

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



**“THE IMPORTANCE OF DEVELOPING COGNITIVE ABILITIES WHEN
STUDENTS OF MODERN LANGUAGES MAJOR LEARN ENGLISH AND
FRENCH SIMULTANEOUSLY, DURING SEMESTER I-2017 AT THE FOREIGN
LANGUAGE DEPARTMENT, MAIN CAMPUS, UNIVERSITY OF EL
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**BACHELOR OF ARTS IN MODERN LANGUAGES WITH SPECIALIZATION IN FRENCH
AND ENGLISH**

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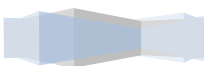
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INTRODUCTION

This research is a brief contribution to the field of Second Language Acquisition in the University of El Salvador in the Modern Languages Major where the researchers' main goal is to determine the importance of developing cognitive abilities when learning English and French simultaneously. At the same time this study classifies and defines the cognitive abilities such as planning, divided attention, inhibition, processing speed, shifting, short-term memory, visual short-term memory and auditory perception as the main cognitive abilities that people can develop when they learn a foreign language.

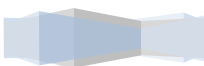
When talking about cognitive abilities the researchers refer to the ability to acquire and gather factual information and knowledge that can easily be tested, in this case the information is all about a second language acquisition and the skills that students can develop by learning to listen, speak, read and write.

It is also presented the advantages of being multilingual, such as improvements in the functions of the brain, increase the brain size, a brain protected against aging, better planning, prioritizing, and decision making, switch between task quickly, and better metalinguistic awareness between others.

Since the research was conducted in El Salvador it was also taken into consideration the background and reality of this country in field of bilingualism and second language learning which according to the investigations its English and French level is very low.

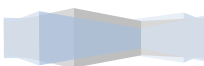
Age was an important factor taken into account in order to see if the age affect or not learning a second language. Since this is a topic that is in discussion, the opinions of some authors such as Charles Williams and Houwer are contrasted in this study in order to understand and see the best time to learn English or French.

After making a research about all the topics above, a series of methodologies was administered in order to make a comparison between the cognitive abilities that the students develop along the Modern Languages major. All the results are graphically presented with a description, conclusion and recommendation based on the data analysis. All the results gotten are presented to the University of El Salvador; so that, they can be helpful for future changes in order to improve the second language learning in the Foreign Languages Department.



CHAPTER I

RESEARCH PROPOSAL



DELIMITATION

The present research will be carried out from March to September 2017 covering a total of 7 months. The main participants in this research will be students and teachers from the Modern Languages major at the Foreign Languages Department, Main Campus, University of El Salvador. Specifically, two teachers who will be in charge of Intensive French I and French Commerce, as well as 50 students that are taking those courses. This study is focused on the importance of developing cognitive abilities when students of the Modern Languages major learn English and French simultaneously, during the semester I-2017 at the Foreign Languages Department, Main campus, University of El Salvador.

Thereby, this research aims to motivate students to enhance their knowledge of languages by practicing their macro abilities (writing, speaking, reading and listening) and show them the advantages of being multilingual since during the process of learning many students get frustrated when they face the process of acquiring two foreign languages at a time and also to decrease the number of students that abandon the major when they reach this point of frustration either by doing an internal transfer to English Teaching major or to a completely different major and Department.

In order to support and to study this topic deeper, the following points will be included in the theoretical framework: Human cognitive abilities, bilingualism in El Salvador, Classification of cognitive abilities, cognitive abilities and age, improvements in learning and the cognitive advantages of being multilingual. Additionally, a fieldwork will be carried out in order to gather information. A survey will be administered to students and an interview will be hand out to know the teacher's perception about the cognitive abilities that are developed in their classes to get a high proficiency level in regards of the language learning.

STATEMENT OF THE PROBLEM

Learning English and French has become one of the most popular careers to study in El Salvador. This is because it opens doors to grow professionally not only in the country but also internationally. That is the reason why, this research will be oriented to students and teachers of the Modern Languages Major at the University of El Salvador, so that, they can be aware of the cognitive abilities that they need to work on to have a better development when learning languages.

To work on the development of the cognitive skills like attention, processing, shifting, focus and auditory perception, which ones will be described in the theoretical framework, is necessary since it is important to remember that the learning process is not only gathering information but also putting it into practice when working on the four macro skills listening, speaking, reading and writing.

After being emerged in the Modern Languages major at the university of El Salvador, the researchers believe that one of the problems is that some teachers focus their teaching techniques only in macro skills like reading and writing, but according to Thomas S. C. Farrell in his book *Reflecting on teaching the four skills (2012)*: “All four skills should be view as being equally important and taken as a whole because the success of the school program may well depend on both the strengths of its curriculum and also the teaching skills of its staff”. This means that all the macro skills are important and should have the same priority level. Because of this, the researchers propose to have professors to teach how to learn a second language by developing the cognitive abilities since the beginning of the major and let the students now that there are some abilities like inhibition, shifting and auditory perception which are essential to reach a good proficiency level in the four macro skills and have an easier learning process.

The four skills can be used together in daily activities when students and teachers have a clear idea of the specific areas to work on when referring to listening, speaking, reading and writing in order to provide the opportunity for the pupils to develop each of the abilities in a simultaneously way. In the University of El Salvador, it is important to notice that there are new candidates arriving to the Modern Languages major every year without awareness of the skills that they need to develop along the career in order to reach a high proficiency level in both languages, French and English. This is because they are instructed to focus only on macro skills but not in the cognitive skills that are related to them. This situation leads them to feel frustrated, stressed and confused during the first contact with the new language in which one they need to have a simultaneous learning.

As a result of the frustration, stress and confusion, many students decide to apply to a different major where they feel that they are able to develop themselves as professionals. Also, they may abandon their studies if during the major their grades are not the expected ones and they feel that they may fail the course. Finally, many students will continue with their studies but they will present a lower proficiency level since they are not aware of the areas in which ones they can work to improve their learning process.

After the problems mentioned above, the researchers present the following statement of the problem to know more about:

“The importance of developing cognitive abilities when students of Modern Languages major learn English and French Simultaneously, during the semester I-2017 at the Foreign Languages Department, Main Campus, University of El Salvador ”.

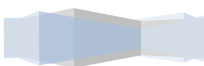
OBJECTIVES

➤ GENERAL OBJECTIVE

- To determine the importance of developing cognitive abilities when students of the Modern Languages major learn English and French simultaneously.

➤ SPECIFIC OBJECTIVES

- To classify the cognitive skills that are implied in the process of learning two languages at the same time.
- To present the advantages that the cognitive abilities bring not only to the professional area but also to the academic and personal life.



JUSTIFICATION

At the University of El Salvador, the third major with more candidates applying to study in is the Modern Languages Major, at the Foreign Languages Department (FLD). This major demands students to learn two languages simultaneously, which are French and English. As a result, it is necessary for the students to develop specific cognitive abilities to reach a high proficiency level.

However, a big complexity emerges when talking about the development of cognitive skills since there are many areas like neurology, psychology, anthropology, philosophy and even sciences in which ones these can be applied. that is the reason why this study will be focused only in the cognitive skills that are completely related to sciences and more specifically it will be focused on the area of second language acquisition in which one the cognitive abilities are particularly related with oral language – listening and speaking – and written and printed language – reading and writing – which need to be developed by students along the major.

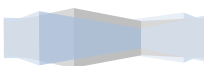
Based on previous observation and own experiences of researchers, there are several aspects that need to be understood in order to determine why it is important to reach a high proficiency level in the macro skills mentioned above when learning two languages at the same time.

Starting on the main purpose of this research, it is extremely important to understand how students from the Modern Languages major at the FLD are influenced cognitively when they are exposed to two languages and how they overcome with the simultaneous learning process. Is it correct the way they are taught? Are they ready to learn languages simultaneously? Are they willing completely to learn? These previous questions emerge due to the reason that most of the students from the Modern Languages major already have a previous

knowledge of the language but there are others that have never been in contact with it.

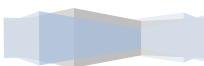
The previous idea carries another question: Are students on the first semester of the major who learn two languages simultaneously aware of the cognitive skills that need to develop to learn a language? This is basically why this research needs to be carried out, because it is important to show that the cognitive abilities bring advantages that will help to improve the learning process, make it easy and feel comfortable when acquiring new languages.

Finally, it is important to know about this situation because as mentioned before, the Modern Languages major is one of the most claimed careers within the university and because of this the candidates need to be aware about what they will face once they are students of the FLD in order to become fluent speakers of the Foreign Languages. Besides that, the benefit that this investigation will bring is that the students will know how to handle their skills and work to improve them and also will be a point of reference for teachers who would like to help students to focus on their strengths instead of their weaknesses when they are beginning the process of acquisition of a second language.



CHAPTER II

THEORETICAL FRAMEWORK



LITERATURE REVIEW

Being bilingual or multilingual, nowadays, is one the most popular characteristic that a person can develop since it is scientifically proved that they can perform better in different activities. However, bilingualism was not always considered a source of contribution for mental and intellectual progress of people. According to Catherine de Lange, in her article Health and Science (2012) she stated “Since at least the 19th century, educators warned that learning two languages simultaneously would cause confusion and would unable learning either language properly”. Besides that, Catherine mentions that in the past some expert thought their brain would become confused and that it might even contribute to schizophrenia or split identities.

However, recent studies changed the perspective about bilingualism. In 1962 Elizabeth Peal and Wallace Lambert at McGill University in Montreal found that the ability to speak two languages does not stop overall development, on the contrary, it helps to perform in other areas such as socioeconomic status and education. They also found that bilinguals outperformed monolinguals after having administrated 15 verbal and nonverbal tests. This means that the old myths about bilingualism affecting people intellect can be removed because scientific studies support it.

Being multilingual, like in the case of the Modern Languages students in the University of El Salvador, is not only learning to speak one language but also to learn own abilities as a person. In the 2008 and 2010, Dr. Thomas Bak from the Centre for Cognitive Ageing and Cognitive Epidemiology at the University of Edinburgh, conducted a research where he applied an intelligence test to students from eleven years old to evaluate their abilities before learning a second language. Six years later, after being exposed to second language learning, Bak applied the test to the same students and he found that the cognitive abilities had changed.

The findings of Bak's study showed that bilingual people had better cognitive abilities and there was a significantly improvement in reading, attention, focus and fluency. This explains the impact of Second Language acquisition in the population which makes people not only grow up professional but also intellectually to make life easier and more relax.

The following are advantages and abilities that bilingual people can develop:




- Better metalinguistic awareness (ability to identify and describe characteristics and features of language)
- Better classification skills
- Better concept formation
- Better analogical reasoning
- Better visual-spatial skills
- Better storytelling skills
- Better semantic Development
- Better planning, prioritizing, and decision making
- Be more perceptive in their surrounding
- Understand other's point of view
- Better memory and memorization skills, including better working memory
- Switch between task quickly
- Creativity
- Good listening skills

The characteristics mentioned above give a higher value to the fact of bilingual in the new society because the marvelous benefits are seen in different areas such as cognition and social-emotional. Recent researches done by Kovács and Mehler, (2009) show that people who learn more than one language have better self-control which a big contribution in the society to have a peaceful, thinking and relaxed population.

➤ BILINGUALIMS IN EL SALVADOR

According to an article published in the page of the Central America Data Business Information, (2014), the Education First's English in Costa Rica the English level is low, while in Panama, Guatemala and El Salvador the English level is very low. When it comes to El Salvador the English level is very low because learning a Second Language is not included on the school program, especially on public school. In El Salvador in order to learn a second language people need to go to private academies or choose one of the majors at the universities that offer either some subjects in English or the specialization in foreign languages.

The next information will show us there are only three universities in El Salvador where students can study languages simultaneously or sequentially. We can schematize this in the next Table below:

University	Simultaneous	Sequential
 Universidad Nacional de El Salvador	Lic. En Lenguas Modernas especialidad en Francés e Inglés.	Lic. en Idioma Ingles, opción enseñanza.
 Universidad Don Bosco		Licenciatura en Idiomas con especialidad en Turismo.
 Universidad Evangélica de El Salvador		Licenciatura en Traducción e Interpretación del idioma Inglés

It is important to take into consideration that In El Salvador, in most of the cases, when students are exposed to a second language acquisition they are in adulthood which according to Houwer it is possible for adults to learn a SL without

discrimination of age. For the Modern Languages students from this department who study the Modern Languages Major are in a process where they study and learn English and French simultaneously, and there is a particular characteristic, both languages are not spoken in the country, this means, the only input students get is from their teacher and from virtual exposure through websites such as YouTube, Facebook, and some others for language exchange.

THEORETICAL BASES

For a long time, many researches about cognitive abilities had been carried out and it is important to mention that these had been carried out in many areas. In this occasion, this research will be oriented to the importance of developing cognitive abilities when students of Modern Languages major learn English and French Simultaneously and, this is the reason why many terms need to be defined in order to have a better understanding of the topic. After the presentation of the terms, a classification of the most important ones related to this work will be needed since there are many of them that are more oriented to different areas like psychology, neurology and others.

➤ COGNITION

The word cognition comes from the Latin root *cognoscere*, which means “to know”. Therefore, cognitive abilities include all the psychological processes and activities involved in thinking and knowing. This includes how the information is acquired, processed and organized. (Oakley, 2014).

When we talk about cognition, we are usually referring to everything that is related to knowledge, in other words, the accumulation of information that we have acquired through learning or experience.

The most accepted definition of cognition is the ability to process information through perception (stimuli that we receive through our different senses), knowledge acquired through experience, and our subjective characteristics that allow us to integrate all of this information to evaluate and interpret our world. In other words, cognition is the ability that we have to assimilate and process the information that we receive from different sources (perception, experience, belief...) to convert them into knowledge. Cognition includes different cognitive processes, like learning, attention, memory, language, reasoning, decision making, etc., which form part of our intellectual development and experience.

➤ **COGNITIVE ABILITIES**

Although the term *cognitive ability* is in common usage in scientific discussions among psychologists, educators, and other specialists, its precise definition is seldom explicated or broadly explained. Oddly enough, dictionaries are of little help in developing an exact, analyzed meaning of the term. The Merriam-Webster dictionary defines it as *the ability to acquire factual information, often the kind of knowledge that can easily be tested*.

The brain uses foundational skills, called cognitive skills, to accomplish these activities. Working together, these skills take incoming information and move it into the bank of knowledge we use every day at school, at work, and in life.

Each of our cognitive skills plays an important part in processing new information. That means if even one of these skills is weak, no matter what kind of information is coming our way, grasping, retaining, or using that information is impacted. In fact, most learning struggles are caused by one or more weak cognitive skills.

➤ COGNITIVE SKILLS DEFINITION

Here's a brief description of each of the cognitive skills according to **Cognifit**, a healthcare company that develops online cognitive assessments and brain training computer programs which was founded in 1999 by Professor Shlomo Breznitz:

- **Auditory Short-term Memory**
The ability to remember auditory information over a brief period of time.
- **Contextual Memory**
The conscious recall of the source and circumstances of a specific memory.
- **Divided Attention**
The ability to execute more than one action at a time, while paying attention to a few channels of information.
- **Focus**
The ability to sort different visual and auditory stimuli so as to prioritize actions.
- **Hand-eye Coordination**
The level of sensitivity with which the hand and eye are synchronized.
- **Inhibition**
The ability to ignore irrelevant stimuli or suppress irrelevant reactions while performing a task.
- **Naming**
The ability to retrieve a word from our semantic lexicon and is considered to be a basic ability.

- **Planning**
The ability to "think ahead", to mentally anticipate the correct way to execute a task.
- **Processing Speed**
Involves the ability to fluently perform easy or over-learned tasks.
- **Recognition**
The ability to retrieve information from the past and to recognize certain events, places or other information.
- **Response Time**
The ability to perceive and process a simple stimulus and respond to it.
- **Shifting**
A mental process during which people redirect their focused attention from one channel of information to another one.
- **Short-term Memory**
The ability to hold a small amount of information in a readily, available state for a short period of time.
- **Spatial Perception**
The ability to evaluate how things are arranged in space, and investigate their relations in the environment.
- **Updating**
The ability to respond in a flexible and adaptive manner in order to keep up with the changes in the environment.

- **Non-verbal Memory**
The ability to store and retrieve information which are non-verbal by nature.
- **Visual Perception**
The ability to interpret information from the effects of visible light reaching the eye.
- **Visual Scanning**
The ability to actively find relevant information in our surroundings quickly and efficiently.
- **Visual Short-term Memory**
The ability to temporarily retain a small amount of visual information.
- **Working Memory**
Refers to the temporary storage and manipulation of the information necessary for complex cognitive tasks.
- **Width of Field of View**
Corresponds to amount of information we receive from around when looking straight ahead.
- **Estimation**
The ability to estimate an object's future location based on its current speed and distance.
- **Auditory perception**
Auditory Perception is the ability to perceive and understand the difference between sounds.

➤ CLASSIFICATION OF COGNITIVE SKILLS

Cognitive skills develop differently for different people, which is why people can demonstrate different levels of ability when it comes to learning and other forms of cognitive performance. However, from the researcher's experience, skills like auditory short-term memory, divided attention, inhibition, processing speed shifting, short-term memory, visual short-term memory and auditory perception are the main ones because these are the more related to the learning process and also, they should be the most common among the students of the Modern Languages major. The following skills will be defined in a deeper way and will present the researcher's point of view in regards of the relationship that it has with the language learning process.

- **Planning**

Planning can be defined as ability to "think about the future" or mentally anticipate the right way to carry-out a task or reach a specific goal. Planning is the mental process that allows us to choose the necessary actions to reach a goal, decide the right order, assign each task to the proper cognitive resources, and establish a plan of action.

This cognitive ability is put into practice in every aspect of our lives, especially in the academic life. This happens since the moment when the students have to plan their everyday activity, plan their study schedules, and others. An effective study plan combined with some decent time management skills can accelerate the language learning drastically.

- **Divided Attention**

Divided attention is a type of simultaneous attention that allows us to process different information sources and successfully carry out multiple tasks at a time. This cognitive skill is very important, as it allows us to be more efficient in our day-to-day lives.

One of the moments when the students practice the divided attention is when they have to be focus on the simultaneous learning of English and French since sometimes we tend to speak English but suddenly we are able to manage a comparison between one word in the two languages English and French at the same time without getting confused.

- **Inhibition**

It could be defined as the ability to inhibit or control impulsive (or automatic) responses and produce thought-out responses by using attention and reasoning. Inhibition refers to the ability to ignore irrelevant stimuli when carrying out a task.

In this case, students ignore irrelevant information coming from the surrounding areas and they focus only in the main objective of learning. However it is important to mention, that this is something difficult to handle, since, many students have difficulties on focusing in only one aspect of the learning process.

- **Processing Speed**

It is one of the main elements of the cognitive process, which is why it is one of the most important skills in learning, academic performance, intellectual development, reasoning, and experience. Processing speed is a cognitive ability that could be defined as the time it takes a person to do a mental task. It is related to the speed in which a person can understand and react to the information they receive, whether it be visual (letters and numbers), auditory (language), or movement. In other words, processing speed is the time between receiving and responding to a stimulus.

