflicts. Good criticism is not just a definition; it is a demand of what is expected

from all and each who feels identified directly or indirectly with the crisis that is affecting our world. From the pedagogical aspect, Lipmann (1990) focuses on the importance of critical thinking study and its development in the formation of responsible citizens that must be reflective and not just informed, capable of responding correctly to the problematic situations; this could only be possible in a society in which education plays its role in the development of thinking and not just learning. Education, in terms of learning, treats the student like someone more passive than active, underestimating the student's capacity to research which is the fundamental condition to the development of *critical thinking*. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) stated at the world conference on higher education in the XXI century (UNESCO 1999) that critical thinking is one of the fundamental principles for higher education.

CRITICAL THINKING AND THE EFFECT IN STUDENTS IN ADVANCED "EVELS OF THE FOREIGN LANGUAGE DEPARTMENT.

TOPIC.

"CRITICAL THINKING AND THE EFFECT IN STUDENTS IN ADVANCED LEVELS OF THE FOREIGN LANGUAGES DEPARTMENT"

1.1 PROBLEM STATEMENT.

This research is based on the bond between critical thinking skills and the effect on the students learning process. Learning is for everybody, and nowadays human beings need to acquire large amounts of information due to the advance of technology, as students need to learn how to think critically in order to reason and analyze everyday events.

Teachers should promote the development of critical thinking by making students rationalize about their own opinions. We can say that the development of critical thinking is not an easy process; a person has to scrutinize the dilemma by thinking rationally and objectively. Critical Thinking could be included in the curriculum in the Foreign Language Department in order to improve student's learning skills.

1.2 OBJECTIVES

General Objective.

To demonstrate the relationship between critical thinking and academic performance.

Specific Objectives.

1. To evaluate the levels of critical thinking that the students have.

2. To determine the academic performance of the students related to the use of critical thinking.

3. To explore the relationship between the critical thinking level, age, gender, and student's academic performance.

1.3 QUESTIONS OF THE RESEARCH

(No Hypothesis)

2. *THEORETICAL FRAMEWORK*

2.1CRITICAL THINKING HISTORY

Critical thinking roots are considered very old to the education practice and vision since the existence of Socrates, 2,500 years ago; his method of questioning is now known as "Socratic Questioning", which is important for the critical thinker to be as an art that leads to the excellence of thought, and it is also considered the best known critical thinking teaching strategy. In the Renaissance (15th and 16th Centuries), a flood of scholars in Europe began to think critically about religion, art, society, human nature, law, and freedom. They proceeded with the assumption that most of the domains of human life were in need of searching analysis and critique. Among these scholars were Colet, Erasmus, and Moore in England. They followed up on the insight of the ancients. Later on, the critical thinking movement seems to have begun with the work of John Dewey from 1910 to 1939 and his use of the terms "reflective thinking", which he based on the scientific method.

Socrates established the fact that one cannot depend upon those in "authority" to have sound knowledge and insight. He demonstrated that persons may have power and high position and yet be deeply confused and irrational. He established the importance of asking deep questions that probe profoundly into thinking before we accept ideas as worthy of belief. He established the importance of seeking evidence, closely examining reasoning and assumptions, analyzing basic concepts, and tracing out implications not only of what is said but of what is done as well. His method of questioning is now known as "Socratic Questioning" and is the best known critical thinking teaching strategy. In his mode of questioning, Socrates highlighted the need in thinking for clarity and logical consistency.

Socrates' practice was followed by the critical thinking of Plato (who recorded Socrates' thought), Aristotle, and the Greek skeptics, all of whom emphasized that things are often very different from what they appear to be and that only the trained mind is prepared to see through the way things look to us on the surface

(delusive appearances) to the way they really are beneath the surface (the deeper realities of life). From this ancient Greek tradition emerged the need for anyone who aspired to understand the deeper realities, to think systematically, to trace implications broadly and deeply, for only thinking that is comprehensive, well-reasoned, and responsive to the objections that can take us beyond the surface.

Later on, Thales of Miletus (585 b.c) was called by Aristotle “father of philosophy”. Thales of Miletus was the first one to ask about the beginning of everything. He presented his ideas as hypotheses to be improved.

In the Middle Ages, the tradition of systematic critical thinking was embodied in the writings and teachings of such thinkers as Thomas Aquinas (Sumna Theological) who to ensure his thinking met the test of critical thought, always systematically stated, considered, and answered all criticisms of his ideas as a necessary stage in developing them. Aquinas heightened our awareness not only of the potential power of reasoning, but also of the need for reasoning to be systematically cultivated and "cross-examined." Of course, Aquinas’ thinking also illustrates that those who think critically do not always reject established beliefs, only those beliefs that lack reasonable foundations.

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Francis Bacon, in England, was explicitly concerned with the way we misuse our minds in seeking knowledge. He recognized explicitly that the mind cannot safely be left to its natural tendencies. In his book The Advancement of Learning, he argued for the importance of studying the world empirically. He laid the foundation for modern science with his emphasis on the information-gathering processes. He also called attention to the fact that most people, if left to their own devices,

develop bad habits of thought (which he called "idols") that lead them to believe what is false or misleading. He called attention to "Idols of the tribe" (the ways our mind naturally tends to trick itself), "Idols of the market-place" (the ways we misuse words), "Idols of the theater" (our tendency to become trapped in conventional systems of thought), and "Idols of the schools" (the problems in thinking when based on blind rules and poor instruction). His book could be considered one of the earliest texts in critical thinking, for his agenda was very much the traditional agenda of critical thinking.

Some fifty years later in France, Descartes wrote what might be called the second text in critical thinking, Rules For the Direction of the Mind. In it, Descartes argued for the need for a special systematic disciplining of the mind to guide it in thinking. He articulated and defended the need in thinking for clarity and precision. He developed a method of critical thought based on the principle of systematic doubt. He emphasized the need to base thinking on well-thought through foundational assumptions. Every part of thinking, he argued, should be questioned, doubted, and tested.

2.2 WHAT IS CRITICAL THINKING?

2.2 a) CRITICAL THINKING CONCEPT

Several definitions of critical thinking have been used in education over years. Sometimes the term was used to represent something different form the one being studied here. Many researchers and philosophers, though, have defined critical thinking as this study requests. The most appropriated and pertinent are the ones that follow:

Chafee (1988) defined critical thinking as "our active, purposeful, and organized efforts to make sense of our world by carefully examining our thinking, and the thinking of others, in order to clarify and improve our understanding" (p.29).

According to Halpern (1989) critical thinking is "thinking that is purposeful, reasoned and goal directed. It is the kind of thinking involved, in solving problems, formulating inferences, calculating likelihoods, and making decisions" (p. 5).

Norris and Ennis (1989) provided one of the simplest definitions of critical thinking. They declared that critical thinking is the "reasonable and reflective thinking that is focused on deciding what to believe or do" (p. 18).

Peter Facione (1990) conducted a Delphi study, which will be described in the next section. In it a group of critical thinking experts drafted the following definition of critical thinking. They concluded

“We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. Critical thinking is essential as a tool of inquiry. As such, critical thinking is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, critical thinking is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent is seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and circumstances will permit. Thus, educating good critical thinkers means working toward this ideal. It combines developing critical thinking skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society “(p. 3).