This will be related to the speed that is develop by foreign language learners when answering to a question even if it is not asked in their native language or this may be related when the students watch a piece of text and they react in an efficient way by understanding the message immediately.

- **Shifting**

It is the brain's ability to adapt your behavior and thoughts to new, changing, or unexpected events. In other words, shifting is the ability to see that what you're doing isn't working, and make the appropriate changes to adapt to new situations.

This will be demonstrated when the student from the Modern Languages major are able to react automatically to change of language. For example when somebody is speaking in English and they are able to switch in some seconds either to their native language or French.

- **Short-term Memory**

It could be defined as the memory mechanism that allows us to retain a certain amount of information over a short period of time. Short-term memory temporarily retains processed information that either fades quickly or turns into long-term memory. Short-term memory has two main properties: a limited capacity and a finite duration.

This specific skill will be related to the moment in which students are asked to study for their quizzes, evaluated activities, midterms and others with the characteristic that they just keep the information in their mind just for a minimum period of time. However, sometimes it could happen that the information that is learn just for a moment will remain in our minds even for a long time without making a big effort of learning it.

- **Visual Short-term Memory**

It is the ability to retain a small amount of visual information (letters, shapes, colors, etc.) over a short period of time. This type of memory is part of our short-term memory (STM).

From the researcher's perspective, this happens when a student has the ability to learn something just by seeing and analyzing it just for a few minutes.

It might be that all the information is not learnt by heart but if the students keeps it mind part of the information they may gather the idea and express it in their own words.

- **Auditory perception**

Auditory perception could be defined by Cognifit as the ability to receive and interpret information that reached the ears through audible frequency waves transmitted through the air or other means.

This is one of the most important abilities that is practiced by students since they must pay attention to every single like vowels, consonants and other sounds that are produced in their environment in order to learn both languages English and French since each of them has their unique sounds.

➤ **COGNITIVE ABILITIES AND AGE**

It is important to notice that the Modern Languages Major is a career in the University of El Salvador without any restriction in age for the students to be accepted. This is because the institution is open to all those individuals who feel the desire to increase their knowledge and get specialized in a specific area. Thus, when going to the Foreign Languages Department' classrooms people can see young, young-adults and adults learning English and French simultaneously. Due to this fact, the following question emerges; is there a limited age to learn a Second Language with high proficiency?

The question of whether there is a starting age or identifiable period during which second language acquisition is more efficient and effective is referred to as a "sensitive period", (Oyama, 1979). This period is based on the belief that there is an specific range in age to learn a second language with better results. Generally the sensitive period is considered to decrease after puberty

which gives children and teenagers an advantage to acquire a second language faster and easier.

In 1988, Charles William Twyford operated the National Clearinghouse for Bilingual Education and the Special Issues Analysis Center under contract to the U.S. Department of Education. In an article entitled “Age-Related Factors in Second Language Acquisition”, Twyford argued that “middle childhood”, defined as around 8-12 years of age, was a particularly good time for second language development. It is because young learners have the capacity to retain more information and develop all the skills needed to learn listening, speaking, reading and writing, however, this idea is open to debate.

Some authors consider that evidence exists to show children outperform adult learner and those who believe that there is an advantage for older learners over children. However, the researchers of this investigation consider that both, young and adults, have the same capacity of learning a second language when they are provided with the correct expectations since the beginning of the learning process. This means that the students are consciously aware of what they are doing and the areas where they have difficulties. Working on the weak areas will facilitate the learning process because the students will be able to reach a higher performance in the macro skills, in both languages French and English, which is the summit for a Modern Language student.

➤ IMPROVEMENTS IN LEARNING

Today a big percent of the world’s population is bilingual or multilingual instead of monolingual, this trend is positive for the development of cognitive abilities since a bilingual brain is capable of having better attention and task-switching capacities than a monolingual brain. Besides that, students who learn a new language tend to search ways to communicate with others.

Moreover the development of the technology has helped to investigate how the influence of being multilingual influences with changes in the cognitive system. To maintain the harmony between the languages that a person is learning the brain includes processes such as attention and inhibition because two systems are active and competing.

Being bilingual has benefits as improving in cognitive and sensory processing. People who learn two languages simultaneously can process information in the environment which help them to learn easier, bilingual adults learn a third language better than monolingual learn a second language this help them to develop the ability of focusing and separating information of the new languages they are learning from their mother tongue.

Students that a start a career related to the learning of foreign languages has shown that they are able to develop cognitive skills specially the macro-skills which are related to the acquisition of new languages. Because they come to the University and face the learning process even when they are not aware of the abilities they are developing. These students develop the ability to switch languages at the same time using the macro-skills.

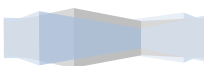
In most of the cases the hardest time for students is the first year of the major because a big percent of the students come to the career without knowledge about English and French or both and they tend to feel stressed, frustrated or scared because they feel that they will fail the courses.

However the students develop their cognitive skills without being aware, along the career the improve the macro-skills required for learning a new language, some of them can be good at writing on the other hand some others develop the speaking or the reading area; but there are students that have high proficiency because they are good enough in the four macro-skills.

➤ THE COGNITIVE ADVANTAGES OF BEING MULTILINGUAL

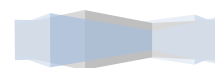
Learning a new language is one of the most effective and practical ways to increase intelligence and keep a sharp mind.

- Being multilingual improves cognitive skills and the function of the brain: people who learn two languages improve significantly their cognitive abilities than people who learn and speak one. Moreover comparing students who learn one language, students who learn two at the same time are more likely to: Have higher intelligence, they tend to be more perceptive of their surroundings, they also are capable of understanding others' points of view, they can focus, concentrate and pay attention better than others, these students memorize and improve memorization skills in addition they exhibit mental flexibility and have the quality of developing good listening skills finally they switch between tasks quickly.
- Learning new language increases brain size.
- Knowing more than one language protects the brain against aging. If being multilingual is good for the brain, it seems like knowing three or more can be better.



CHAPTER III

METHODOLOGY



RESEARCH APPROACH

This research had a qualitative approach because the topic chosen deals with a variety of characteristics and abilities on students who study two languages simultaneously. And as it is known, experts on the teaching field talks about Second Language Acquisition (SLA) as a process that has to be developed through different strategies according on the students necessities which makes bilingual and multilingual students grow their cognitive abilities. However, the students from the Modern Languages Department are not aware of their capacities. In order to know the capability and advantages of knowing more than one language it has been necessary to do an extensive literature review as the first step to support scientifically the research and find out the relation with the Modern Languages students in the University of El Salvador (FLD).

Researchers played an important role in gathering as much information as possible regarding the problem that was investigated. In this way, the opinion of other authors were taken into account in order to see some other experiences in the investigation of the same topic in other countries or universities. After getting all the information the researchers had a complex background on the subject and were capable of understanding how this phenomenon was affecting the students in the Modern Languages major and at the same time it allowed finding possible solutions.

TYPE OF STUDY

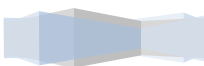
This research used a comparative study since two groups were contrasted in order to see how different their cognitive abilities are according to their level. The comparative study tries to compare meaningfully some cases which are similar but they differ in some aspects. These differences become the focus of the research. Making a comparison of the cognitive abilities helped to see the evolution that the students from the Modern Language have throughout the major.

RESEARCH DESIGN

The comparative study was chosen because with this methodology the researchers could understand better the changes on the students and the cognitive abilities that the students develop with the time. According to Linda Hantrais, “a comparative research is a term widely employed to describe studies of societies, countries, cultures, systems, institutions, social structures and change over time and space, when they are carried out with the intention of using the same research tools to compare systematically the manifestations of phenomena in more than one temporal or spatial sociocultural setting”. With the comparative study the researchers pretended to show that the Modern Languages major is a constant change and that other methods can be used in order to have students with a high proficiency if they learn to develop the abilities that help them to learn a second language.

POPULATION

The population chosen for this study was taken from students who are in the first and fourth year of the Modern Languages major, due to the fact that they have been students in that major, meaning that they have a good experience in dealing with the effects of learning two languages simultaneously; consequently, we can collect reliable information since the students are already aware about what is going on with their learning process in both languages.



SAMPLE

The sample was taken from the Foreign Languages Department (FLD) students, specifically the ones from the Modern Languages major. Twenty five students were taken from the first year of the major in the Intensive French I course. As well, twenty five students from the fourth year of the same major were taken from the French Commerce course.

RESEARCH TECHNIQUE AND INSTRUMENTS

During this qualitative research, the techniques that were used are the survey and the interview. These techniques were chosen since the researchers needed to get the opinions, perceptions, beliefs, attitudes or practices regarding the cognitive abilities that are or need to be develop in the courses of Intermediate Intensive English I and Intensive French III. In the case of the survey, it consisted of open questions that allowed the researchers not only to check or identify some factors that should have been taken into account but also to get a deeper viewpoint from the topic that is being studied; in addition, the survey included closed questions to either confirm or refute what was previewed by different authors that were mentioned on the theoretical framework. Besides that, the interview, which was directed to the professors of the courses before mentioned, contained open and closed questions that helped them to answer based on their experience and in that way the researchers were able to identify in a better way why the cognitive skills are so important during the learning process.

It was also implemented a cognitive test that showed the difference of knowledge and cognitive abilities that the students have. The test was divided in four parts which were planning, creativity, processing speed and short term memory. Each part was administrated with a clock since the there was a limited to answer the questions in order to have reliable results.

DATA ANALYSIS

For the data analysis process, it was necessary to organize, analyze and interpret these new and vast sources of information that were gathered from the survey, test and the interview. After this process, the researchers made a graphical representation of the data either in tables or graphics for a better understanding of the results that were gathered from the surveys and the test. On the other side, the transcription of the interviews was done in order to show a better understanding of the teachers' opinions and viewpoint in relation to the topic that is being investigated.



CHAPTER IV

DATA COLLECTION AND INTERPRETATION

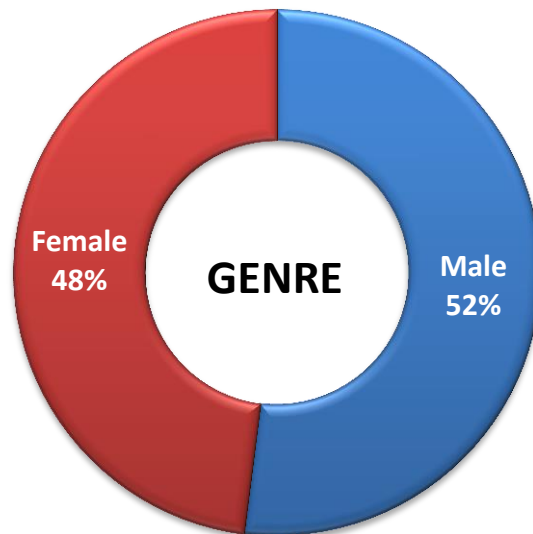


SURVEY RESULTS: SAMPLE 50 STUDENTS

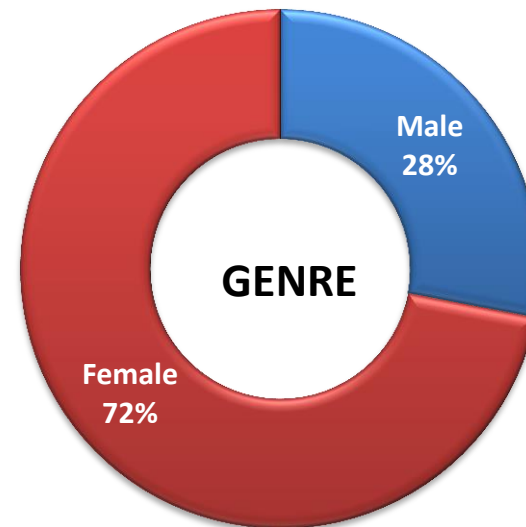
All the results that will be presented on the left side of this comparative table are the results that were obtained from the course **Intensive French I**, which belongs to the semester I of the Modern Languages major.

All the results that will be presented on the right side of this comparative table are the results that were obtained from the course **French Commerce**, which belongs to the semester VIII of the Modern Languages major.

STUDENTS FROM 1ST YEAR OF THE MODERN LANGUAGES MAJOR



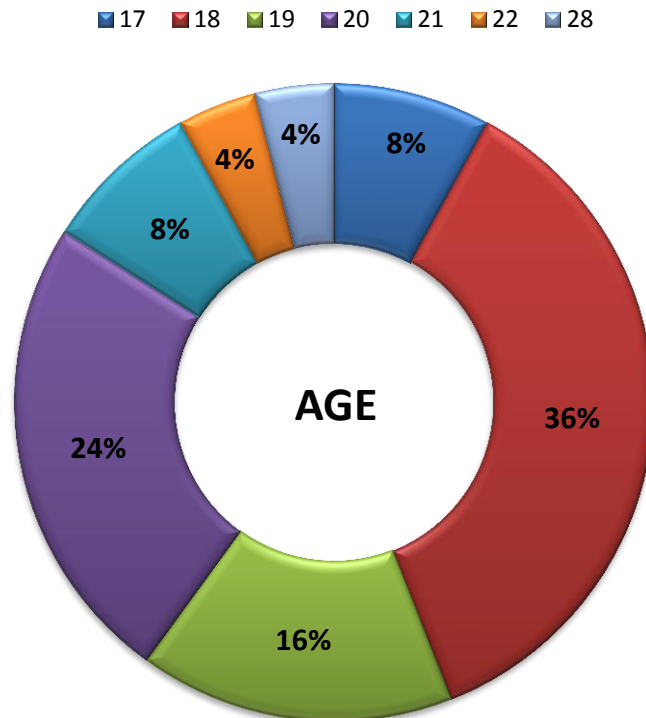
STUDENTS FROM THE 4TH YEAR OF THE MODERN LANGUAGES MAJOR



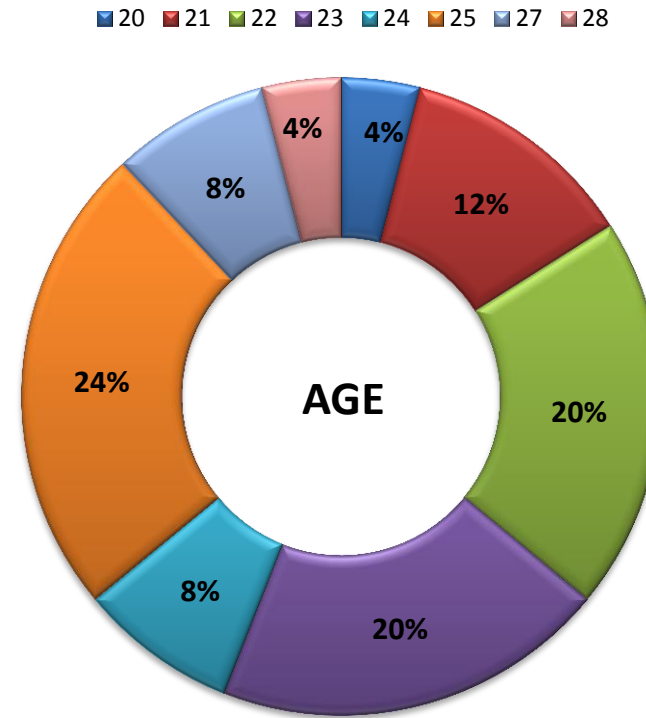
Like in every research project, it is important to know the sample. In this case, the sample was constituted by 50 students in which one there was a total of 30 females and 20 males. Being specific, 12 females and 13 males were part of the sample that was taken from the French Intensive I course and 18 females and 7 males were part of the sample that was taken from the French Commerce course.



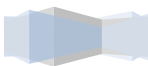
INTENSIVE FRENCH I STUDENTS

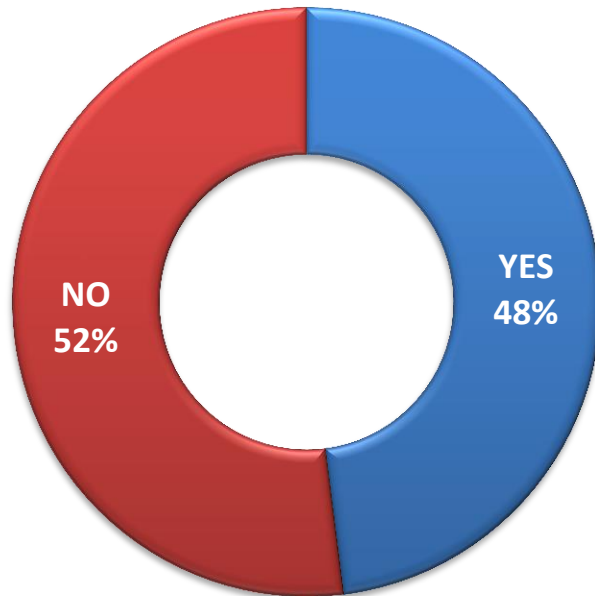
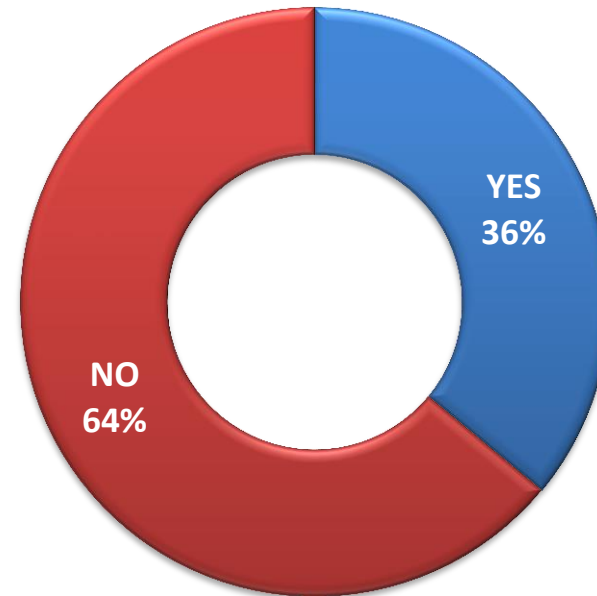


FRENCH COMMERCE STUDENTS



When it comes to age, the sample was really mixed and we can see it represented on the graphics above; however, it is important to mention that there was just 1 student that was 17 years old and that was part of the semester I as well as 9 students that were 18 years old. Besides that, 4 students, always from semester I, were 19 years old and then, both courses had a total of 7 students with an age of 20 being semester I the one with the majority with 6 of them. Also, there were 3 students that were 21 years old, and 2 of them were from semester I; there were 6 students that were 22 years old but this time just 1 of them was from the semester I and 5 of them were from the semester VIII of the major as well as 5 students that were 23 years old, 2 of them that were 24 years old, 6 students who were 25 years old and 2 students that were 27 years old. Finally, both courses had just 1 student that was 28 years old.

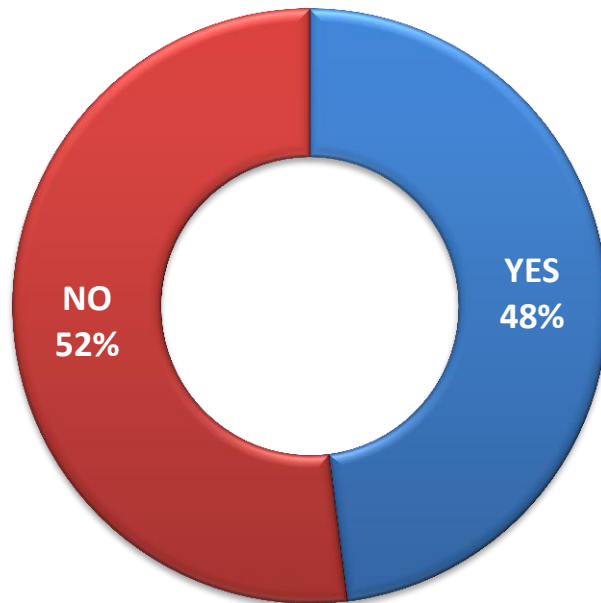


1. DID YOU KNOW ENGLISH AND FRENCH BEFORE STUDYING THE MODERN LANGUAGES MAJOR?**Intensive French I Students****French Commerce Students**

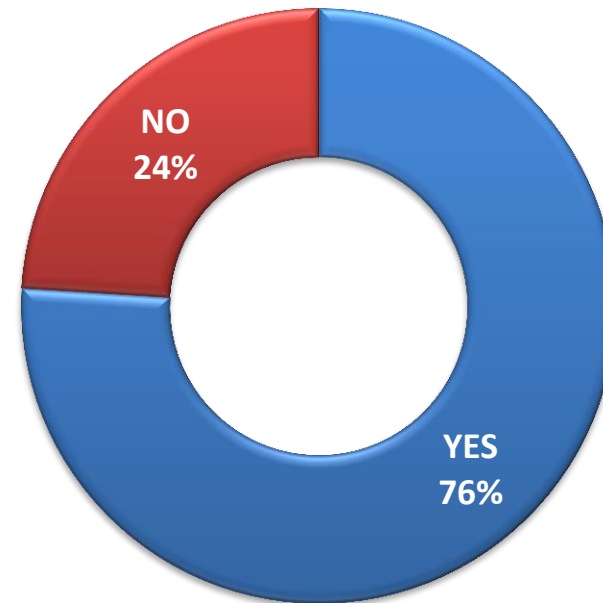
The purpose of this question was to know how many students had a previous knowledge of the languages English and French. As we can see, there was a big difference between the students of 1st year and the ones from the 4th year of the major. This is because there was a 48% which is equivalent to 12 students from semester I that already knew about the languages but on the semester VIII just 9 students had a previous knowledge of them and by consequence there was a remaining number of 16 students on the same course and 13 students on the Intensive French course that faced the challenge of learning new languages without a previous contact with them.

2. DO YOU KNOW THE FOUR MACRO-SKILLS THAT NEED TO BE DEVELOPED IN YOUR CAREER?

Intensive French I students

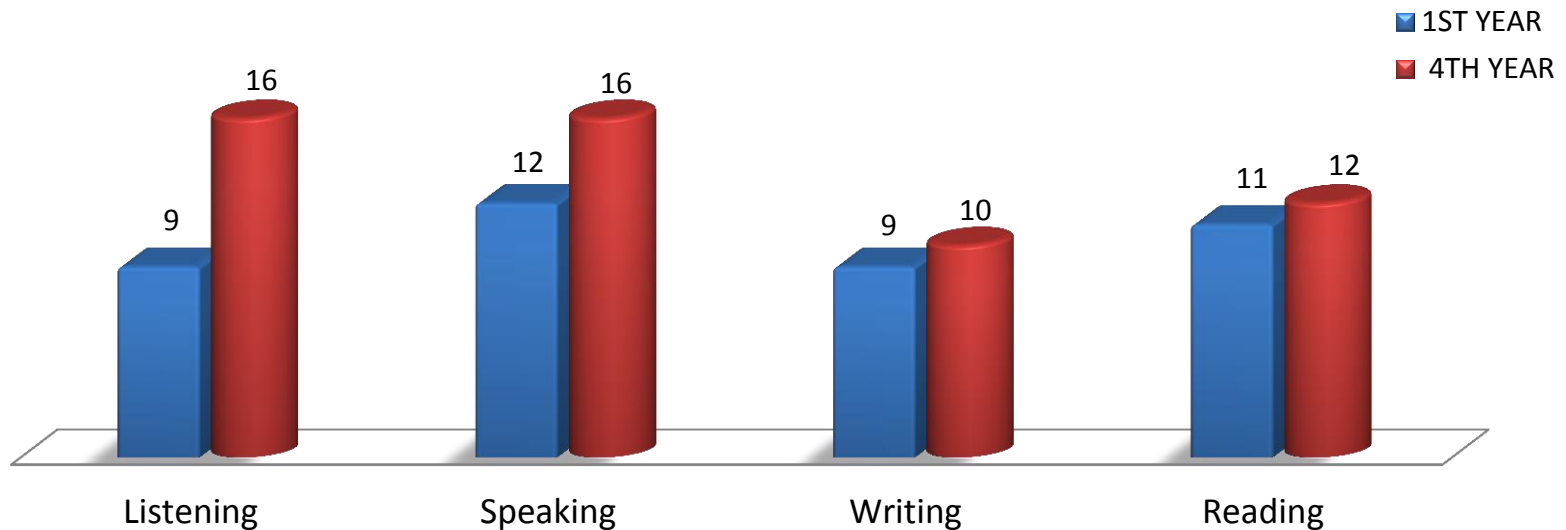


French Commerce students



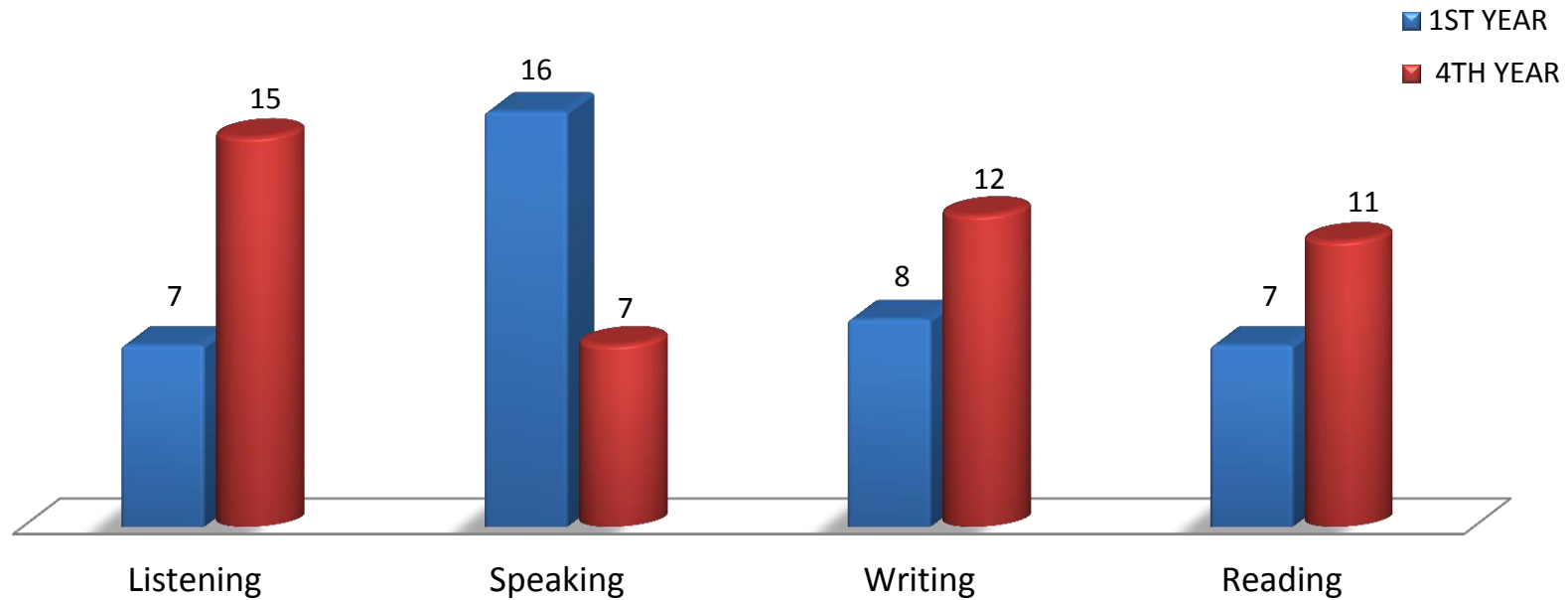
It is important to see the difference on the percentages that were gotten on this question, since there was a 52% of new students from French Intensive I (equivalent to 13 students) that did not know about the macro skills that should be developed when learning languages and on the French Commerce course there was just a 24% (equivalent to 6 students) that did not know about them; On the other hand, there was a good percentage on the same course, 76% or 19 students, that was already conscious about the four important macro skills that are developed when learning English and French and there were 12 students on the French Intensive I course that were also aware about them.

3. SELECT THE MACRO-SKILLS THAT YOU PRACTICE THE MOST?



This graphic allowed the researchers to know more about the macro skills that were practiced the most by new and existing students. In this case, we could see that 12 students out of 25 made of speaking the most practiced area among the students of the 1st year of the major; meanwhile, 30% or 16 students of the 4th year of the major gave priority to the areas of listening and speaking. Afterwards, we showed the second area that was practiced the most by students and in this case both courses had reading as a secondary priority with a 27% or 11 students on the French Intensive I course and 22% or 12 students on the French Commerce course. Finally, we showed the third focus area in the students of 1st year and in here we have writing and listening with an equal percentage of 22% or 9 students and on the French Commerce course, we had an 18% or 10 students that focused on writing.

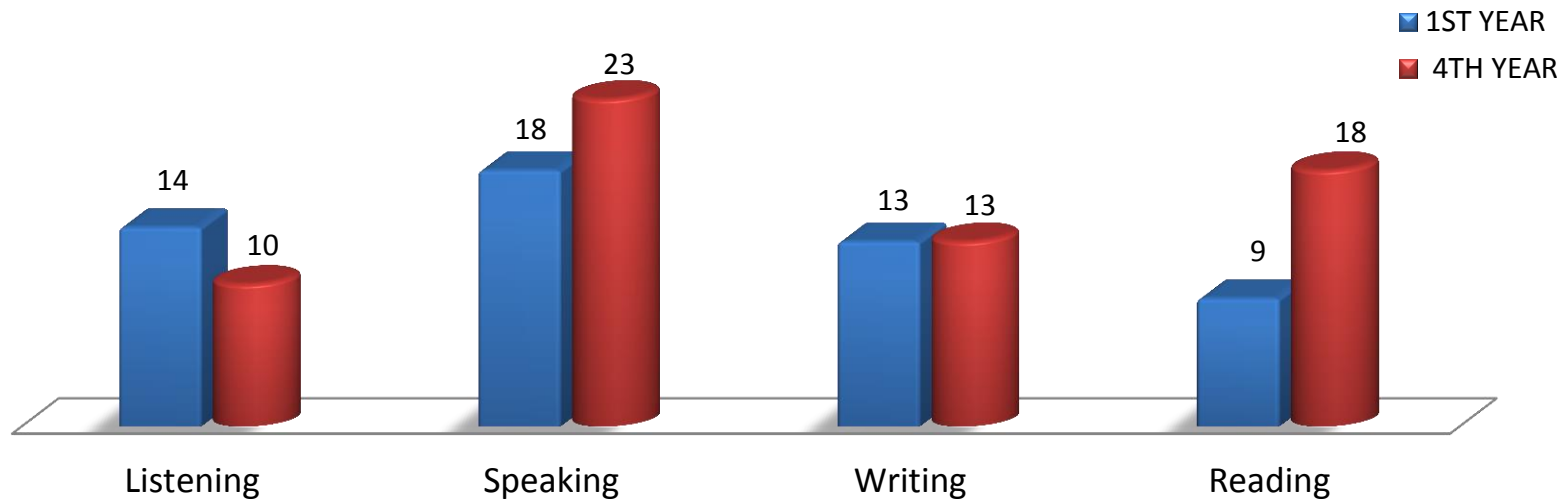
4. WHAT ARE THE AREAS IN WHICH YOU CONSIDER THAT YOU DO BETTER?



In this bar chart, we could see what areas the students considered that they did better. Among the students of 1st year of the major, 42% or 16 students worked better on the speaking area and in the 4th year, 33% or 15 students worked better on the listening area. The second area in which one both courses thought that they did better is writing, the only difference was that the students from 1st year had a 22% (8 students) and the students from 4th year had a 27% (12 students). Then, the next areas like reading and listening had the same percentage which was an 18% (7 students) obtained from the students of 1st year and the students from 4th year did better in reading with 24% or 11 students. The last area that was considered by students of the 4th year like the area in which one they did better is speaking with only a 16% or 7 students.



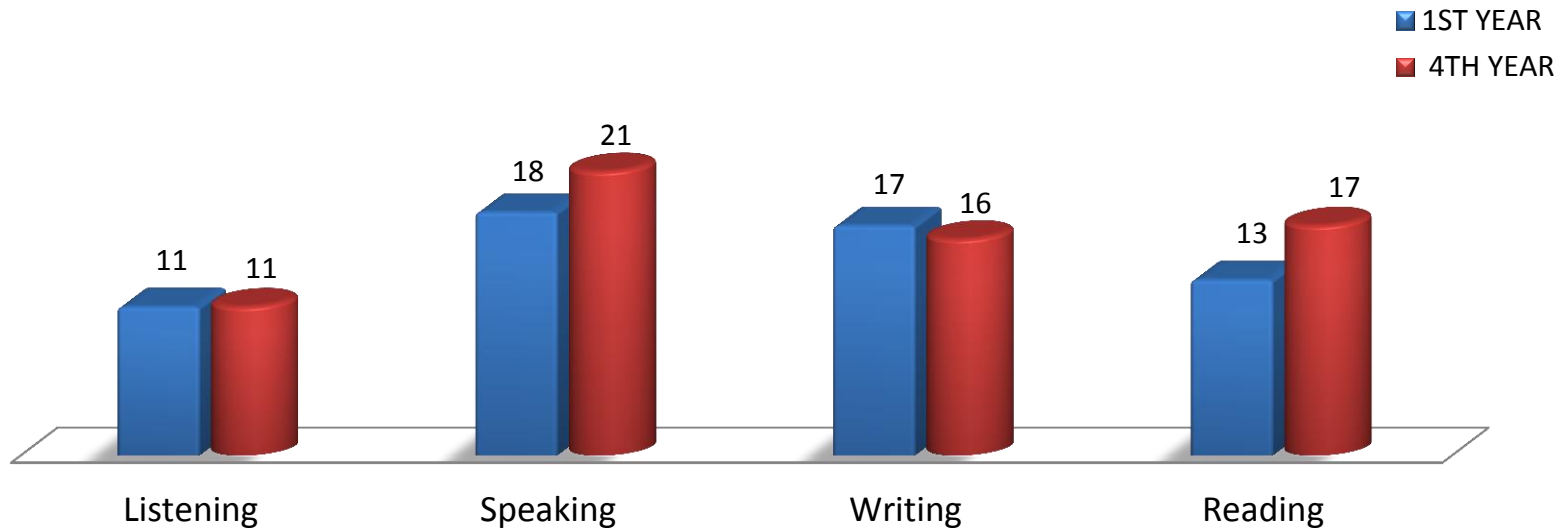
5. WHAT ARE THE AREAS THAT YOUR TEACHERS FOCUS ON WHEN TEACHING ENGLISH AND FRENCH?



ENGLISH CLASS

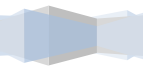
As reflected on the bar chart, when students were in an English class they considered that some areas received more emphasis than others and in this case the area that received most emphasis in both courses is speaking. At least on the 1st year of the major this macro skill had a percentage of 33% which was equivalent to 18 students' answer and on the 4th year it has a percentage of 36% which was equivalent to 23 students' answer. The second area in which one teachers focus on according with students from Intensive French I was listening with a 26% or 14 students' answer and according to French Commerce course it was reading with 28% or 18 students' answer. Then the third emphasized area according to the students from the Intensive French I class and the French Commerce course was writing with 24% (13 students) Finally, the last macro skill that was presented by students of 1st year was reading with 17% (9 students) and on 4th year, it was listening with 16% (10 students).





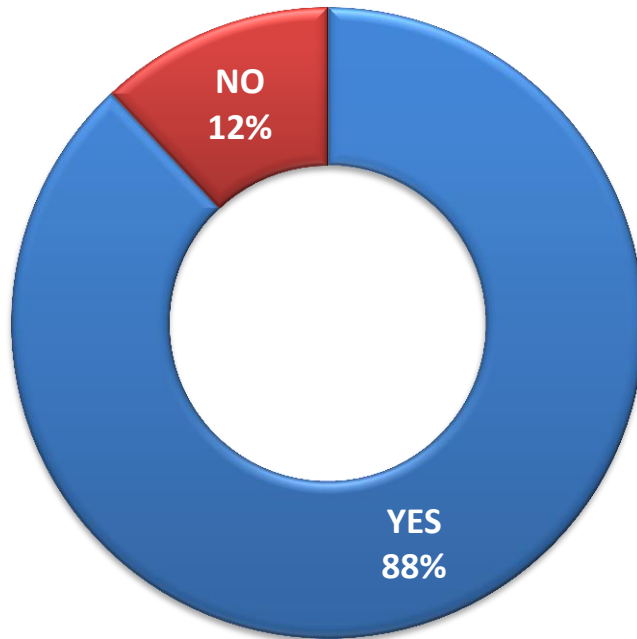
FRENCH CLASS

As reflected on the bar chart, when students were in a French class they considered that some areas received more emphasis than others and in this case the area that received most emphasis in both courses was speaking. At least on the 1st year of the major this macro skill had a percentage of 30% which was equivalent to 18 students' answer and on the 4th year it had a percentage of 32% which was equivalent to 21 students' answer. The second area in which one teacher's focus on according with students from Intensive French I was writing with a 29% or 17 students' answer and reading with a 26% or 17 students on the French Commerce course. Then the third emphasized area according to the students from the Intensive French I class was reading with 22% (13 students) and according with the students from the French Commerce was writing with a 25% (16 students). Finally, the last macro skill that was presented by students was listening with 19% (11 students) on the 1st year and 17% (11 students)