Richard Paul (1995), a recent scholar in critical thinking, defined it as, “A unique and purposeful thinking in which the thinker systematically and habitually imposes criteria and intellectual standards upon the thinking, taking charge of the construction of thinking, guiding the construction of the thinking according to

[critical thinking] standards, and assessing the effectiveness of the thinking according to the purpose, criteria, and the standards [of thinking]" (p. 21).

Using each of the aforementioned definitions of critical thinking, Rudd, Baker, and Hoover (2000) drafted a definition of critical thinking that was comprehensive and succinct in describing critical thinking as it is conceptualized in this study. They wrote "Critical thinking is a reasoned, purposive, and introspective approach to solving problems or addressing questions with incomplete evidence and information and for which an incontrovertible solution is unlikely" (p. 5).

2.3 CRITICAL THINKING DEFINITIONS

Here are some terms that experts had stated about critical thinking and it is considered that it will be helpful for this investigation in order to create oneself idea about the topic and some of the definitions are the following:

- **Critical thinking**: the definition developed by a national panel of experts using Delphi inquiry is "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based"(Facione, 1990). More simply, "critical thinking is thinking that has a purpose..." (Facione, et al., 1998b).
- **Critical thinking skill/ability:** the competency level of utilizing the components of critical thinking. Three of Facione's (1990) skills (Analysis, Inference, and Evaluation), which were believed to be possible to measure and representative of all of the critical thinking skills outlined by the Facione Delphi study were used to depict critical thinking skill in our study.

- **Critical thinking disposition:** the pre-disposed attitude one innately possesses regarding critical thinking. The conceptualization used in this study was adapted from Facione's (1990) Delphi report. Facione developed six subscales (truth-seeking, open-mindedness, systematicity, self-confidence, inquisitiveness, and analyticity) of critical thinking disposition, which were discovered by Moore, Rudd, and Penfield (submitted for publication) to be lacking in discrimination power. The Delphi report was re-evaluated for this study, and three subscales (Engagement, Maturity, and Innovativeness) were generated to more effectively determine the specific factors of critical thinking disposition.

- **Efficacy:** "the power to produce an effect" (Woolf, 1977, p. 362)

2.4 CRITICAL THINKING LEVELS

First level

According to bloom's taxonomy pyramid, in the first level, students have the Knowledge and Comprehension, so they are able to classify, describe, discuss, identify, indicate, locate, recognize, report, review, select, translate.

Second level

In this, level students have some understanding so they are able to apply, choose, demonstrate, employ, illustrate, interpret, practice, schedule, sketch, solve, use, and write.

Third level

In this level students are able to analyze, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, and test.

Fourth level

In this level students are able to arrange, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, and write.

And the last level, fifth level

In the last level students are able to appraise, argue, assess, attach, choose, compare, judge, predict, rate, select, support, value, and evaluate.

2.5 CRITICAL THINKING STRUCTURE OR CONCEPTUALIZATION

To come up with the closest approach of critical thinking conceptualization, the work of a number of researchers has been reviewed. However, for the use of this study only significant contributors to the current theoretical framework of critical thinking used in this study were reported. Socrates, Plato, and Aristotle spawned some of the first forms of critical thinking, known as reasoning, logic, and questioning. Political and religious issues of the Renaissance and Enlightenment time periods also helped initiate critical theory in the time periods of Machiavelli and Thomas Paine. Other contributors to the present interpretation of critical thinking include Kohler, the famous Gestalt theorist, Marx, the economic philosopher, and eventually Paulo Freire, the father of the concept of the "pedagogy of the oppressed" (Borup, B. L., 2000).

Formal educational philosophy and epistemic origins of critical thinking in the United States can be traced back to Dewey (1933), who believed that there were three attitudes necessary to reflective action (critical thinking); open mindedness, responsibility, and wholeheartedness. Dewey's open mindedness required listening to more than one side of any issue. He felt that responsibility meant carefully evaluating the consequences of a potential action, and he felt that wholeheartedness demanded that critical thinkers be intentional in their search for the truth (Cheak, 1999). He also believed that critical thinking or reflective action

as he called it was a combination of skills and attitudes with the methods of critical thought. The next few researchers mentioned held the same belief.

Glaser (1941), who would eventually develop the widely used Watson-Glaser Critical Thinking Appraisal, defined critical thinking as the:

• Attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences,

• Knowledge of the methods of logical inquiry and reasoning, and

• Some skill in applying those methods.

Ennis (1989), who developed the Cornell Critical Thinking Tests, was a strong proponent of researching methods of assessment and teaching in critical thinking, which was context specific. According to him, “Critical thinking is reasonable and reflective thinking focused on deciding what to believe or do” (p. 18). Taube (1997) was a later researcher who also reported statistical and empirical evidence of two distinct factors of critical thinking, which are skills and dispositions.

Each of the aforementioned critical thinking researchers making major contributions to the development of critical thinking believed that critical thinking consisted of a dispositional and ability or skill dimension just as Dewey (1933) did. The final critical thinking researcher who found that critical thinking consisted of the skill and disposition dimension of critical thinking was Peter Facione (1990). He conducted a nationwide Delphi study to describe critical thinking. His contributions to critical thinking research through the Delphi study described below provided the major theoretical foundation for this study on critical thinking of youth leaders in the FFA.

2.6 THE DELPHI STUDY VERSUS CRITICAL THINKING

The numerous definitions of critical thinking and confusion concerning its specificity led to the need for additional refinement of the composition of the critical thinking construct. Facione (1990) assembled a group of forty individuals (52% from Philosophy, 22% from 21. Education, 20% from Social Sciences, 6% from Physical Sciences) recognized by their colleagues as having special experience and expertise in critical thinking instruction, assessment, or theory. Facione (1990) employed the qualitative research methodology known as the Delphi Method to develop the theoretical framework used for this study.

The Delphi study which ran from February of 1988 until November of 1989 consisted of six rounds of questions and responses. The findings of the Delphi Report are as follows:

• Critical thinking includes the dimensions of skill and disposition.

• There was consensus that critical thinking could be improved in several ways. The experts agreed that a person could critically examine and evaluate one's own reasoning processes, that they could learn how to think more objectively and logically, that they could expand their repertoire of those more specialized procedures and criteria used in different areas of human thought and inquiry, and that they could increase their base of information and life experience .

• While critical thinking skills themselves transcend specific subjects or disciplines, exercising them successfully in certain contexts demands domain-specific knowledge, some of which may concern specific methods and techniques used to make reasonable judgments in those specific contexts.

• There is a critical spirit, a probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a hunger or eagerness for reliable information which good critical thinkers possess but weak critical thinkers do not seem to

have. . . the affective dispositions are necessary for the critical thinking skills identified to take root and to flourish in students .

• It is inappropriate use of the term to deny that someone is engaged in critical thinking on the grounds that one disapproves ethically of what the person is doing. What 'critical thinking' means, why it is of value and the ethics of its use are best regarded as three distinct concerns.

A good critical thinker . . . is habitually disposed to engage in, and to encourage others to engage in a wide range of contexts and for a wide variety of purposes. Although perhaps not always uppermost in mind, the rational justification for cultivating those affective dispositions which characterize the paradigm critical thinker are soundly grounded in critical thinking's personal and civic value. Critical thinking is known to contribute to the fair-minded analysis and resolution of questions. Critical thinking is a powerful tool in the search for knowledge. Critical thinking can help people overcome the blind, sophistic, or irrational defense of intellectually defective or biased opinions. Critical thinking promotes rational autonomy, intellectual freedom and the objective, reasoned and evidence based investigation of a very wide range of personal and social issues and concerns.

- Many of the findings of the Delphi study are addressed in one way or another in this investigation. The first finding as stated above indicated that critical thinking includes the dimensions of skill and disposition. This consensual agreement among the experts was a reiterated point of critical thinking scholars preceding them (Dewey, 1933; Norris & Ennis, 1989), but Facione (1990) and his group of experts went a step further. They identified a set of specific skills and sub skills for the skill dimension and a specific set of attitudes for the disposition dimension (Facione, 1990).

2.7 MISREPRESENTATIONS OF CRITICAL THINKING

Critical thinking gives the impression to be a construct of pedagogical processing that is looked at and viewed in many different ways. To gain a more complete understanding of critical thinking, what critical thinking "is not" is reported in the following paragraphs.

Critical thinking is not about being better than someone else, it is not problem-solving, and it is not higher order thinking or cognitive processing. Many scholars engage what Richard Paul refers to as "pseudo critical thinking," which is a form of "intellectual arrogance masked in self-delusion or deception, in which thinking is deeply flawed" (1995, p. 49). Other well-meaning educators simply use the term critical thinking in place of other types of information processing that are very similar to, but at the same time different from critical thinking, such as problem solving.

Dr. Lowell Hedges (1991) was one researcher who understood the difference between problem solving and critical thinking. He constructed a dichotomous breakdown of critical thinking and problem solving. Note that according to Hedges (1991), problem solving is a linear process of evaluation, while critical thinking is an overlying set of abilities that allow the inquirer to properly facilitate each stage of the linear problem-solving process. (Table 1)

Some have also confused critical thinking with the cognitive processing or higher order thinking, supported by Bloom, et al. (1956) and Anderson and Krathwol (2001). Although this type of pedagogy does not necessarily entail hierarchical or linear processing, it does involve operation at a particular level: knowledge, comprehension, application, analysis, synthesis, or evaluation.

Table 1. Hedges views on critical thinking and problem solving.

Critical Thinking	Problem-Solving
Identifying, formulating, and solving problems	Recognizing a problem situation
Recognizing and using inductive reasoning; and solving problems	Defining the problem
Drawing reasonable conclusions from information found in various sources (whether written, spoken, tabular, or graphic) and defending one's conclusions rationally	Comprehending, developing, and using concepts and generalizations
Comprehending, developing, and using concepts and generalizations	Testing hypotheses and gathering data
Distinguish between fact and opinion	Revising hypotheses and testing revised or new hypotheses
Forming a conclusion	

2.7 a) CRITICAL THINKING SKILLS

The critical thinking skills identified by the panel of experts were Interpretation, Analysis, Evaluation, Inference, Explanation, and Self-regulation.

Interpretation is about comprehending and expressing meaning about a wide variety of experiences, beliefs, procedures, rules, etc.

Analysis was found to be about identifying the relationship between statements, questions, concepts or descriptions to express beliefs, judgments or reasons.

The experts thought that *Evaluation* was about assessing credibility of statements and representations of others and assessing the logical strength of statements, descriptions or questions.

Inference was found to be the ability to draw reasonable conclusions and/or hypotheses based on facts, judgments, beliefs, principles, concepts or other forms of representation.

The experts in the Delphi study found *explanation* to be about stating and justifying the results of one's reasoning using each of the aforementioned abilities.

Self-regulation, the last skill was found to be the ability of an individual to monitor their own personal cognitive activities to make sure that they are engaged in critical thinking.

2.8 CRITICAL THINKING AND LEARNING

Studies of the relationship between critical thinking skills and learning have indicated that the key of the connection between these two before mentioned is the following:

"The only capacity that we can use to learn is the human thought. If we think well while we learn, we learn well. If we think badly while we learn, we learn badly". (criticalthinking.org).

To learn the essential of a content people need to think toward the interior of that discipline. That is why to learn, for example, biology, people need to think biologically, to learn sociology; people need or should think sociological.

Linda Elder and Richard Paul declared that students need to learn to think critically to be able to learn in each educative level. Sometimes the critical thought that is required is elementary and fundamental; for example when studying a subject there are fundamental concepts that define the nucleus of the discipline and to begin to adapt it, people need to pay attention to the basic concepts. That means, to say in simple words the meaning of a concept with the purpose of giving details of the real meaning. Then, later on, in their words, students will give a concept that can be applied in real life.

If people do not have critical thinking as a guide in the learning process, the learning process by memorizing rules or memorization will become their primary resource. And that is when students forget easily, that is because they have not internalized the idea. They have concepts they have learnt by memorizing them, not by internalizing them. For example, most of the students do not internalize the concept of “democracy” what they do is they memorize phrases like " democracy is a government of people, by people, for people.” Nevertheless, students do not understand fully the meaning of that concept. And they are not able to make a concept of their own because they cannot develop a concept or give an example of it.

Besides that, most of the students are not capable of identifying the difference between democracy and other forms of government that are incompatible with democracy, for example, plutocracy. They do not understand the concept completely because they have not internalized the idea and they have not compared democracy with other forms of government. They do not consider the conditions inside a society and the details they should take into account to say if a society is being democratic or not. They cannot associate the concept of democracy with their own society. So, they cannot see possible solutions make a democratic society possible.

Then, by thinking critically, people are able to acquired knowledge, understanding, introspection and the ability to develop any concept. To learn a concept and its

content, people must think critically and analytically, so that way critical thinking gives them the tool not only to internalize the concept, but also to evaluate the quality of that concept. It also allows people to build a system in their minds, internalize it and use it in reasoning to solve problems in real situations.

2.9 TEACHING CRITICAL THINKING IN HIGHER EDUCATION

It is valuable to note the undeniable importance of teaching critical thinking in higher education. Thus, the World Conference on Higher Education for the Twenty-First Century (1999) when discussing the quality of education emphasizes the importance of reformulating the curriculum, specifically about students; the conference proposes students to become well-educated citizens deeply motivated provided with a critical sense, students that can be capable of analyzing social problems and find solutions to them with responsibility.

The development of critical thinking is a purpose indeed but the results are not encouraging; Kember (1997), after revising some evidences in the critical thinking research suggests that there are a series of factors that can be affecting the possibilities of developing critical thinking at higher education level. One of the factors is the curricula design which has been seen as crucial for teachers to focus on the core content of their classes, rather than the development of critical thinking. The author makes an attempt in explaining the specific nature of the content compared to those potentially generalizable skills.