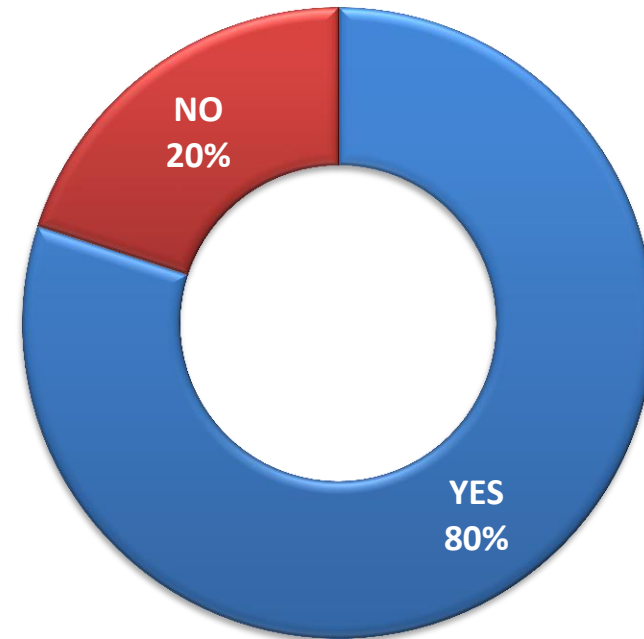


6. DO YOU THINK IS GOOD TO LEARN TWO LANGUAGES SIMULTANEOUSLY?

Intensive French I Students

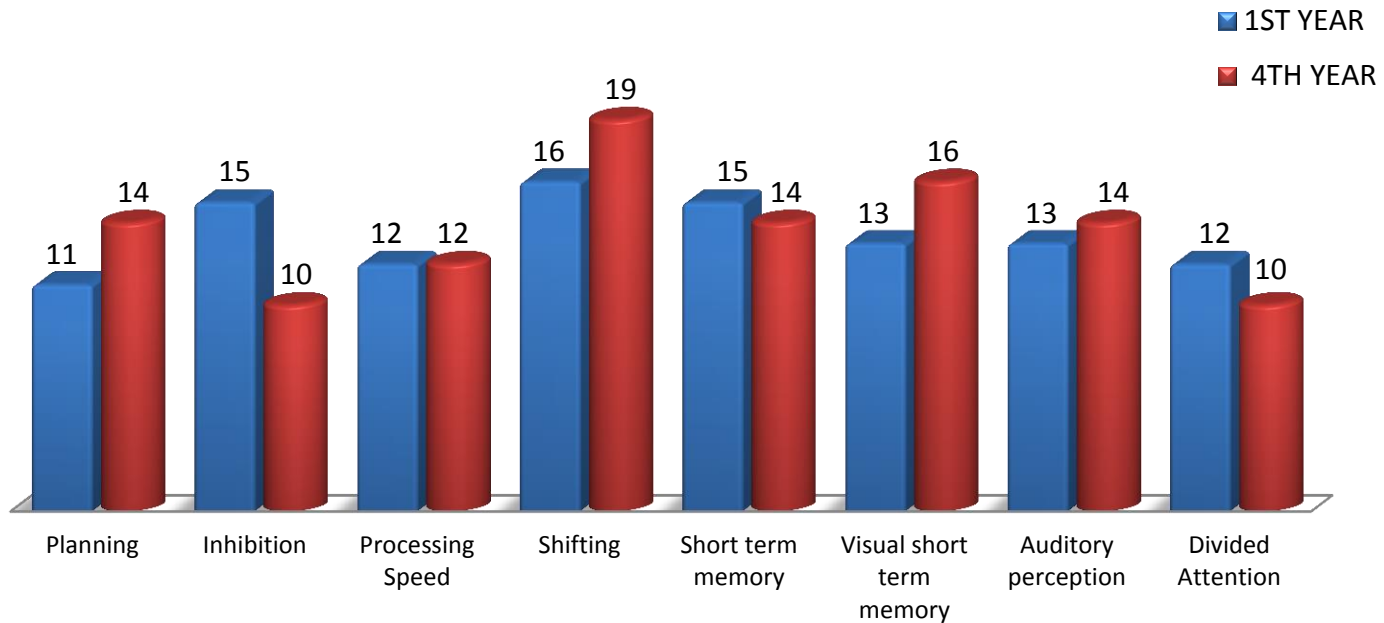


French Commerce Students



According to the students' opinion, to learn two languages simultaneously was perfectly fine. At least, that was the answer from 42 students out of 50. More specifically, 88% or 22 students that belonged to the 1st year of the major agreed to it and also, on the 4th year of the major there was an 80% equivalent to 20 students that answered positively. However, there was a small portion from both courses that disagree. Being specific, 12% or 3 students from 1st year answered negatively as well as 20% or 5 students from the 4th year that did it.

7. WHAT ARE THE ABILITIES THAT YOU PRACTICE WHILE STUDYING ENGLISH AND FRENCH SIMULTANEOUSLY?

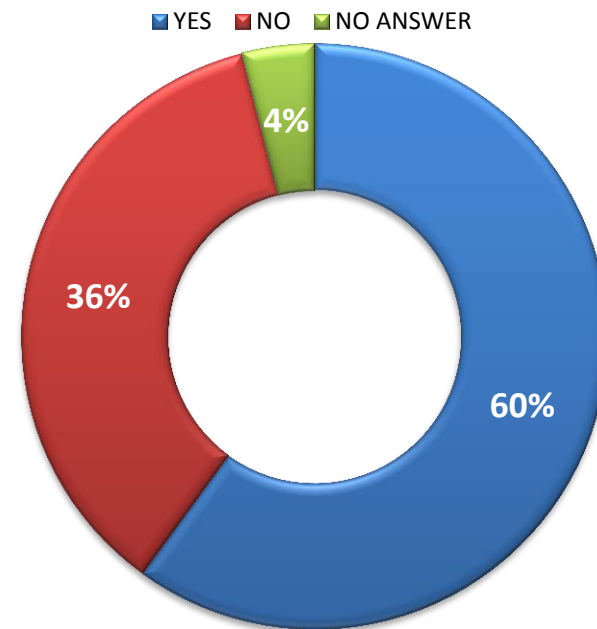
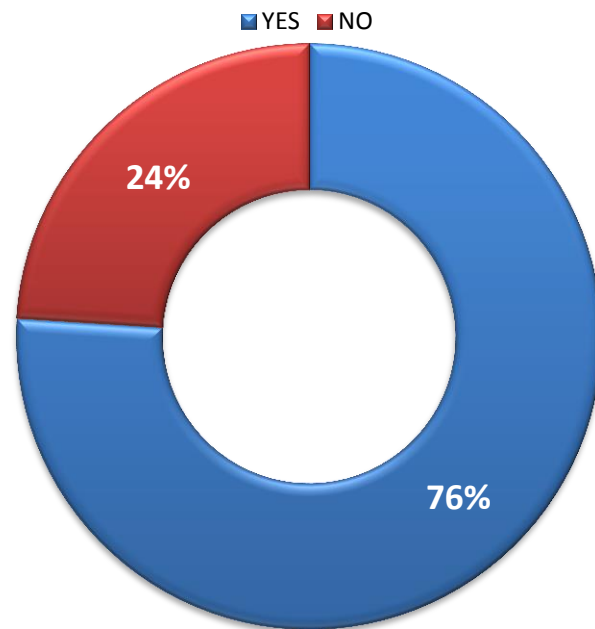


The bar chart presented above represents the comparison of the cognitive abilities that were practiced the most by students of both courses Intensive French I (IF) and French Commerce (FT). Regarding “planning”, it was practiced by 14 students from FT course and practiced only by 11 students from IF. “Inhibition” was practiced the most by 15 students from IF followed by 10 students from FT.

“Processing speed” was equally practiced by 12 out of 25 students of both groups. “Shifting” showed a slightly increase since 19 students from FT practiced it the most while only 16 practiced it on IF. Then, we showed “Short term memory” with just one point of difference since it was practiced by 15 students on IF and 14 students on FT. The next cognitive ability is “Visual short term memory” which was practiced the most by 16 student from FT and it was practiced by 13 students from IF. The following ability is “Auditory perception” that was practiced the most by 14 FT students and only practiced by 13 IF students. Finally, we have “Divided attention” in which one the researchers got the result that it was practiced the most by 12 IF students and only practiced by 10 FT students.



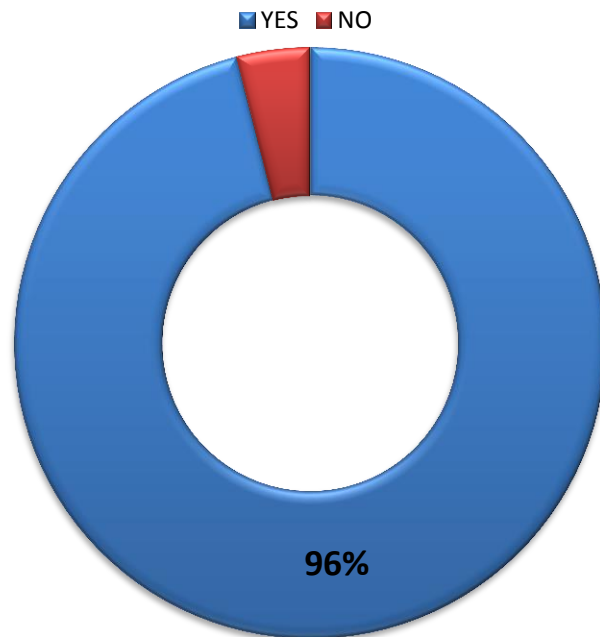
8. DO YOU THINK YOUR TEACHER PROMOTES THE COGNITIVE ABILITIES MENTIONED ABOVE



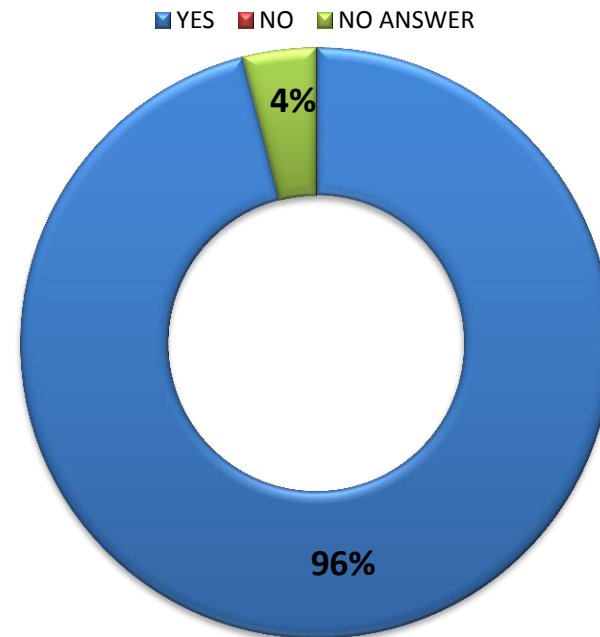
The answer to these questions was similar in both courses; meaning that 19 students from the Intensive French I course confirmed that their teachers promoted the cognitive abilities previously discussed as well as the teacher from the French Commerce course did it getting a 60% or a total of 15 positive answers. However, on the Intensive French I course there was a 24% or 6 students' negative answer and 9 students' negative answer from the French Commerce group and there was just 1 person that preferred not to answer.

9. DO YOU CONSIDER THAT THE COGNITIVE ABILITIES HELP YOU ON YOUR ACADEMIC PERFORMANCE?

Intensive French I Students

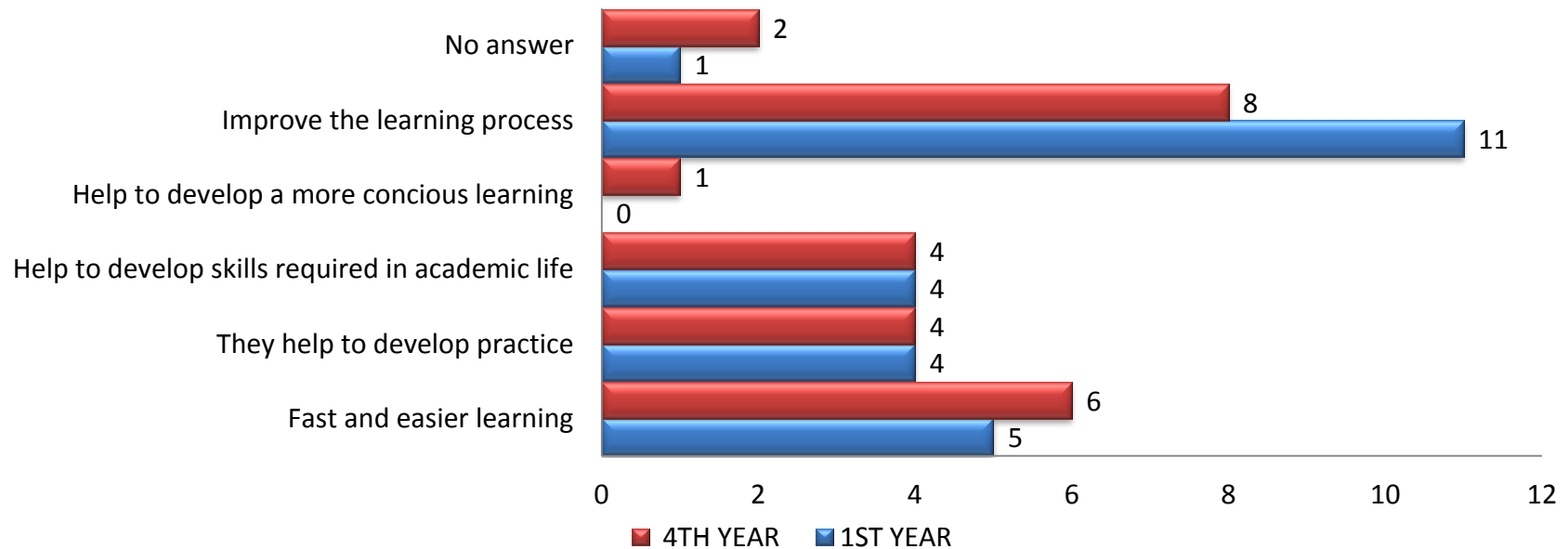


French Commerce Students



The answer to these questions was similar in both courses, meaning that 24 students from the Intensive French I course as well as 24 students or 96% of the sample answered positively to this question. On the Intensive French I course there was only 1 negative answer which was 4% and there was only 1 survey out of 50 in which one this section was not answered.

REASONS WHY THE COGNITIVE ABILITIES HELP YOU ON THE ACADEMIC PERFORMANCE:

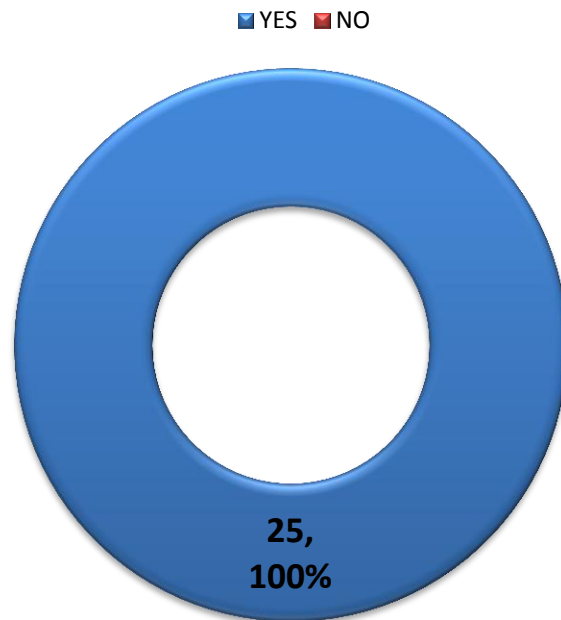


In this question, it was needed to have the answer from the student, however 2 students from the 4th year of the major did not answer as well as 1 student from the 1st year of the major. According with 11 students' answer on 1st year and 8 student's answer in the 4th year, the most common reason why the cognitive abilities were so important was because they help to improve the learning process. Then, a second reason was because it allowed us to have a fast and easier learning of the languages and this was according to a total of 6 students from the Trade course and 5 students from the Intensive French I class. The 3rd main reason why the cognitive abilities should be developed was because they help not only to develop practice when learning languages but also they help to develop skills that were required in academic life. Finally, there was just one student's opinion and it that the cognitive abilities allow us to have a more conscious learning process.

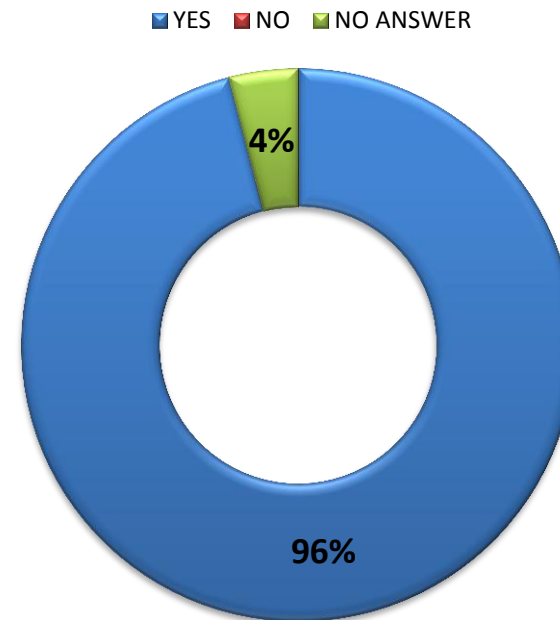


10. DO YOU THINK THAT THE DEVELOPMENT OF COGNITIVE ABILITIES IS BENEFICIAL FOR YOUR PERSONAL AND PROFESSIONAL LIFE?

Intensive French I Students

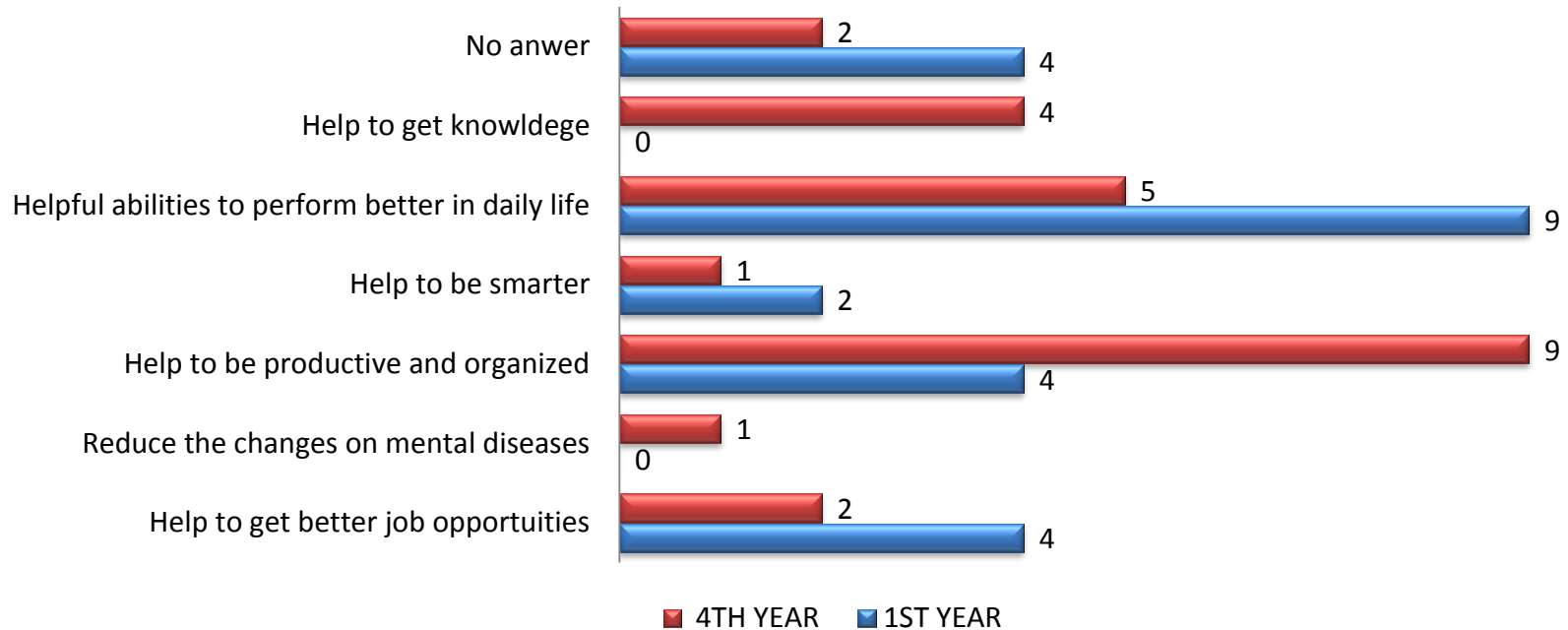


French Commerce



The final question in the survey is represented in the donut chart where we could confirm that the students agreed that the cognitive abilities were crucial not only in the personal life but also in the professional life. However, it is important to mention that on the 1st year of the major all the students meaning 25 students agreed with that; and, unfortunately, on the 4th year of the major just 1 student did not answer this question.