In addition, teachers receive little advice on what might be considered a "good" thinking; In general, teachers are not clear on what it is supposed to help developing thinking on their students. Therefore, the emptiness of clarity regarding what critical thinking is; leads to confusion towards on how a good thinking could be developed and evaluated.

Sternberg (1987) established that there are eight fallacies of teachers regarding teaching and learning that inhibit the development of critical thinking.

1. Teachers believe they have nothing to learn from the students. In the field of critical thinking, the teacher is a learner who needs to be receptive to new ideas.
2. Critical thinking is only a teachers' matter. In that way the teacher must think about the answers and show them again, using the best available technology.
3. There is a better program to teach critical thinking. In this regard, Sternberg found that there is no better program for this, and the results depend not only on the program but also on the goals that are being pursued, therefore; it affects the context or culture in which the learner's thinking is.
4. The choice of a program of critical thinking is based on a binary number of elections. Usually what may result effective is the combination of a wide range of approaches.
5. Emphasis on the correct answer, when the thinking behind the answer is what really matters.
6. The discussion is a way; however, those who have focused on the topic believe that critical thinking can be considered an end in itself.
7. The notion of mastery in learning: the student is expected to reach 90% of correct responses in 90% of the time. Usually thinking and its execution can be improved with some existing condition for it.
8. The role of a course on critical thinking is teaching critical thinking.

In general, research suggests the existence of strong relationships between teachers' conceptions and the way they approach teaching (Kember, 1997). Those teachers who have simply followed the curriculum guidelines do not seem to teach "good thinking". Kember suggests that conceptions of teaching can be summarized in terms of two broad guidelines; centered on the teacher/content-oriented, and student/learning oriented. The orientation

centered on the teacher includes conceptions indicating that education is just imparting information, or transmitting structured knowledge, while the orientation centered on the student includes beliefs about “teaching” as facilitator to comprehension, promoter of the conceptual change and the intellectual development.

While the teaching of critical thinking has led to skepticism in some researchers, others have been interested in the opportunities offered to higher education, and have even explored how changes in thinking are associated with the type of discipline that students take.

3. METHODOLOGY

3.1 Context:

The research was exploratory. The investigation was going to give a diagnostic towards the existence and practice of thinking skills to develop critical thinking. This was a Qualitative and Exploratory research, taking students from Reading and Conversation II groups from the Foreign Language Department of the University of El Salvador.

One of the critical thinking tests used to reach the goals for this investigation was the following:

- *The Watson-Glaser Critical Thinking Appraisal (1980), created by Goodwin Watson and Edward Maynard Glaser. The Psychological Corporation, 555 Academic Court, San Antonio TX 78204. Aimed at grade 9 through adulthood. Multiple-choice, sections on induction, assumption identification, deduction, judging whether a conclusion follows beyond a reasonable doubt, and argument evaluation.*

The method applied in the research was a multiple choice questionnaire in which students had the opportunity to prove their critical thinking skills.

The test the students took consisted of a series of questions in which their making decision style was measured. The decisions everybody made were completely different from each individual´s. It contained 20 items which refers to actions, preferences, beliefs, habits and attitudes of everyday personal and professional life. For this, the students chose if they agreed or disagreed with the content of each sentence. If they agreed with the content, they had to mark “yes”, and if they did not agree with the content they had to mark “no”.

3.2 Place:

This research took place at the Foreign Languages Department of the University of El Salvador. First, the researchers had to speak to the coordinator to find out who the teachers in charge of reading and conversation II courses were. After knowing who the teachers were, the researchers spoke to the teachers in charge of the courses to arrange the date on which the questionnaires were going to be passed. All the questionnaires were administered at the Foreign Language Department classrooms of the University of El Salvador.

3.3 Time:

The pilot test instrument was administered from May 26th to June 4th, 2009. There were four reading and conversation courses, but only three groups were taken into account in the sample. The first group took the test on May 26th, 2009; then, the other two groups took the test on June 4th, 2009. Data analyses from the study and instrument revisions were completed by June 20th, 2009.

4. DESCRIPTION OF THE INSTRUMENTS

4.1 PARTICIPANTS:

It is calculated that about 60 students participated in the research. The Students were taken from fourth and fifth years of the Bachelor of Arts in English from the Language Department of the University of El Salvador. Even though, only 50 of them were valid, the participation of all students has been a great help for this research.

4.2 DESCRIPTION:

A descriptive exploratory study was carried out; it is exploratory because in this way, the research was less complicated, taking into account that there are not many studies about critical thinking. And it is a descriptive study because it allows outlining the structural or functional conditions of the chosen problem of investigation.

4.3 INSTRUMENTS

- **Survey.**

  This survey was oriented to identify students' beliefs as well as some personal information. Nevertheless, the most significant information was used to determine if there is a relation between the grades they get and the level of critical thinking they have.

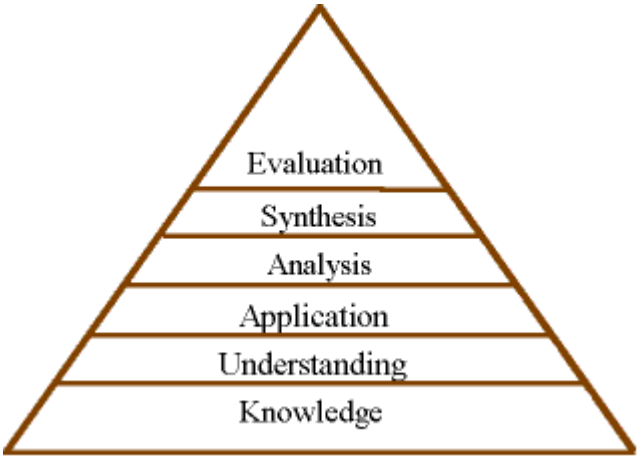
- **Critical Thinking Test**

  This test was inclined to recognize the critical thinking level students have.

5. RESULTS

5.1 ANALYSIS

One of the goals of this research was to find out the relation between statements, questions, concepts, or descriptions to express beliefs, judgments or reasons. This section provides a summary of critical thinking skills, analysis, inference, and evaluation. According to Bloom's taxonomy, the following pyramid shows the different levels of critical thinking skills.



First of all, it is necessary to define the different levels of critical thinking. The information below shows the different levels or classification of critical thinking skills.

The first level or level 1 (0-9).

According to bloom's taxonomy pyramid, in the first level, students have the Knowledge and Comprehension, so they are able to classify, describe, discuss, identify, indicate, locate, recognize, report, review, select, translate.

The second level (10-14).

In these level students have some understanding so they are able to apply, choose, demonstrate, employ, illustrate, interpret, practice, schedule, sketch, solve, use, and write.

The third level (15-16)

In this level students are able to analyze, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, and test.

Fourth level (17-18)

In this level students are able to arrange, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, and write.

And the last level, fifth level (19-20)

In the last level students are able to appraise, argue, assess, attach, choose, compare, judge, predict, rate, select, support, value, and evaluate.

As shown below, the following information found in this research has to do with the classification mentioned above. It became evident that the highest scores in academic performance usually did not match the higher critical thinking skills scores in most instances. Additionally, the highest grades in academic performance did not seem to be associated with higher critical thinking scores as well.

The table below shows the relation between critical thinking skills and academic performance.

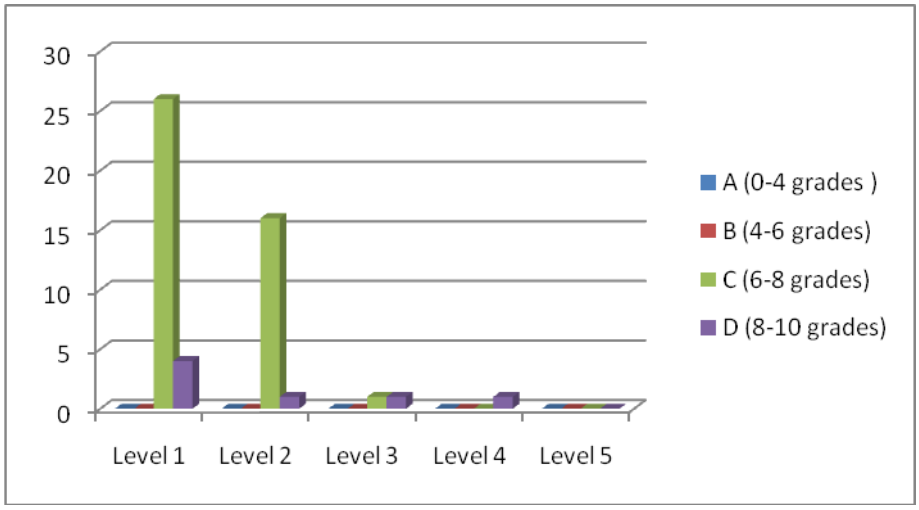
	Academic Performance				
Critical Thinking	**A** (0-4) grades	**B** (4-6) grades	**C** (6-8) grades	**D** (8-10) grades	Total
Level 1	0	0	26	4	30
Level 2	0	0	16	1	17
Level 3	0	0	1	1	2
Level 4	0	0	0	1	1
Level 5	0	0	0	0	0
Total	0	0	43	7	50

Level 5 was the highest level of critical thinking skills that a student could get while the lowest level was 1. Then, the highest grades in academic performance were represented by letter D while A was the lowest. As shown in the table above, none of the students chosen for this study got level 5 of critical thinking skills.

The majority of the students who usually get highest scores in academic performance did not get a higher level of critical thinking. They did not even get level 4 or 5 of critical thinking.

A total of 50 students were taken for this research. Nevertheless, 43 of them get grades between the ranges of six to eight. 26 got level 1 while 16 got level 2 of critical thinking.

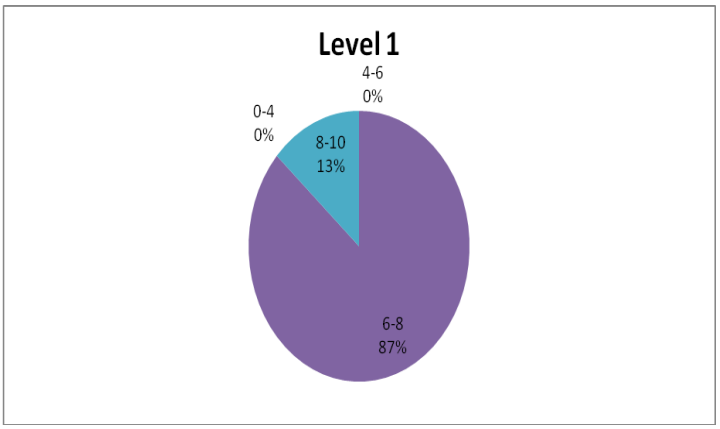
The total of students who usually get grades between eight and ten was seven. Most of them, a total of 4 students, got level 1 of critical thinking. And only one person got level 4 of critical thinking.

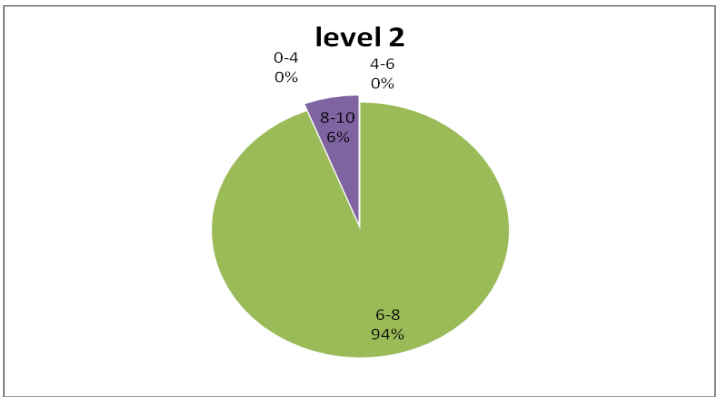


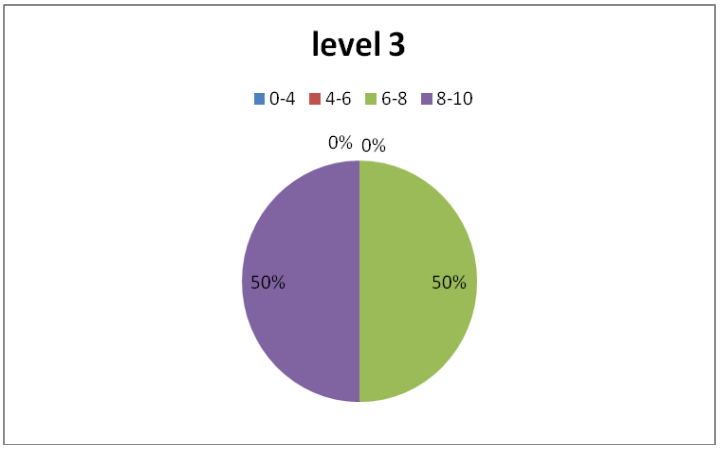
Also, for more details, the information below shows the levels of critical thinking and how they are represented.

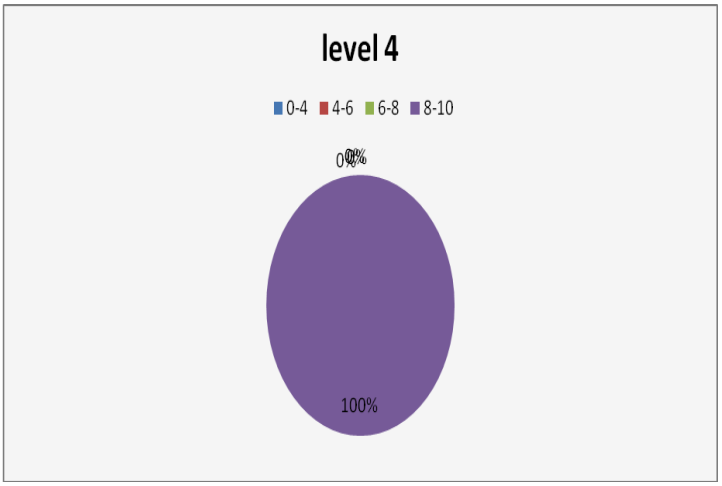
Levels of critical thinking

level 1		level 2		level 3		level 4		level 5	
0-4	**0**	0-4	**0**	0-4	**0**	0-4	**0**	0-4	**0**
4-6	**0**	4-6	**0**	4-6	**0**	4-6	**0**	4-6	**0**
6-8	**26**	6-8	**16**	6-8	**1**	6-8	**0**	6-8	**0**
8-10	**4**	8-10	**1**	8-10	**1**	8-10	**1**	8-10	**0**