REASONS WHY THE COGNITIVE ABILITIES ARE BENEFICIAL FOR THE PERSONAL AND PROFESSIONAL LIFE?



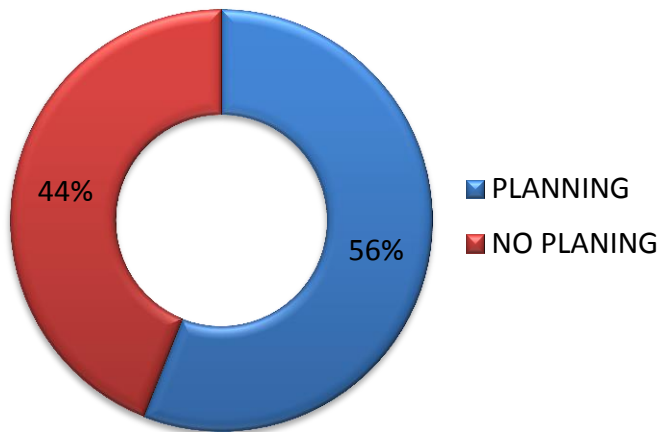
Regarding the benefits, 9 students from Intensive French I wrote that those abilities help to be better in a daily life as well as 5 students from the 4th year. Also, 9 students from the 4th year wrote that those abilities were good since they help to be productive and organized. Then, we received a total of 4 students' point of view and they were about the cognitive abilities being a good help to get knowledge, be productive and organized and also, to get better job opportunities.



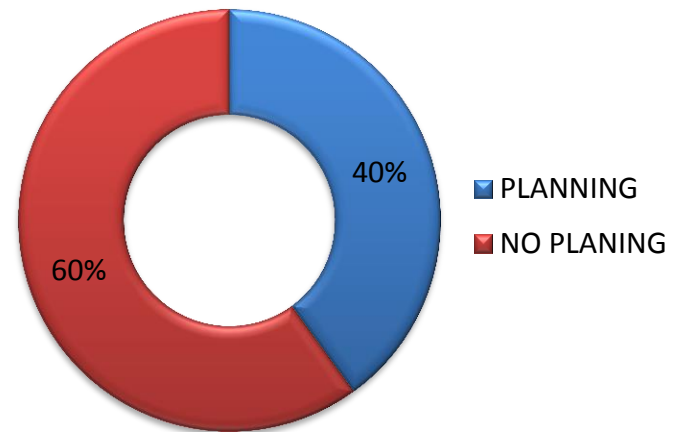
TEST RESULTS: PLANNING TEST
1. WHAT ARE YOU WORKING ON NOW?

PLANNING PERSON	NO PLANNING PERSON
A) Exactly what I planned to work on	B) The first thing I thought of C) I don't even know where to start

Students from the 1st year of the modern languages major



Students from the 4th year of the modern languages major

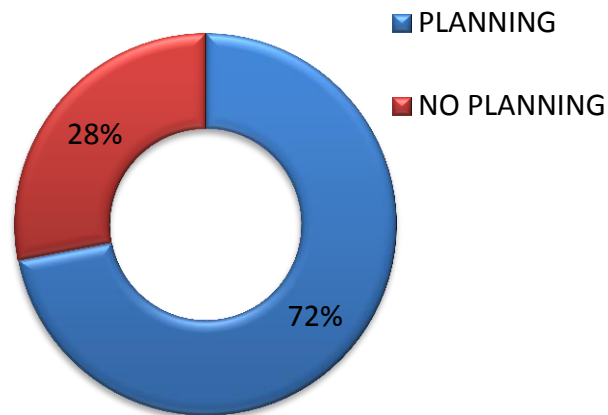


According to this graphic, on the 1st year of the mayor the students were a planning person since we obtained a total of 14 students which is 56%; meanwhile, on the 4th year only 40% percent or 10 students considered themselves as planning person. Then on regards of the non-planning person, we showed a total of 11 students or 44% on the Intensive French I course and 15 students or 60% on the French Commerce course.

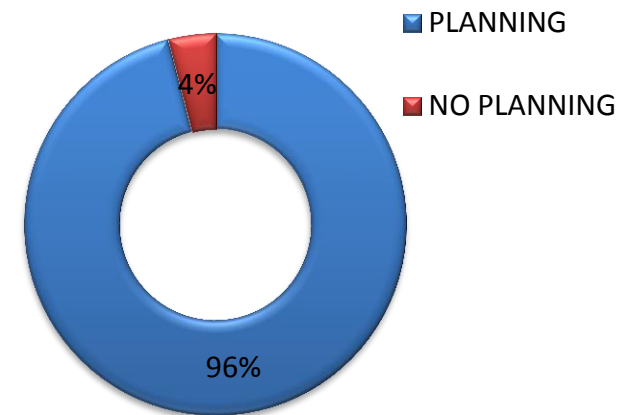
2. DO YOU KNOW ALREADY WHAT YOU'LL BE DOING NEXT WEEK?

PLANNING PERSON	NO PLANNING PERSON
A) Sure, it's all mapped out B) I've got a rough idea	C) I'm totally in the dark

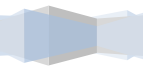
Intensive French I Students



French Commerce Students



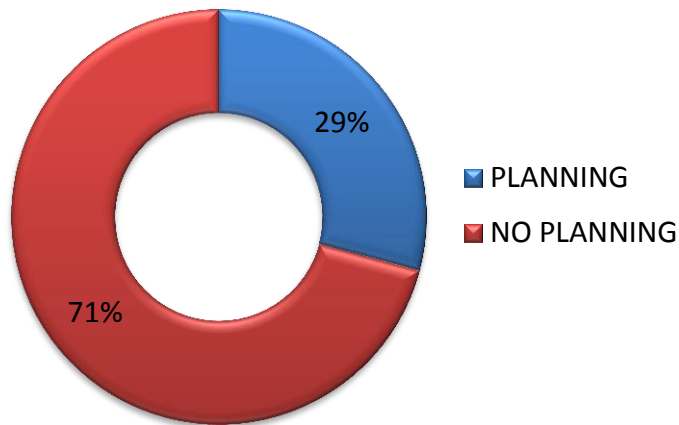
In this case, most of the students in both courses were a planning person and this is reflected on the graphic showed below. However, the students from the 4th year of the major got a higher percentage with a 96% (24 students) and the students from the 1st year of the major got just a 72% (18 students). When it comes to non-planning person, the students of the 1st year got a higher percentage which is 28% (7 students) and the students from the 4th year of the major got a lower percentage which is 4% (1 student).



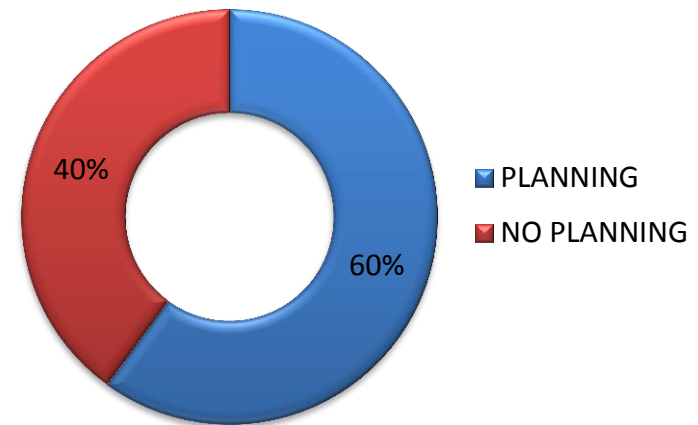
3. UPCOMING APPOINTMENTS ARE SCHEDULED:

PLANNING PERSON	NO PLANNING PERSON
A) In a calendar B) On a post-it note	C) In my head

Intensive French I Students



French Commerce Students



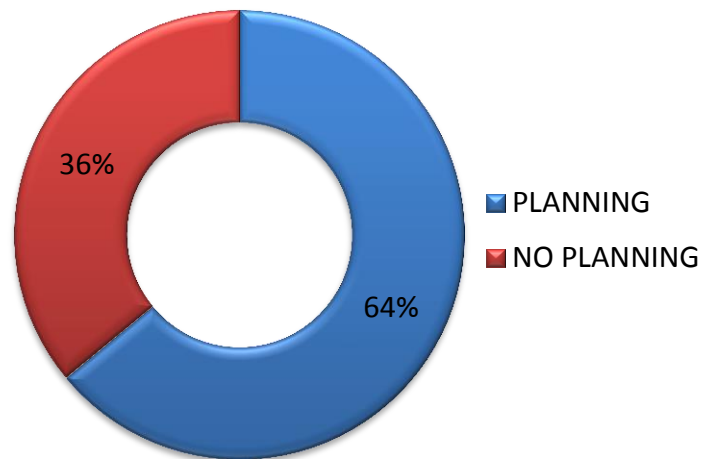
In this donut bar, it is represented how many students were a planning person or a non-planning person. Being a planning person, the students from the French Commerce course the ones with a higher percentage or 60% (15 students) and only 29% (7 students) on the Intensive French I course. In terms of non-planning person, we got a higher percentage on the 1st year of the major with a total of 17 students or 71% and 10 students or 40% from the 4th year of the major.



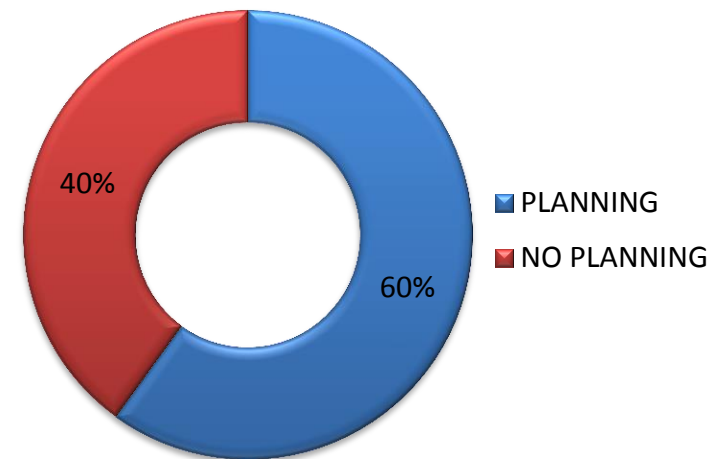
4. SCARED BY DEADLINES?

PLANNING PERSON	NO PLANNING PERSON
A) Sure	B) Not sure

French Intensive I Students



French Commerce Students



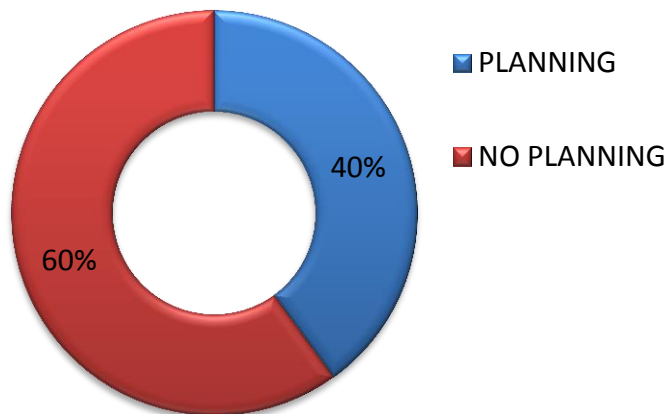
On terms of deadlines, there was a slightly difference between both courses, this was because there was a 64% (16 students) from the Intensive French I course that was a planning person and in the French Commerce course there was just a 60% (15 students). When it comes to non-planning person, we showed the same slightly difference on the courses where the difference was just 1 student since the 4th year of the major had 40% (10 students) and French Intensive I had a 36% (9 students).



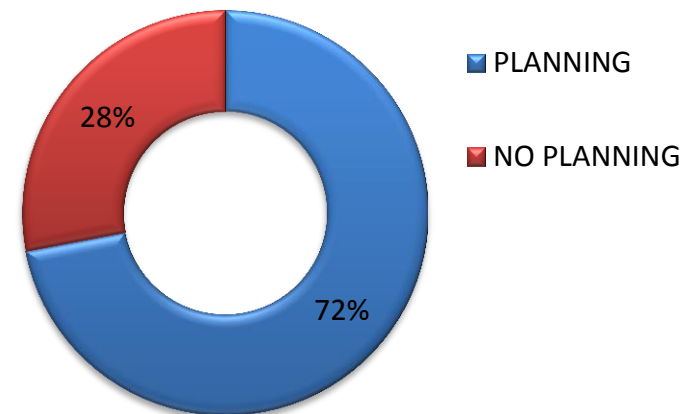
5. YOU'RE BETTER AT:

PLANNING PERSON	NO PLANNING PERSON
A) Prioritizing	B) Innovating

Intensive French I Students



French Commerce Students



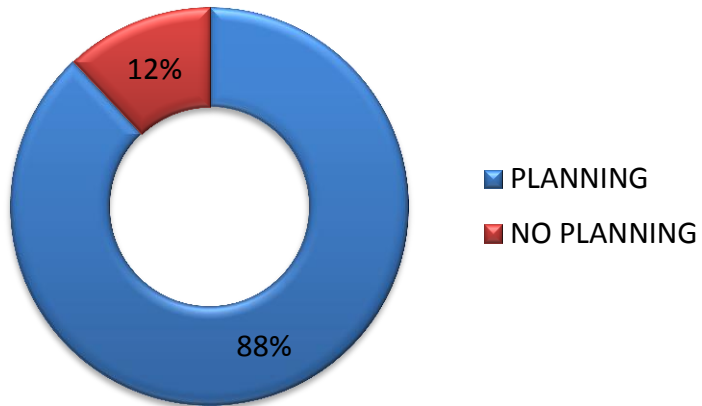
This question allowed the researchers to know if the students were good at prioritizing or innovating. In this case the majority of the students (18 students) who answered A), which was prioritizing, were on the 4th year of the major this was a 72% and this means that they were in a way planning person and the students from the 1st year were planning person only in a 40% (10 students). The number of students who answered B) was good at innovating, and in this case the majority of them were on the 1st year of the major with a 60% (15 students) and only a 28% (7 students) was part of the 4th year of the major.



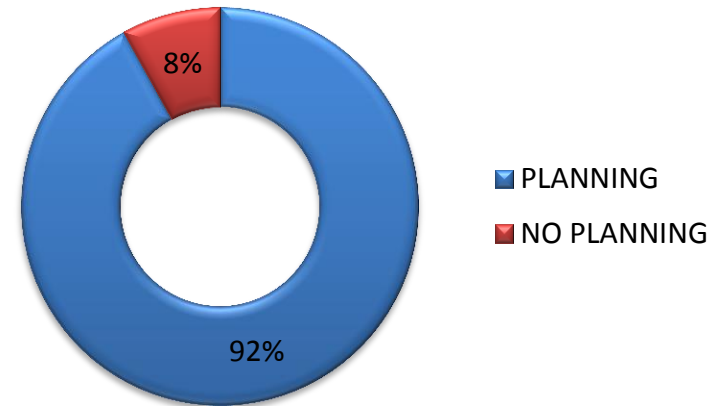
6. Emergency! You're:

PLANNING PERSON	NO PLANNING PERSON
A) Already planning B) A little overwhelmed	C) Panicking

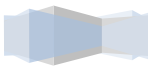
Intensive French I Students



French Commerce



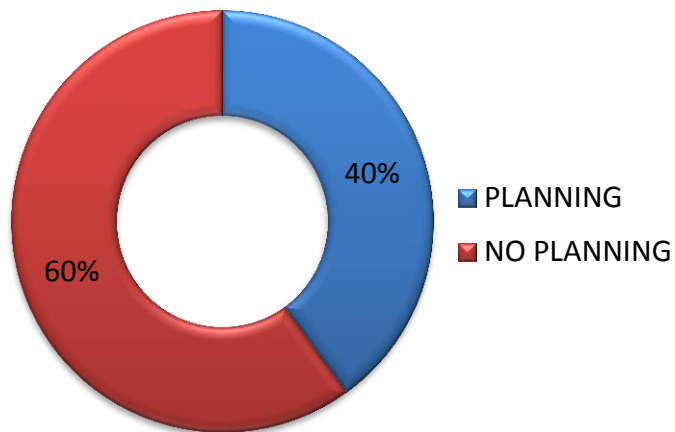
On reference of emergencies, it is reflected that both courses were planning people since on the Intensive French I course 88% (22 students) answered A) and B) and on the French Commerce course a total of 92% (23 students) was obtained. Besides that, the remaining percentage 12% (3 students) and 8% (2 students) answered that in an emergency situation they will not be a planning person.



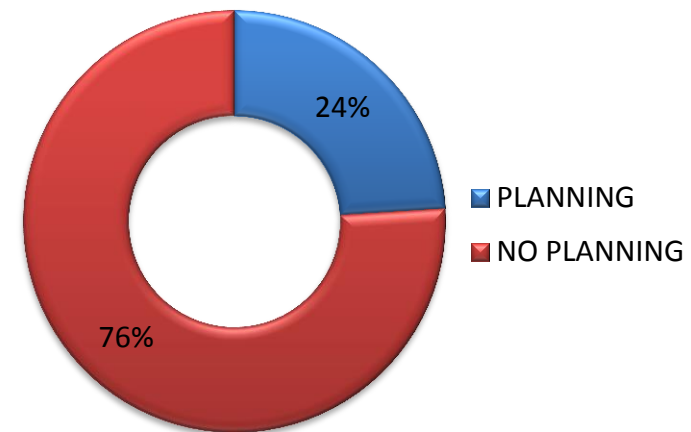
7. You usually walk into meetings:

PLANNING PERSON	NO PLANNING PERSON
A) Ready to shine	B) Hoping I remembered everything

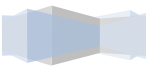
Intensive French I Students



French Commerce students



This donut chart, shows that the majority of students was not a planning person when they walk into meetings since they hope to remember everything and that was the answer that was obtained from the 1st year of the major with 60% (15 students) and 76% (19 students) from the 4th year of the major. On the other hand, we showed that the 40% of students (10 students) from the 1st year were ready to shine and by consequence, they were the group with a higher percentage than the 4th year students who just got a 24% (6 students).

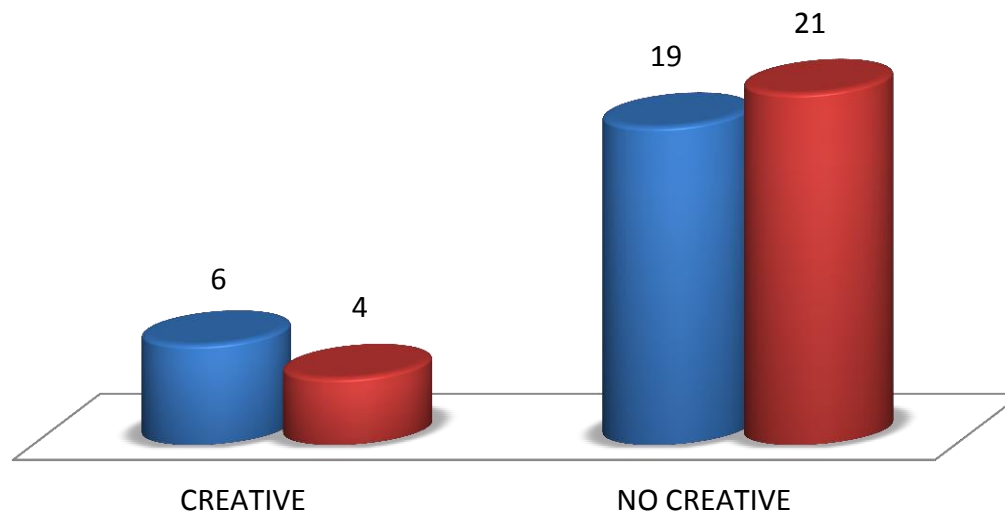


TEST RESULTS: CREATIVITY TEST

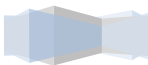
1. A PERSON WHO LIKES FREQUENT CHANGE?

CREATIVE PERSON	NO CREATIVE PERSON	
C) A lot like me	A) Not like me	B) At all

■ 1ST YEAR ■ 4TH YEAR

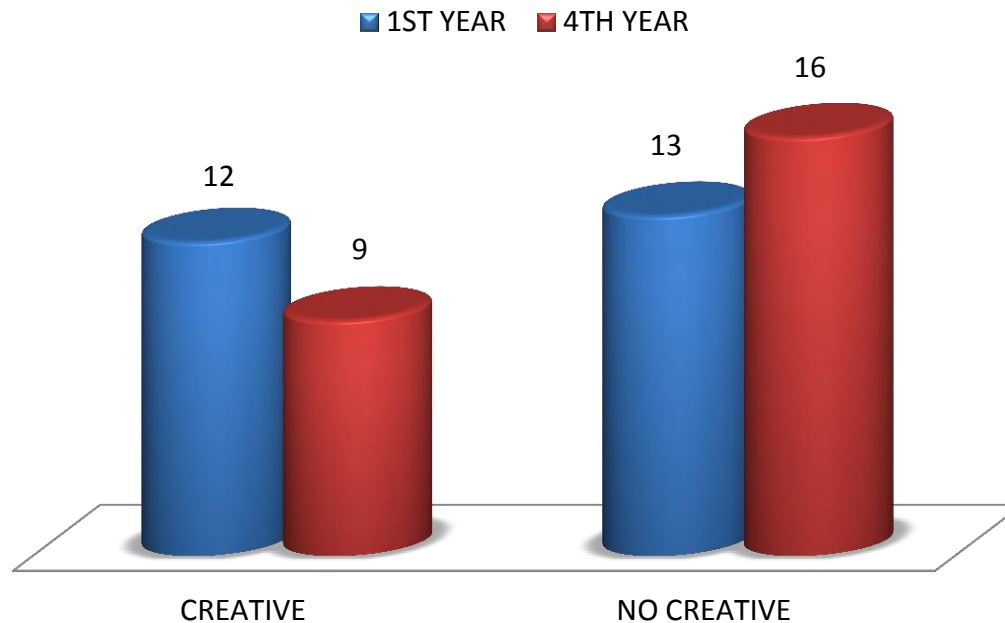


This bar chart shows that the students from the Intensive French I course had a higher percentage of creativity which was equivalent to 24% (6 students) more than the students from the French Commerce course since they got a percentage of 4% (4 students). Talking about no creative students, the majority of them were in the 4th year of the major with a percentage of 84% (21 students) against the 76% (19 students) from the Intensive French I course.

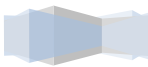


2. A PERSON WHO CAN ALWAYS SEE BOTH SIDES OF AN ARGUMENT?

CREATIVE PERSON	NO CREATIVE PERSON	
C) A lot like me	A) Not like me	B) at all

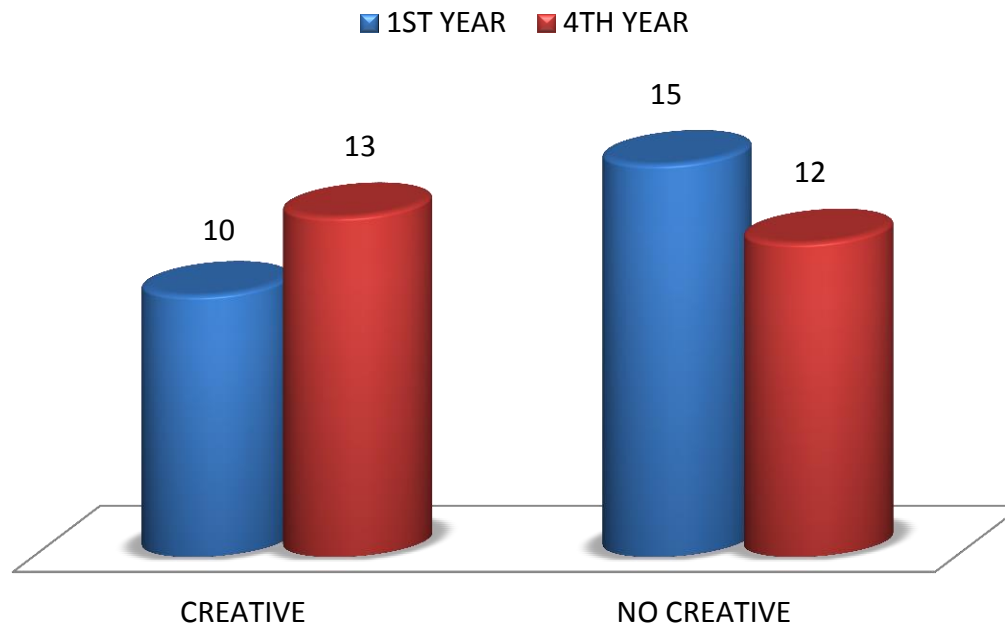


This bar chart shows that when facing an argument, the students from the 1st year were the most creative ones since they got a percentage of 48% (12 students) against 26% (9 students) from the 4th year of the major. Then, we showed the no creative group in which one the majority of them was from the 4th year of the major with a 64% (16 students) against 52% (13 students) from the 1st year of the major.

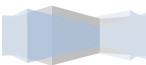


3. A PERSON WHO LIKES TO WORK ON ONE THING AT A TIME?

CREATIVE PERSON	NO CREATIVE PERSON
C) A lot like me	A) Not like me B) at all

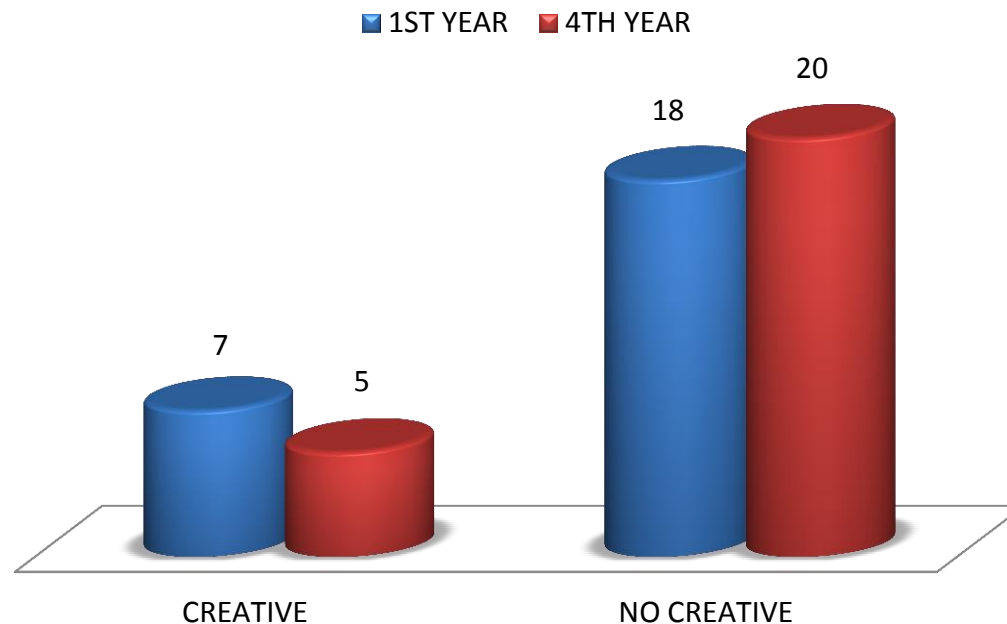


This graphic reflected that most of the students from the French Commerce course, which is 52% (13 students), were more creative than the 40% (10 students) from the Intensive French I course since they liked to work on one thing at a time, meaning that remaining 60% of this course did not like to work on one thing at a time and the remaining 48% of the French Commerce course did not like it neither.



4. A PERSON WHO FORMS A PLAN AND STICKS TO IT?

CREATIVE PERSON	NO CREATIVE PERSON
C) A lot like me	A) Not like me B) at all

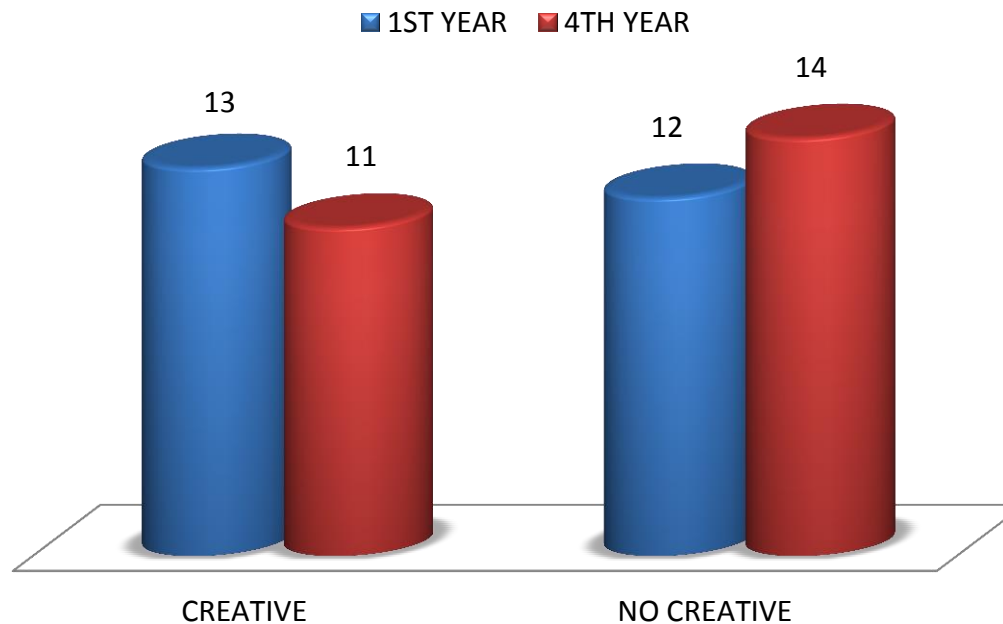


The graphic previously presented, has the results of the people that forms a plan a sticks to it and that was creative because of it. In this case, the students from the semester I were the more creative with a 28% (7 students) while only 20% (5 students) were creative on the semester VIII. On the other side, the students that were not creative when forming a plan and sticking to it were the students from the VIII semester with a 80% of the results (20 students) followed by the students of semester I with 72% or 18 students.

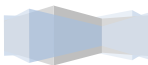


5. A PERSON WHO IS GOOD AT GETTING THEIR OWN WAY?

CREATIVE PERSON	NO CREATIVE PERSON
C) A lot like me	A) Not like me B) at all

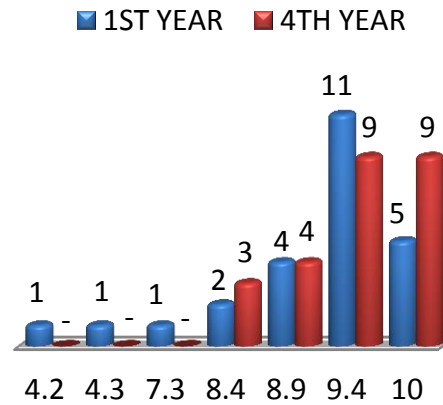


The graphic previously presented, has the results of the people that gets their own way and that was considered as creative because of it. In this case, the students from the semester I were the more creative with a 52% (13 students) while only 44% (11 students) were creative on the semester VIII. On the other side, the students that were not creative when getting their own way were the students from the VIII semester with a 56% of the results (14 students) followed by the students of semester I with 48% or 12 students.

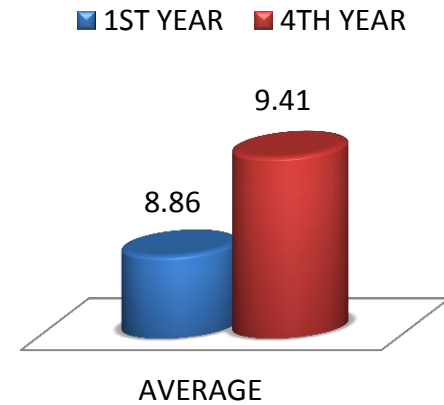


	Intensive French I	French Commerce
STUDENT	NOTES	NOTES
1	4.2	8.4
2	4.3	8.4
3	7.3	8.4
4	8.4	8.9
5	8.4	8.9
6	8.9	8.9
7	8.9	8.9
8	8.9	9.4
9	8.9	9.4
10	9.4	9.4
11	9.4	9.4
12	9.4	9.4
13	9.4	9.4
14	9.4	9.4
15	9.4	9.4
16	9.4	10
17	9.4	10
18	9.4	10
19	9.4	10
20	9.4	10
21	10	10
22	10	10
23	10	10
24	10	10
25	10	10
AVERAGE	8.86	9.41

TEST RESULTS: PROCESSING SPEED TEST



Graphic 1



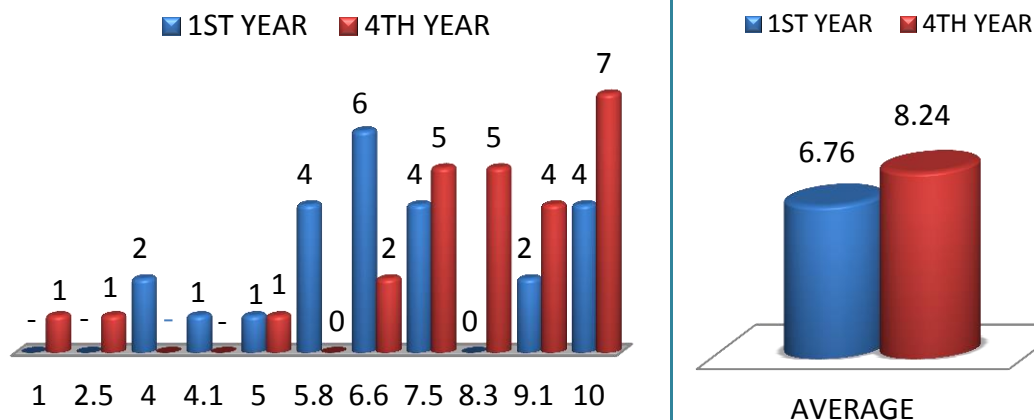
Graphic 2

The bars graphics presented below are a synthesis of the test grades that were obtained by the Students of both courses. As we can see on graphic 1, only 3 students from semester I had obtained grades between 4.2 and 7.3 and then, both courses obtained grades from 8.4 to 10. Being specific, 3 students from semester VIII got a grade of 8.4 as well as 3 students from the semester I. Then, 44 students on each course got a grade of 8.9. Next, when talking about the 9.4 grade, it was obtained by 11 students from semester I and 9 students on semester VIII. Finally, the perfect grade 10 was obtained by 9 students on the semester VIII and only by 5 students from the semester I. As conclusion, on graphic 2, the average of both courses had been obtained based on all students' grades and it was clearly stated that the group that handled better the processing speed ability was French Commerce since they obtained an average of 9.41 over 8.86 that was obtained from the Intensive French I course.



	Intensive French I	French Commerce
STUDENT	NOTES	NOTES
1	1	2.5
2	4	5
3	4	6.6
4	4.1	6.6
5	5	7.5
6	5.8	7.5
7	5.8	7.5
8	5.8	7.5
9	5.8	7.5
10	6.6	8.3
11	6.6	8.3
12	6.6	8.3
13	6.6	8.3
14	6.6	8.3
15	6.6	9.1
16	7.5	9.1
17	7.5	9.1
18	7.5	9.1
19	7.5	10
20	9.1	10
21	9.1	10
22	10	10
23	10	10
24	10	10
25	10	10
AVERAGE	6.76	8.24

TEST RESULTS: SHORT TERM MEMORY TEST



Graphic 1

Graphic 2

The bars graphics presented below are a synthesis of the test grades that were obtained by the Students of both courses. As we can see on graphic 1, only 1 student from semester VIII had obtained a grade of from 1 to 2.5 then, 2 students from semester I obtained a grade of 4.0 as well as 1 student from the same course who got a grade of 4.1. Then, in both courses only one student got a grade of 5. The next grade was 5.8 and was only obtained by 4 students from semester I. Afterwards, we had grade 6.6 which was obtained by 6 students from semester I and 2 students from semester VIII; also, we got a grade of 7.5 which belonged to students from Intensive French I and 5 students from French Commerce. The following grade was 8.3 and was gotten only by 5 students from French Commerce. The penultimate grade was 9.1 and was obtained by 2 students on semester I and by 4 students on semester VIII. The last grade was 10 and it was obtain by 7 students on semester VIII and by 4 students on semester I. the final average was 6.76 for Intensive French I course and 8.2 for the French Commerce course.



CHAPTER V

FINDINGS



SURVEY CONCLUSIONS

COMPARISON BETWEEN STUDENTS FROM INTENSIVE FRENCH I (1ST YEAR STUDENTS) AND FRENCH COMMERCE COURSE (4TH YEAR STUDENTS)

In this research work, the survey was an important instrument that allowed the researchers to get a clear comparison between the two groups, Intensive French I and French Commerce. However, in this section will be presented the most outstanding findings related to the sample N° 1 which was Intensive French I against sample N° 2 which was French Commerce.