Level 1
4-6
0%
0-4
0%
8-10
13%
6-8
87%


level 2
0-4
0%
4-6
0%
8-10
6%
6-8
94%

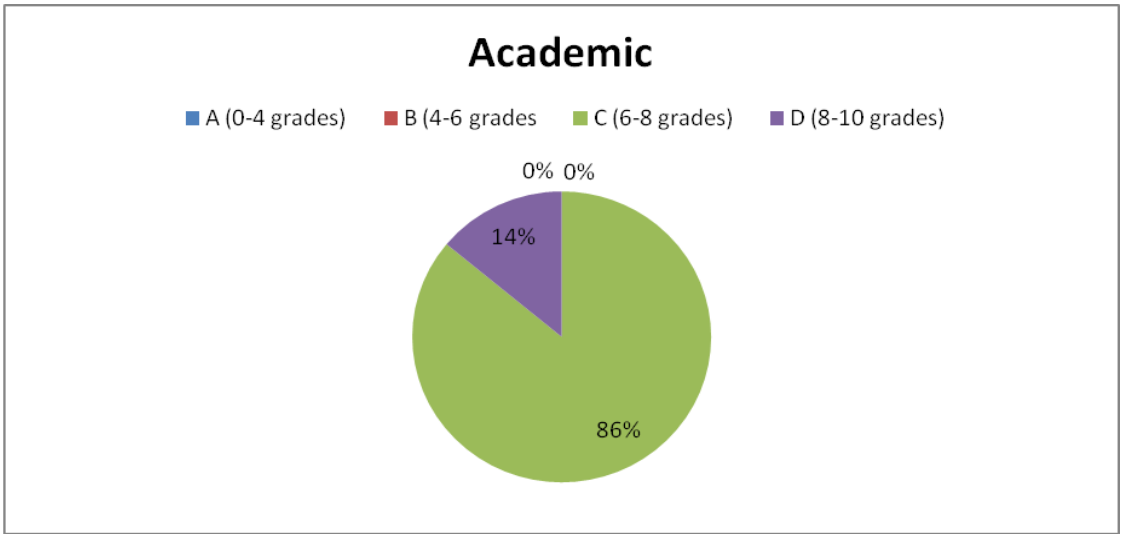

level 3
0-4
4-6
6-8
8-10
0%
0%
50%
50%


level 4
0-4
4-6
6-8
8-10
100%

The following chart shows the total of students that were taken as a sample for this research. 50 students were taken, and 43 of them got grades between the ranges of 6 to 8 represented by letter C, and they also got only level 1 of critical thinking skills. So, it became evident that most of the students got C, and only 14% of the population got grades between the ranges of 9 to 10, represented by the letter D while 84% of the population got C.

And the same information is represented in the graph below.

Academic Performance	Number of people	Percentages
A (0-4 grades)	0	0%
B (4-6 grades	0	0%
C (6-8 grades)	43	86%
D (8-10 grades)	7	14%
total	50	100%



5.2 FINDINGS

Based on the findings of this study, the following conclusions were drawn:

- Comparatively, critical thinking skill scores were not high at all. Although, this was the first administration of the test, the scores were much lower than expected. This is something really worrying since the university is the place where students are supposed to develop critical thinking, so if they do not do it here, where are they supposed to get critical thinking from?

- An increase in age did not translate into higher total critical thinking skill scores. According to this study the age has nothing to do with the skills students develop in critical thinking.

- Women between 20 to 25 years old were the most competent in the specific skill of analysis and evaluation; however, they were the least competent in academic performance.

- Though not statistically significant, females scored higher than males in terms of the critical thinking skill of analysis, meaning females may be more adept at "identifying the intended and actual inferential relationships among statements, questions, concepts, descriptions of other forms of representation intended to express beliefs, judgments, experiences, reasons, information, or opinions" . They also scored higher than males in their ability to make inferences, meaning females were more able to "identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to reduce the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation"

5. 3 CONCLUSIONS

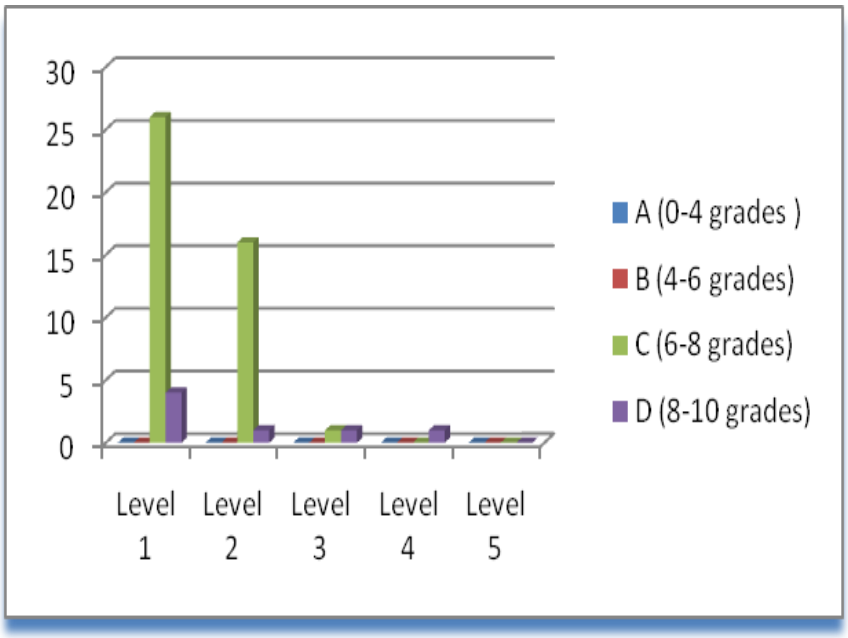
- **General Objective.**

To demonstrate the relation between critical thinking and academic performance.

The main objective was to demonstrate the relationship between the critical thinking skill level of the language department students and student academic performance.

It seems that there is no relation between critical thinking and academic performance, since higher grades did not match higher critical thinking levels.