- **It was clearly stated that the students from French Intensive I had studied English and French before entering to the Modern Languages major more than the students from fourth year.**

This could be because in the last years there has been an increase on the creation of English academies that are promoting the foreign language learning with the purpose of helping people to get a job opportunity and people have accepted this as a trend in the society. However, the students from the French Commerce who are in the fourth year of the Modern Languages major were in a disadvantage since back in time, when they started the major they did not know enough English nor French and this was because the English academies were not so promoted as they are nowadays.

- **Related to the macro-skills, the students from the fourth year knew the four macro-skills that needed to be developed along the major more than the students from the first year.**

The researchers believe that this could be explained since at that point on the major, the students had had a direct contact with the language, and by consequence, they have gotten a deeper knowledge about every macro skill that



they need to work on in order to have a better proficiency level every year. On the contrary, the students on the first year of the learning process are focus on gathering as much information as they can since the main purpose is to learn and practice later.

Additionally, based on these macro-skills the students from the French Commerce course believed that the ones that they *practiced* the most were listening and speaking followed by reading and, writing was the macro-skill with the lowest number of students practicing it; however, they believed they were *good at* listening, the second area in which they considered they do their best was writing. Next, was reading, and speaking was the one with the lowest number of students even when they stated that speaking is the one that they practice the most.

Regarding the students from Intensive French I, they believed that the macro skills they *practiced* the most were speaking and reading followed by listening and writing; however, they believed they were *good at* speaking, and writing which makes sense since speaking was one of the ones they practiced the most and writing has a close relation to reading, probing once again that we learn to write by reading. (Krashen, 1993)

- **Related to the areas that the students believed their teachers focus on when teaching English and French they were in agreement that some areas had more importance for the teachers.**

When learning English, the students from first year indicated that their teachers focus on *listening and speaking*; meanwhile, the fourth year teachers focus on *speaking and reading*.

When learning French, the first year teachers focused on the *speaking and the writing* area and the fourth year teachers focused on *speaking and reading*.



- **Related to the cognitive abilities that they practiced the most when studying English and French simultaneously, there were unexpected results.**

Planning: This macro skill was *practiced the most by students from fourth year* and this could be explained because at that point on the major they were already aware on the importance that planning had on every aspect of life and especially because they are already planning what to do with the language they are learning.

Inhibition: According to the survey, it was *practiced the most by students from first year*. This might be because the students were learning basic information and because of this they needed to be focused on every topic that was presented; however, according to the students from fourth year this ability was not practiced that much because they have already developed it and it might be that they practiced it even unconsciously.

Processing speed: According with the students, this cognitive ability was *equally practiced* in both groups.

Shifting: This ability was *handled the most by students from fourth year of the major* since they had already studied the languages during some years and they had been exposed to them for more time allowing them to switch from one language to another with few or any difficulty; however, this is an ability that first year students still find difficult.

Short term memory: This ability was one of the most *practiced by first year students*. This might be because they were starting a learning process which means that they needed to gather as much information as they could and used it at a later time. On the other hand, fourth year students, had gathered information and used it just for exams or test and then disregarded it completely.

Visual short term memory: This ability was one of the most *practiced by fourth year students*. This might be applied similarly to short term memory which is practiced for evaluations purposes. However and according with *Cognifit*, the information acquired by visual short term memory can be retained for a period of time, for a long term memory or simple disregard it.

Auditory perception: This ability was *handled the most by students from fourth year*. From the researches experience, this ability was transcendental on the learning process, since on the first year of the major the student must be focused on the information that is given so that it could be understood; but, on the fourth year of the major the learning process become easier since the student can receive lots of information and interpreted even unconsciously.

Divided attention: Surprisingly, this ability seemed to be *developed the most by first year students*. This meant that students considered themselves as capable of executing more than one action at a time, and paying attention to a few channels of information.

- **As important finding, the majority of students from both courses Intensive French I and French Commerce course believed that their teachers promoted the cognitive abilities (planning, inhibition, shifting, auditory perception among others mentioned before).**

In this question, both courses gave a majority of positive answer (34 out of 50). However, it is important to mention that 15 students out of 50 gave a negative answer and 1 of them did not answer.



- **Finally, the majority of the interviewees were aware that learning two languages simultaneously was beneficial for them.**

The last finding was that 42 students considered that the simultaneous learning is good and they also provided some reasons why they are helpful in different areas.

Related to the help that the cognitive abilities gave to the *academic performance* the students agreed that these abilities were a big help for them because these helped in the improvement of the learning process. Besides that, they provided a faster and easy learning; also, they helped to develop practice and they helped to develop a more conscious learning.

Related to the benefits that the cognitive abilities brought to their personal and professional life, the students believed that these abilities help them to be productive and organized and they are helpful to perform better in daily life. Besides that, they provide knowledge and job opportunities. Moreover, these cognitive abilities help to improve knowledge and finally, one of the students considered that these abilities can help to reduce mental diseases.



TEST CONCLUSIONS

The test was performed to 50 students from the first and fourth year of the Modern Languages major. That sample was selected to make a comparison of the different abilities that the students can develop when learning a second language in the University of El Salvador. Base on the test results the researchers can conclude of the following:

- **PLANNING TEST**

The more advanced in the Modern Languages major the students are, the most they become a planning person. The planning test results showed that the fourth year students tend to be more organized with their time than the students in the first year of the major. This is because during the years of study the fourth year learners developed the planning cognitive ability in order to make their academic life easier which in a certain point not only helped them to become good students but also to have success in the professional and personal life. At this point the first year students are still in process to develop the planning skill since their main focus is to learn as much as they can about the languages in target and not about the methodology.

- **CREATIVITY TEST**

In the creativity test the results where different than the expected from the researchers' part. The students from the first year of the Modern Languages major are more creative than the students in the fourth year of the career. The students on the first year got better results at being creative because they like changes, they can understand other point of view, they have discipline and they are independent. On the other hand the fourth year students showed a big ability of being multitask since they can work in more than one task at the time.

- **PROCESSING SPEED TEST**

The processing speed test confirmed that the more advanced in the major the students are the faster they are to gather and process information. The processing speed test had a series of timed exercises where the students had to use the speed and retention ability to answer. The results were higher grades for the fourth year students and lower grades for the first year students.

- **SHORT TERM MEMORY**

The last part of the test was short term memory. In this section the fourth year students also overcome the first year students with average of grades of 8.24 against 6.76. This phenomenon is explained due to the cognitive abilities that the students in the fourth year have developed with the time such as memory, retention and assimilation.



INTERVIEW CONCLUSIONS

On this research, it was also important to know the teacher's points of view since they were the ones who helped students to get the knowledge that is needed in order to learn a second language and by consequence, they were the ones who saw the students' performance and development along the major. In this section, the researches could conclude the following about the ten questions that were addressed to teachers from English and French subjects:

- **On regards of the cognitive abilities that students develop when learning a second language:**

According to the French teacher, processing speed and shifting are the ones that students develop the most and those are the most important ones since, students need to switch from one language to another and those allow them to acquire both languages at the same time.

According to the English teacher, memorization is developed at the beginning of the career; then, students develop paraphrasing, note taking and planning. However, planning is not developed as it should be and even, she mentioned that this is the less developed skill. She mentioned as well, that processing speed is one of the abilities that students develop but at the end of the major when students are conscious and aware of what they are learning.

- **On regards of the macro skills that students develop the most:**

The French teacher explained that speaking was the most practiced skill this is because students are encouraged to speak English or French either outside or inside the classroom, and otherwise, if they give them reading tasks, they don't do it since students don't like reading.



The English teacher explained that speaking is the skills that students develop the most and she emphasized that Modern languages students perform even better on this macro abilities more than the English teaching major and this is because it shows how language has been develop in the students.

- **Should the macro-skills be developed in the same level when English and French?**

In this question, the French teacher answered that this would be the ideal and especially if they do it in both languages. However, this is not accomplished since the students feel more comfortable in one language than the other and in this case she thinks that the four macro skills are mostly develop but only in French because this language is similar to our mother tongue, Spanish.

On the other hand, the English teacher thought the same, she said that the emphasis should be in the four macro skills, but teachers and students tend to prioritized speaking when teaching and learning since they are judge whether he or she can use the language by speaking.

- **Do students present or have difficulties developing their cognitive skills while learning a language?**

As answer to this question, the French teacher explained that the biggest difficulty was the lack of practice and this is because most of the students practice the target language just during the course from Monday to Friday, but during weekends they do not practice and this makes them to forget what has been learn and they have to start every week all over again.

The English teachers answered that most of the students are used to the transference of information and this means that students don't go farther what the



teachers explain in class and unfortunately this is something that should be develop since early years of academic formation.

- **About the importance of developing cognitive abilities like Planning, Inhibition, Processing speed, Shifting, Short term memory, Visual short term memory, Auditory perception and Divided attention:**

In this section, both teachers agreed that the main reason why those abilities are so important is because they help student to be good professionals. This is because, in which ever fields students plan to work on, they need to develop those skills otherwise, they will be only professionals but not good professional and they will be unable to compete with the demands of the market and what society is requesting. Besides that, these abilities will help since they are applied in every aspect of the learning process meaning that they are applied when students are in class, when they communicate with others and in other situations.

- **About the cognitive abilities that students develop the most:**

The French teacher mentioned that this will depend on the learning style of every student. Like a visual learner will be good at inhibition or if the student is an auditory learner they will develop the most auditory perception. However she expressed that in a general way and using which ever learning style, most of the students will develop shifting and this is because they learn how to switch from one language to another.

The English teacher mentioned that the students practice the most short term memory, auditory perception and visual short term memory, shifting is practiced but when they cannot convey the message.



- **In relation to the influence that the cognitive abilities have on the performance of the macro-skills listening, speaking, reading and writing:**

In this specific question, both teachers agreed that the cognitive abilities had a close relation to the macro skills since they allow a better performance and students need to adapt these cognitive abilities to what they are doing or learning. However, the English teacher mentioned something additional and this is that some students don't even know that these cognitive abilities exist and they need to start teach them directly how these abilities will or could help them and this will make a great impact on future teachers.

- **How the students can improve these abilities while learning a second language?**

From the French teacher's point of view, this can be improved by being exposed to language and using technology in the target language meaning that students can switch the language of the application to the language that they are wondering to learn.

From the English teacher's point of view, they can use planning, and this can prepare for what they will be facing, also, the use of the short term memory but they need to identify what type of learner they are. Also, these cognitive abilities will help them but first of all they need to be aware about them so, they need to start teaching them since the very beginning.

- **About the actions taken to have the students to develop the four the macro skills:**

In order to have students to develop the four macro skills, the French teacher give them real context exercises, she makes the write or speak what they have learned and this makes the use spontaneous language. Besides that, she

thinks that they as teacher can be example for students like when reading about a book that students might be interested in discussing.

Moreover, the English teacher said that she prepared the material that is according to the book and according to the macro skill that they will teach and then, she provides them to the students and so that the students can use the language freely and this will allow them to learn each of the macro skills.

- **Related to the benefits that cognitive abilities bring to:**

Professional area: Both teachers mentioned that the cognitive abilities help them to provide and perform a job of quality and in this way they can meet the students' needs.

Academic field: These abilities are important because they help either to have an average performance or poor performance and also, they help to innovate the learning process.

Personal life: According to the teachers, cognitive skills help people on every single phase of life, since this help to have a balanced life. Also, it changes the way in which one people view the world and help to understand each other and what others are doing or even what is happening around us.



CHAPTER VI

CONCLUSIONS



CONCLUSIONS

After having administrated the three instruments, surveyed, tested and interviewed, in order to study and understand the importance of the development of cognitive abilities when learning two languages simultaneously in the Modern Language Department, University of El Salvador, the researchers can conclude the following:

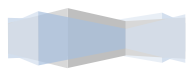
- When it comes to the survey results, the researchers found that a high percentage of students from the fourth year of the Modern Languages major had knowledge about the macro skills used during the five years of study; however, the students from the first year of the career showed a lower knowledge about the skills that needed to be developed when learning a second language. This phenomenon can be explained because the students are in a different learning level. The students on the fourth year have already a trajectory in the career and throughout the major they had learned unconsciously what they needed in order to have a good level in English and French, in this case what they needed is to have a good listening, speaking, writing, and reading so that students could become multilingual. On the other hand, the students from the first year were more concentrated on learning vocabulary and grammar since there were not specific courses that focused on the development of the macro skills, so the students will have to discover them in the following years of the major to reach the goal which is learning English and French simultaneously.
- Learning two languages will definitely improve the cognitive abilities in many areas such as academic performance, personal and professional life. The surveys showed an agreement from the student's side in regards to the mentioned above. The students provided their opinions and said that learning two languages have benefits such as a better performance in the daily life; it helps to be organized and productive, reduce the risk of mental diseases, it helps to gather information and to get better job opportunities.

- The test that the researchers passed on also helped to confirm the improvements in the cognitive abilities that the students have according to their level in the major. A comparison of the test results was done and the results regarding the cognitive abilities were the following; the students in the fourth year of the career showed a better performance in planning, processing speed, and short term memory. These abilities were developed in a higher level because the students have been already in contact with a second language during fourth years in the University, and some of them are already working in a job related to their major which has also contributed to the development of those abilities. In the contrary, the students in the first year only overcome on the creativity test and they got lower grades in the test of planning, short term memory and processing speed.
- The interview that the researchers administered to the professors from Modern Languages major showed that they are aware that the cognitive abilities are really important in the process of learning two languages simultaneously and they believed that the most important abilities are processing speed and shifting, and planning. Moreover, concerning to the macro-skills they mentioned that speaking is the one that students from both courses practiced and develop the most but the Modern Languages students handled better. Besides that, they considered that students in most of the cases have difficulties developing the macro-skills because they do not practice what they have learned during the classes and that students are used just to the transference of information and they learn only what the teacher says. Furthermore, the interviewee professors considered that development of the macro-skills will be a big support in the areas of the students' life (professional, academic and personal) but the practice of the cognitive abilities will depend on the learning style of each student. Besides that, they are aware that students have to be more exposed to the language they are learning not only with the new technologies but also they should be exposed in the real context.



CHAPTER VII

RECOMMENDATIONS



RECOMENDATIONS

After having conducted this investigation as researchers we consider important to take into account the following recommendations:

- Since the planning ability is a process that the Modern Language students develop almost at the end of the major, the researchers suggest teaching planning to the students in a conscious way from the beginning of the career to organize wisely their time in order to learn English and French respectively. This would avoid confusion and frustration when learning two languages at the same time. Teaching planning can start by asking to the students from the beginning of every week of classes to make a calendar where they schedule every activity they will develop by themselves, such as memorizing vocabulary, doing homework and studying for an exam. This should go according to the class program and would require students and teachers to be constant while developing this ability.
- Assign to every student of English or French a conversation partner abroad (via social media) to practice out of the class, this would be organized by the teacher in charge of the subject and that activity would be used to practice and then share in the class what they learned. As well, with this practice the students will be developing the auditory perception ability and fluency.
- To include a reinforcement on students from the first year in the Modern Languages major, in order for them not to get frustrated when they start studying French, because most of the time they already have some basis of English.



- Create conversations clubs as a subject and not as an extra option. Because out of the classroom students do not practice English and French. So, each semester it would be helpful to have conversations clubs in English and French as an obligation and not a choice.
- In order for students at the Foreign Languages Department to develop the cognitive abilities such as shifting, processing speed, shifting, short term memory, inhibition, divided attention among others. Students should be conscious of the development of these while they are learning English and French simultaneously.
- Teachers at the Foreign Languages Department can encourage to their students to be aware of the cognitive abilities such as when they can apply them according to the four macro-skills. Also the data analysis shown that the students in both courses thought that these are a big support in the improvement of the learning process.
- It is highly important that students can analyze or study themselves since the very beginning of the career, meaning that they need to discover what type of learner they are (auditory, visual or kinesthetic learners) so that they can practice the most the cognitive ability related to their learning style and this will allow them to do a better performance along the major.
- As part of the teaching process, teachers should administer a cognitive test to students at the beginning of every semester with the purpose of knowing what type of students they will be dealing with (visual learners, auditory learners or kinesthetic learners) and this will allow them to prepare their classes and their content in order to make the learning process a little bit easier.

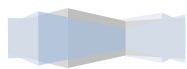


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- It is recommendable for authorities to train teachers how to work or how to teach the main cognitive abilities previously discussed in this research since these are the main ones to be developed when learning English and French simultaneously and as result, the students will gain awareness about them and by consequence, they will be encouraged to practice them on a daily basis.
 - It is expected that the information presented in this research could be helpful for future researchers that would like to investigate more about the cognitive abilities that students need to develop when learning two languages at the same time and so that these researches can be of big importance and taken into account for future changes on the methodology to be used in our major.



CHAPTER VIII

REFERENCES



REFERENCES

- Aydoğan, H. (2014). *The Four Basic Language Skills, Whole Language & Integrated Skill Approach in Mainstream University Classrooms in Turkey.*
- Bialystok, E. (2008). *Second-Language Acquisition and Bilingualism at an Early Age and the Impact on Early Cognitive Development.*
- Carroll, J. B. (1993). *Human cognitive abilities: A survey of factor-analytic studies.* Cambridge University Press.
- Cenoz, J. (2003, March). *El aprendizaje del inglés desde educación infantil: efectos cognitivos, lingüísticos y afectivos.* In *EDULING Revista-Forum sobre plurilingüismo y educación (Vol. 1, pp. 1-11).*
- Farrell, T. S. C. (2012). *Reflecting on teaching the four skills.*
- Gilar, R. (2003). *Adquisición de habilidades cognitivas. Factores en el desarrollo inicial de la competencia experta.*
- Lange, C. (2012). *Health and Science.*
- LOWRY, L. (2015). *Bilingualism in Young Children: Separating Fact from Fiction.*
- MARIAN, V.; SHOOK, A (2012). *The Cognitive Benefits of Being Bilingual.*
- OAKLEY, L. (2014) *Cognitive Development*
- *Cognifit.com*



CHAPTER IX

ANNEXES





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

SURVEY

Topic: *“The importance of developing cognitive abilities when students of Modern Languages major learn English and French simultaneously, during the semester I-2017 at the Foreign Languages Department, Main Campus, University of El Salvador”*

Objective: To determine the importance of developing cognitive abilities when students of the Modern Languages major learn English and French simultaneously.

Female: Male: Age: _____ Course: _____

1. Did you know English and French before studying the Modern Languages major?

YES NO

2. Do you know the four macro-skills that needed to be developed in your career?

YES NO

3. Select the macro-skills that you practice the most?

Listening Speaking Writing Reading

4. What are the areas in which you consider that you do better?

Listening Speaking Writing Reading

5. What areas your teachers focus on when teaching English and French?

ENGLISH: Listening Speaking Writing Reading

FRENCH: Listening Speaking Writing Reading

6. Do you think is good to learn two languages simultaneously?

YES NO

7. What are the abilities that you practice while studying English and French simultaneously? Select all the ones that you use.

- Planning:** ability to plan in advance upcoming activities.
- Inhibition:** ability to ignore irrelevant information and focus on the main objective of learning.
- Processing speed:** time that a person takes to do a mental task.
- Shifting:** ability to switch from one language to another.
- Short term memory:** ability that allows retaining information for a short period of time.
- Visual short term memory:** ability to retain a small amount of visual information.
- Auditory perception:** ability to receive and interpret information by listening.
- Divided attention:** simultaneous attention that allows processing multiple tasks at a time.