	Academic						
sedarG / lacitirC gnikniht	A (0-4 grades)	B (4-6 grades)	C (6-8 grades)		D (8-10 grades)		Total
Level 1	0	0	60%	26	57%	4	30
Level 2	0	0	37%	16	14%	1	17
Level 3	0	0	2%	1	14%	1	2
Level 4	0	0	0%	0	14%	1	1
Level 5	0	0	0%	0	0%	0	0
Total	0	0	100%	43	100%	7	50

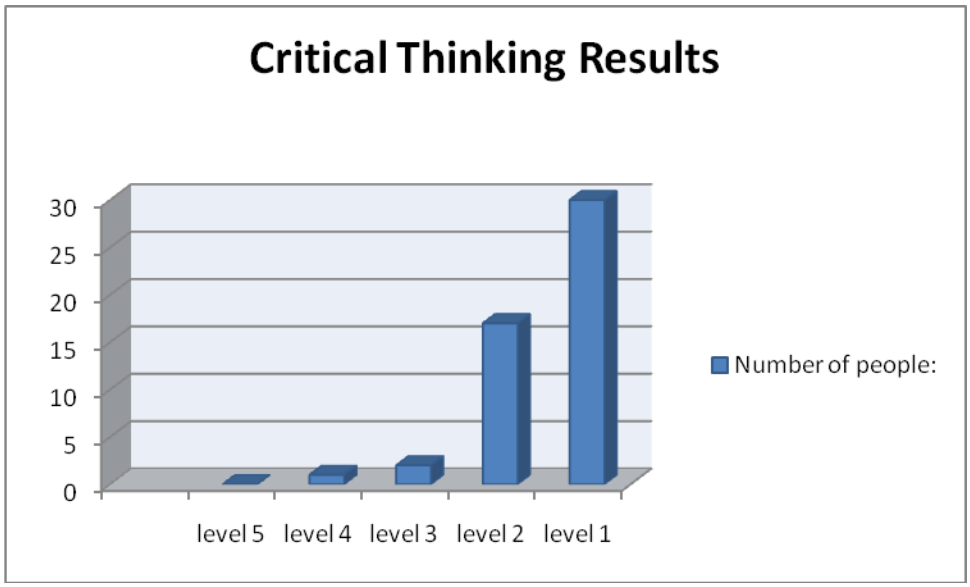


- **Objective One**

Objective one was to determine the critical thinking skill level of students of reading and conversation I at the language department. As a whole, the students who participated in the study scored in the lower range of the critical thinking skills test, which measured the participants' skill level in the specific critical thinking constructs of Analysis and Evaluation.

It has been demonstrated that levels of critical thinking in the Foreign Language Department are even lower than expected; therefore, it is necessary to implement courses to develop critical thinking skills.

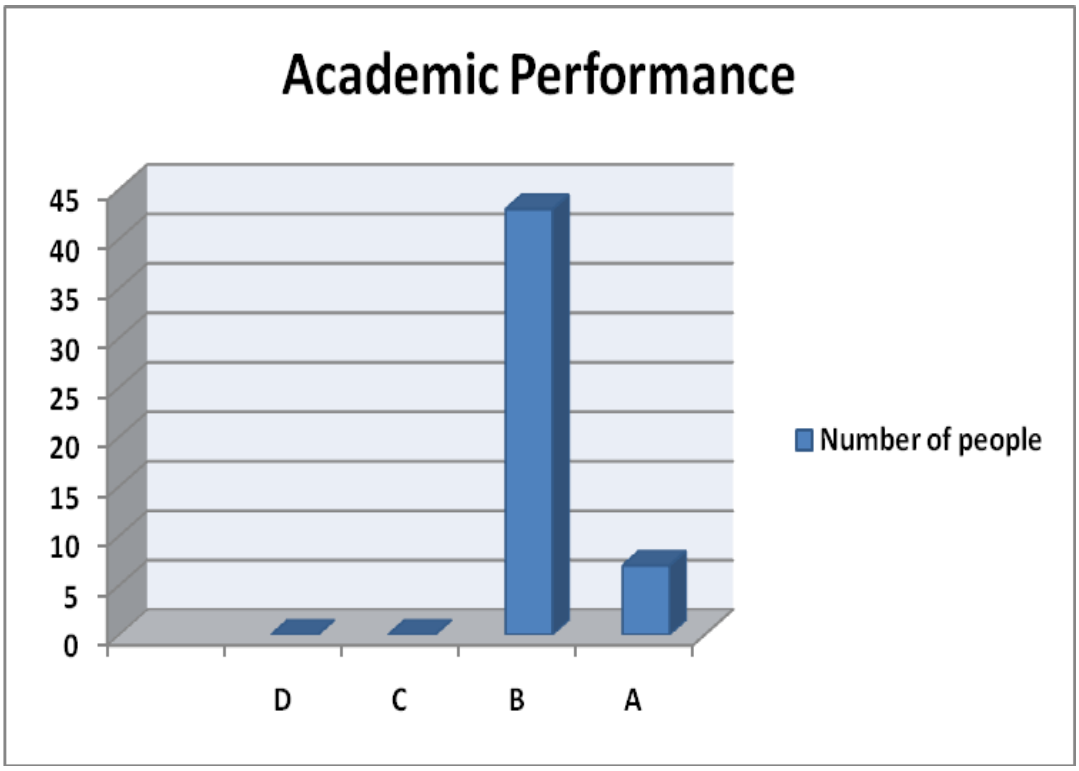
Critical Thinking categories	Number of people:	Percentage
level 5	0	0%
level 4	1	2%
level 3	2	4%
level 2	17	34%
level 1	30	60%
total	50	100%



- **Objective Two**

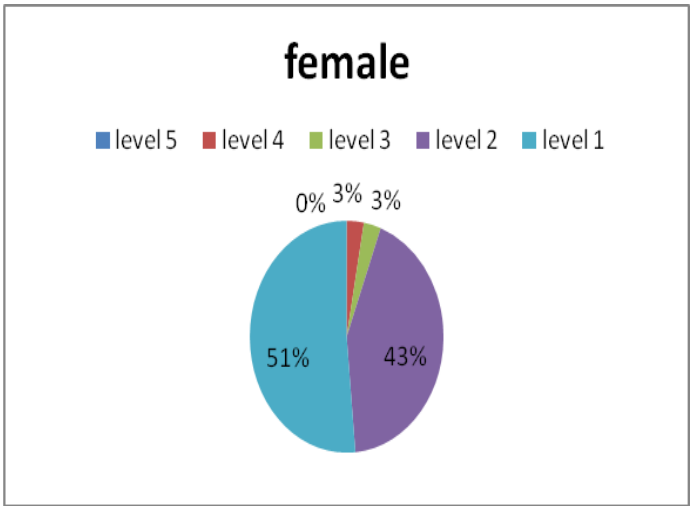
Objective two was to determine the academic performance of the students related to the use of critical thinking skills. Higher scores in academic performance were not related to higher critical thinking scores. This information became evident as the highest scores in academic performance were not usually matched with higher critical thinking skill scores in most instances. Additionally, the highest grades in academic performance seemed not to be associated with higher critical thinking scores as well. As a result, students seemed to learn by memorizing instead of internalizing the information.

Academic Performance	Number of people	Percentage
D	0	0%
C	0	0%
B	43	86%
A	7	14%
total	50	100%

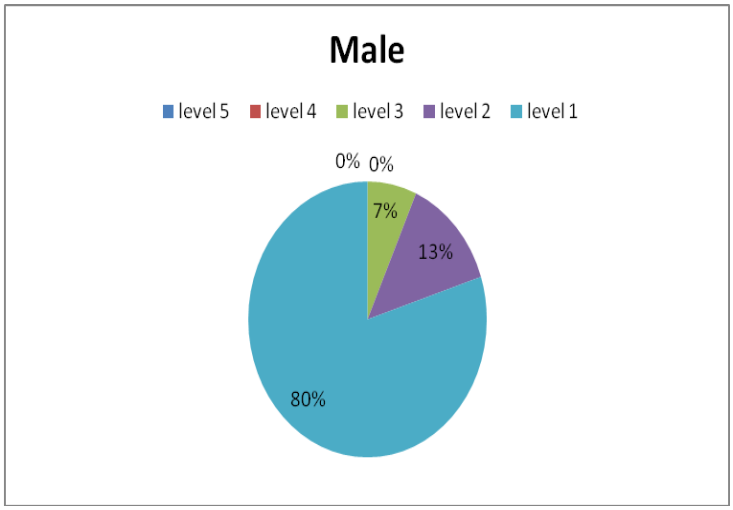


- **Objective Three**

Objective three was to explore the relationship between the critical thinking skill level of the language department students and age, gender, and student academic performance. The demographic breakdown indicated little variety in critical thinking skill scores of participants. Since the universe taken for this research was not identical



Female



Male

Critical Thinking categories	Number of people:	Percentages
level 5	0	0%
level 4	1	3%
level 3	1	3%
level 2	15	43%
level 1	18	51%
Total	35	100%

Critical Thinking categories	Number of people:	Percentages
level 5	0	0%
level 4	0	0%
level 3	1	7%
level 2	2	13%
level 1	12	80%
total	15	100%

5.4 RECOMMENDATIONS

Based on the findings of this study,the following recommendations were made:

- Since the critical thinking abilities of the students in the Foreign Language Department of the University of El Salvador were low, and since other researchers (Lynda elder; Cano & Martinez, 1991; Cano, 1993) would agree that any student has the potential to be more competent at critical thinking, educators should teach programs to develop critical thinking. It is necessary to include some subjects to help and train students on how to develop critical thinking skills.
- The findings of this study suggest that the Foreign Language Department is not doing a very good job trying to develop critical thinking in the students. The findings also suggested that the higher results in critical thinking do not have anything to do with better results in academic performance. On the other hand, there seem to be a lot of deficiencies in critical thinking skills in most of the students taken for the research. Therefore, educators at the Foreign Language Department should incorporate teaching strategies that are intended to improve the critical thinking skills of students. If students do not develop critical thinking at college, where are they going to develop it?
- Teachers and educators interested in developing critical thinking should make an effort, not only to develop it, but sustain, encourage students to work through problems, query the evidence, and practice the tough decisions with thorough and sound thought consistently and repeatedly.
- Teachers should use, develop, and use workshops, and activities that focus students' abilities to assess the credibility of statement and representations of others and assessing the logical strength of statements, descriptions or questions. In other words, the specific critical thinking skills of evaluations should be one of the most immediate goals of educators and teachers.
- Lastly, instruments, such as the critical thinking test used in this research should be used to track students' critical thinking progress.

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7.ANNEXES

ANNEX 1

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

Thank you for taking part of your time to participate in this project. This information will be vital for this research project.

Objective: To evaluate the levels of critical thinking that the students have.

Instructions: Read the instructions of the test carefully and start answering only after you have a clear picture of what is required. There is not time for the completion of the test. Most people complete the test in less than 30 minutes.. It is required to answer to all questions for the test to be considered complete. Please make sure, before turning over your answers that you have answered all questions.

• TEST OF CRITICAL THINKING SKILLS (DIAGNOSTIC QUIZ)
carné number_____

1. If capital punishment dissuaded murders, it would be justified. But since it does not dissuade such crimes, does it follow that it isn't justified?	Yes _____	No _____
2. Suppose it is true that if Clyde studies philosophy tonight, he will flunk his math test tomorrow, and if he studies math instead, he will flunk his philosophy exam. Suppose it is also true that he cannot study for both exams (not enough time). Does it follow that Clyde is going to flunk at least one of his exams tomorrow?	Yes _____	No _____
3. My spoon is dry, and my spoon would be wet if I had stirred my coffee. And I would not have stirred my coffee unless I had put sugar in it. So, I must not have sugared my coffee, right?	Yes _____	No _____
4. In order for an argument to be convincing, its ***premises*** must be true.	Yes _____	No _____
5. Police: Sorry, but only people with a special ZZ permit can park here. Driver: Well, since I have a ZZ permit, that means I can park here. Is the driver in the right?	Yes _____	No _____
6. If someone's argument begs the question, it still remains a valid argument.	Yes _____	No _____
7. Mary says she won't sleep with Clyde unless they are married. Clyde agrees to get married. But, on their honeymoon, Mary still refuses to sleep with Clyde. Did Mary break her promise?	Yes _____	No _____
8. Lincoln's famous quotation, "You can fool some of the people all of the time and all of the people some of the time, but you	Yes _____	No _____

can't fool all of the people all of the time," is a cogent argument.		
9. As we all know, spheres cast curved shadows, and the Earth casts a curved shadow on the moon during lunar eclipses. Does this prove that the Earth is spherical?	Yes _____	No _____
10. The president of IBM certainly has influence. Yet, he was unable to enroll his daughter at Whatsamatta University. Therefore, it is false, as some people have been suggesting, that only persons with influence can get their children enrolled at Whatsamatta U.	Yes _____	No _____
11. If the truth of statement A implies the falsity of statement B, then the falsity of A implies the truth of B.	Yes _____	No _____
12. Life is meaningless if there is no God. But life is not meaningless. This entails that there must be a God.	Yes _____	No _____
13. If it is true that on a clear day you can see across the Mississippi River (to the other side), does it follow that if one can see across the Mississippi River it is a clear day?	Yes _____	No _____
14. Suppose George knows that Susan stole the money. He wants to protect her, though. And so, when the police come to question him, the conversation goes as follows: Police: Do you know who stole the money? George: Well, I'm not absolutely sure it was Blackie, but I know it was either he or Susan. Did George lie to the police?	Yes _____	No _____
15. The difference between deductive arguments and inductive arguments is that deductive arguments go from general premises to specific conclusions, whereas inductive arguments go from specific premises to general conclusions.	Yes _____	No _____
16. The famous argument "All men are mortal, and Socrates is a man; therefore, Socrates is mortal," is a syllogism.	Yes _____	No _____
17. ***Slippery Slope*** (careless) arguments are fallacious.	Yes _____	No _____
18. Criticism by Reductio ad absurdum is fallacious, but criticism by Ad hominem is not.	Yes _____	No _____
19. Using vague terms in one's premises to aid in the inference to one's conclusion is equivocation.	Yes _____	No _____
20. Vagueness is not the same as ambiguity.	Yes _____	No _____

ANNEX 2

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

Thank you for taking part of your time to participate in this project. This information will be vital for this research project.

Objective:

Survey questions

1. Name:_____
2. Carné number_____
3. Gender
    - Female
    - Male
4. How old are you?
    - Under 18
    - Between 18 to 20
    - Between 20 to 25
    - Between 25 to 30
    - Between 30 to 35
    - More than 35
5. What grades do you usually get?
    - Under 4
    - From 4 to 6
    - From 6 to 8
    - From 8 to 10