8. Do you think your teacher promotes the cognitive abilities mentioned above?

YES NO

9. Do you consider that the cognitive abilities help you on your academic performance?

YES NO WHY?

10. Do you think that the development of cognitive abilities is beneficial for your personal and professional life?

YES NO WHY?





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

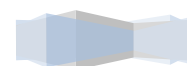
INTERVIEW

Topic: “*The importance of developing cognitive abilities when students of Modern Languages major learn English and French simultaneously, during the semester I-2017 at the Foreign Languages Department, Main Campus, University of El Salvador*”

Objective: To determine the importance of developing cognitive abilities when students of the Modern Languages major learn English and French simultaneously.

Female: Male: Age: _____ Course: _____

1. What are the *cognitive abilities* that students develop when learning a second language?
2. What are the *macro-skills* that the Modern languages students develop the most?
3. Do you consider that the four macro-skills should be developed in the same level when English and French?
4. From your experience, do you consider that the students present or have difficulties developing their cognitive skills while learning a language? Why?
5. Why is it important that the students can develop the following cognitive abilities:
 - Planning:** ability to plan in advance upcoming activities.
 - Inhibition:** ability to ignore irrelevant information and focus on the main objective of learning.
 - Processing speed:** time that a person takes to do a mental task.
 - Shifting:** ability to switch from one language to another.
 - Short term memory:** ability that allows retaining information for a short period of time.
 - Visual short term memory:** ability to retain a small amount of visual information.
 - Auditory perception:** ability to receive and interpret information by listening.
 - Divided attention:** simultaneous attention that allows processing multiple tasks at a time.
6. According to you observation, from the cognitive abilities mentioned before, what are the ones that the students practice the most?



-
7. Do you consider that the abilities mentioned before have influence on the performance of the macro-skills listening, speaking, reading and writing? Why?
 8. How the students can improve these abilities while learning a second language?
 9. How do you do to have the students to develop the four the macro skills?
 10. For you, what are the advantages that the cognitive abilities bring to:
The professional area _____
The academic field _____
Personal life _____





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

TEST

Topic: “The importance of developing cognitive abilities when students of Modern Languages major learn English and French simultaneously, during the semester I-2017 at the Foreign Languages Department, Main Campus, University of El Salvador”

Objective: To determine the importance of developing cognitive abilities when students of the Modern Languages major learn English and French simultaneously.

➤ **PLANNING TEST**

Part I: Read the following statement and answer according to your personality

8. What are you working on now?

- A) Exactly what I planned to work on B) The first thing I thought of
C) I don't even know where to start

9. Do you know already what you'll be doing next week?

- A) Sure, it's all mapped out B) I've got a rough idea C) I'm totally in the dark

10. Upcoming appointments are scheduled:

- A) In a calendar B) On a post-it note C) In my head

11. Scared by deadlines?

- A) Sure B) Not really

12. You're better at:

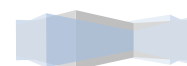
- A) Prioritizing B) Innovating

13. Emergency! You're:

- A) Already planning B) A little overwhelmed C) Panicking

14. You usually walk into meetings:

- A) Ready to shine B) Hoping I remembered everything



➤ **CREATIVITY TEST**

Part II: On a typical day at work or at the University, do you consider yourself to be:

6. A person who likes frequent change?

- A) Not like me B) at all C) A lot like me

7. A person who can always see both sides of an argument?

- A) Not like me B) at all C) A lot like me

8. A person who likes to work on one thing at a time?

- A) Not like me B) At all C) A lot like me

9. A person who forms a plan and sticks to it?

- A) Not like me B) at all C) A lot like me








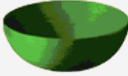

10. A person who is good at getting their own way?

- A) Not like me B) at all C) A lot like me

➤ **PROCESSING SPEED**

Part III: How fast are you? You have 3 minutes to choose *True* or *False* in the following exercise:

- | | | | |
|-------------------------------|---------------|------------------------------|---------------|
| A) $1 - 25 \div 5 = 5$ | True False | F) $12 \times 2 = 24$ | True False |
| B) $2 - 5 + 9 = 16$ | True False | G) $8 + 7 = 15$ | True False |
| C) $8 + 7 = 15$ | True False | H) $5 + 9 = 16$ | True False |
| D) $13 - 9 = 3$ | True False | I) $21 - 9 = 11$ | True False |
| E) $20 - 12 = 8$ | True False | J) $11 - 6 = 7$ | True False |

True False	Triangle	
True False	Pyramid	
True False	Crow	
True False	Circle	
True False	Square	
True False	Square	
True False	Pear	
True False	Bowl	
True False	Wrench	

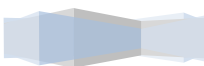
➤ **SHORT TERM MEMORY**

Part IV: Try to remember the following words in 1 minute.

Vase	Teapot
Tiger	Camera
Book	Ice Cream
Cushion	Spade
Piano	House
Hat	Orange

Recall Words

Write the words that you remember in each box - be sure to spell the words correctly. . You will have 2 minutes to do it.





INTERVIEW N°1
UNIVERSITY OF EL SALVADOR
SCHOOL OF ARTS AND SCIENCES
DEPARTMENT OF FOREIGN LANGUAGES

Topic: *“The importance of developing cognitive abilities when students of Modern Languages major learn English and French simultaneously, during the semester I-2017 at the Foreign Languages Department, Main Campus, University of El Salvador”*

Objective: To determine the importance of developing cognitive abilities when students of the Modern Languages major learn English and French simultaneously.

Female: Male: Age: _____ Course: _____

11. What are the *cognitive abilities* that students develop when learning a second language?

In general, when students learn a second language they acquire some cognitive abilities for example, I will say, processing speed and shifting which are the most important I think because they have to mechanism in order to acquire both languages at the same time and also, it means that they have to be able to shift from one language to the other as well as their mother tongue I think those are the most important that they acquire when learning both languages.

12. What are the *macro-skills* that the Modern languages students develop the most?

I think, it is speaking because students don't like reading according to my experience they don't read that much, actually, they say they don't like to read because when you give them some tasks they say: “oh, I don't want to do this because I don't like to read” but somehow they are like pushed let's say to speak because you can give them some tasks written task but they don't do it. Instead of speaking because you have a kind of interaction in the classroom an outside classroom and they are kind of wondering to practice the language even though they don't like reading or listening to something in the source language. So, let's say I will say speaking.

13. Do you consider that the four macro-skills should be developed in the same level when learning English and French?

Well, the main purpose is that they develop those macro skills in both languages but we have the same case all the time that they prefer one language and not the

other one, so, that is the point if they feel more comfortable for example in French, which is the most common case, they are going to develop those skills but just in French or it can be the opposite. But I think they develop the four macro skills mostly in French because it is similar to their mother tongue, Spanish, so I think they feel more comfortable with that language and that makes the learning process easier for them I think.

14. From your experience, do you consider that the students present or have difficulties developing their cognitive skills while learning a language? Why?

Of course, first of all, the difficulties they have is for example they don't practice every day because we have a schedule let's say from Monday to Friday but during weekend they don't practice so, it is like you have to start all over again each week, so, if you don't practice a skill, if you don't practice what do you have learned you are going to forget it, so I think the lack of practice is something that makes the language learning difficult.

15. Why is it important that the students can develop the following cognitive abilities:

- Planning:** ability to plan in advance upcoming activities.
- Inhibition:** ability to ignore irrelevant information and focus on the main objective of learning.
- Processing speed:** time that a person takes to do a mental task.
- Shifting:** ability to switch from one language to another.
- Short term memory:** ability that allows retaining information for a short period of time.
- Visual short term memory:** ability to retain a small amount of visual information.
- Auditory perception:** ability to receive and interpret information by listening.
- Divided attention:** simultaneous attention that allows processing multiple tasks at a time.

Well, I think it is important because it is not that you are learning just for fun, you are learning because you are going to become a professional so, for example, the major says that you are going to be a specialist in French and in English; so it is not I am going to learn a language just for traveling or just for fun or, it is because I am going to become a professional and as a professional I have to give a reason why I use a specific technique, a specific book, etc.

For example planning, you should be and organized person, not only in your everyday life but also in your professional life because, as a professional you can face some let's call them problems and you have to know what are the best ways to solve that problem; according to inhibition, sometimes let's say, you have big documents to read and you have to give a solution to those documents, so you have to have those skills that allows you to choose the most important or relevant information and work with that information.

Processing speed, well, it is not that you are going to be like flash, it is that you have to be at your own time but still you have like a mental schedule in order to let's say organize your ideas, process them and then, give a result.

Shifting, well, I think it becomes an automatically process because you get the ability to shift from English to Spanish , Spanish to English, French to English, etcetera, so, it is just a matter of practice.

Short term memory, it will depend on the field that you are specializing, because for example, if you are interested on translation, short term memory is essential because at this time what the student do is just learn the things for the moment of exams, but as a professional you have to develop that skills if you will become a translator for example.

Visual short term memory, I think that depends on the learning style because not all the students are visual learners; besides, we have auditory perception which is an important skills because you have to understand what other people is saying to you a native speaker for example.

And also divided attention, well, that is not essential I think, but as modern languages student you have to know how to separate the languages, French, English, modern tongue and you have to know where, and how to use them according to the situation.

16. According to you observation, from the cognitive abilities mentioned before, what are the ones that the students practice the most?

Well, that is difficult to say because each student is different. So, I will say it depends on their learning style. For example, visual learners they process inhibition, they are good at inhibition because they skim the test and they get just the most important information. For example, if we have a person whose learning style is just by hearing they are good at auditory perception but if I have to choose in general I will say that shifting because no matter what your learning style is you

have in a point you have to shift from one language to another, so I will say in general shifting but once again it depends on the learning style.

17. Do you consider that the abilities mentioned before have influence on the performance of the macro-skills listening, speaking, reading and writing? Why?

Of course, they influence because they are like specific abilities and those specific abilities are applied to a main topic or a main field, for example you can adapt planning, to reading and speaking because when you have a presentation you need to plan what you will say even though if you are not reading but you are presenting something and you have to have a kind of planning for you to present. And also, if we talk about listening, you can also have planning but using visual short term memory because you use slides for example and you have to organize them and also you have to use them as a material for you to understand them or present something.

I think they influence because you adapt every cognitive abilities to what you are doing, so, you have to adapt each of the abilities to the field.

18. How the students can improve these abilities while learning a second language?

Well, I will say that by being exposed to the language, that will be a way to improve those abilities, because if you are learning either French or English it is not that you are going to be just with your book, you have to learn just what the book says and that's it. You have to be exposed to the language in a real context. Another way, is technology because nowadays we know that technology play an important role because all students are exposed to technology. So, that would be a good way to improve those abilities because you can combine something that you like with something that you need to learn. For example, social media if you are in social networks like Facebook, like twitter, I don't know, you can just shift the language of your tool or your app and you are automatically learning let say in a way that you have fun.

19. How do you do to have the students to develop the four the macro skills?

Well, sometimes, I give them exercise but they are not book exercises. I just go to the internet and I get real context exercises, then, I made them write or speak about what they have just learned or read and they have to use a spontaneous language let's say. It is not that you are going to give them a list of items and they

have to answer them and that's it. You have to give them real situations for them to get familiar with those terms that they will never find in books. Another thing that we can do in order to develop those macro skills is by just giving them examples. For examples, sometimes my students ask me: "why are you reading that book? It is not related to our course" so, I think they are curious and somehow they are motivated to learn by themselves.

Do you like to focus only in one of the macro skills or do you try to practice all of them, or do you consider that is one that should take more attention?

No, I think that we have to develop the four of them but it depends on what kind of students you have and some of them are going to develop just one, or others are going to develop the four of them or they will develop their favorite I will say. In my case, I try to give them or to provide them the different materials so that they have like a database where they can get information in order for them to improve their abilities, the four abilities.

20. For you, what are the advantages that the cognitive abilities bring to:

The professional area: it is because as a teacher, I have to be adapted in all of them, because I will say that I am a visual learner but that is not a reason to make my students learn just by giving them visual material, so, I think that in my professional area I have to develop all of them in order for me to meet the students' needs.

The academic field: let's say, I am student too, because all the time I am working as a teacher but I try to be studying. At this moment I am studying a master degree and as student I develop those skills and I tried to transmit what I am learning to my students. And I am innovation according to what I am learning and those abilities are essential for the learning process.

In my Personal life well, in my personal life I think that I am a very organized person so, I think I am quite familiar with planning. So, sometimes what you learn in the university or in the classroom you can apply it to your personal life. For example, shifting it is something simple but you have to shift from your academic field to your personal field. For example, sometimes students see you as teachers ok that is the teacher and that's it you cannot be friends with your teacher but I tried to change that pattern because sometimes you are going to see that while talking to students in a non-academic context let say, you still have them to develop their skills as part of having fun you are practicing the language but you are not in the classroom, so they fell more free to talk to you in another language and they are practicing but they are under no pressure.



INTERVIEW N°2
UNIVERSITY OF EL SALVADOR
SCHOOL OF ARTS AND SCIENCES
DEPARTMENT OF FOREIGN LANGUAGES

Topic: *“The importance of developing cognitive abilities when students of Modern Languages major learn English and French simultaneously, during the semester I-2017 at the Foreign Languages Department, Main Campus, University of El Salvador”*

Objective: To determine the importance of developing cognitive abilities when students of the Modern Languages major learn English and French simultaneously.

Female: Male: Age: _____ Course: _____

1. What are the *cognitive abilities* that students develop when learning a second language?

I would say from my short experience that I have at teaching English only because I don't teach French, I would say that memorization is one of the cognitive abilities that students develop mostly at the beginning. Why? Because when students are learning a second language, in this case a foreign language, at the beginning what they do is to memorize either chunks or isolated works and then they internalize them, so I will say that memorization is one of the first cognitive abilities that students develop almost at the beginning. Later on, they develop these language competences and they become a better language user we can say, the language they are learning within that time they start developing other abilities such as paraphrasing, note taking is one of the abilities that I think they develop here in the university, not at school and this ability should be develop before, right? Because it is one of the mostly used abilities. I will also say that from the ones that you here listed, planning is a skill that I would say that is not developed, it is the least developed, and why? Because students are not really sure if this is what they want to study, I think what they like is the name or in the case of Modern Languages, in the case of the major in English teaching, I would not say that most of the students but many of the students want to learn only the language to get a job either at a call center or may be in a academy but they are not really interested in teaching, so, they don't even not how to plan they don't have either long term objectives or goals for their life. Ok so, I would say that those are the most commons abilities when talking about cognitive abilities that students have.

Then, the processing of information, is one of the abilities that they develop like in the third year as well as met a cognitive ability when they become aware of their own learning process and when they become aware or what they know or What they should know and how they would get to know what they need to continue learning, so I would say that that is almost at the end at least of the major, gaining consciousness and awareness in this case.

2. What are the *macro-skills* that the Modern languages students develop the most?

Well, I usually work with the major but when I had had the chance to work with students from modern languages I would say that speaking is one of the skills that they develop the most. and it is not surprising but I would say it is something that calls my attention because in most cases students, well for example, two semester or last year, semester II I had a group that was composed for students from English teaching and modern languages and it was obvious actually how the difference of how modern languages students had developed mostly the speaking skill better than the students from the English teaching, that has always called my attention since I started to work with modern languages students. They develop not only speaking the four macros skills but mostly speaking since that is one of the skills that show how language has been developed in the students.

3. Do you consider that the four macro-skills should be developed in the same level when learning English and French?

Definitely yes, the emphasis should be in the four macro skills but for some reason teacher and students tend to prioritize speaking when teaching and when learning English. Why? Because performance is measured through production and the way we produce is by writing and by speaking, so, the way a person is judge whether she or he can use the language is mostly by speaking. So I will say, and because of the focus that we have here in our department which is the communicative language teaching approach, so communicative language teaching focuses a lot in communication but not only in speaking obviously it focuses in the four macro skills but there is always an emphasis on speaking. If you have notice in our classes, the methodology is an emphasis on speaking. And one of the reasons is because teachers are aware that in most cases the only place where students can practice the language that they are learning is in the classroom and we leave reading and writing assignments to be done outside the classroom so, as a consequence the students tend to develop mostly speaking.

4. From your experience, do you consider that the students present or have difficulties developing their cognitive skills while learning a language? Why?

I will say yes, and because they are not used to that, they are used to the traditional methodology which is the transferring of information, the transferring of knowledge. We know that, that is the type of methodology that has been used for hundreds of years and it continued to be used nowadays and specially in schools right? Even in private schools are they to say so, if we focused on the transferring of information it means that what the teacher knows is what is going to be transferred to the students, and the students do not develop their own learning skills, not language use, but learning skills. So, if students don't develop that since

kinder garden, when they come to the university you know, they are not ready to do so. So, they are not even aware or conscious of what they are doing here. So, it is very hard to develop these in the students and I would say that the whole system has to be blame for this and as university teachers we are not excluded obviously we receive this type of students, we have to start doing something but the thing is that if we focus on that, we live aside the program, so, somehow we need to include that in our courses, in our everyday class. So, would say that it is hard to develop these cognitive skills in the students because they have not been prepared to do that. For example, if you ask an student to synthetize, they cannot synthetize. To summarize, they cannot summarize, they cannot evaluate and those are cognitive abilities, to be able to analyze, they are not able to analyze. There are very few students that are able to do that. And why? Because they have not developed these cognitive abilities. Sometime they cannot even paraphrase. you ask them to paraphrase and what they do is to make a copy of what they have read. So that is not paraphrasing. So, it is very difficult and we have to start from the very lowest cognitive level which is knowledge. Just asking the students maybe to transfer information, to memorize information and take them little by little. To create, to analyze, and sometime it is very difficult and sometimes students don't get to achieve that. And I am talking about general students not only students from the French major.

5. Why is it important that the students can develop the following cognitive abilities:

- Planning:** ability to plan in advance upcoming activities.
- Inhibition:** ability to ignore irrelevant information and focus on the main objective of learning.
- Processing speed:** time that a person takes to do a mental task.
- Shifting:** ability to switch from one language to another.
- Short term memory:** ability that allows retaining information for a short period of time.
- Visual short term memory:** ability to retain a small amount of visual information.
- Auditory perception:** ability to receive and interpret information by listening.
- Divided attention:** simultaneous attention that allows processing multiple tasks at a time.

To make them good professionals. I am aware that students from modern languages can choose either the teaching field or communication. So for whatever job they are going to perform in the real word in society, they need to be ready to do this, if not they are not going to be professionals, we cannot even say good professional but professionals at all. A professional has to be able to do this and more. And then, they cannot compete with the demand of the market. And what society is requesting and that is not going to take us to the development of society in this county. So, I believe that we have to be conscious. Everyone who is working on the education field, starting from kinder garden up to the university. We have to

be more conscious of this. And try to include these cognitive abilities to make students think. We are not making student to think, we are not helping them to think. They just replicate what has been told. For example, I have the opportunity to teach didactics, and tell my students: don't believe everything you read. You have to question but they believe everything they read and we have to question everything we read. Why? Does this apply here in our context? but we don't do that, and that is because we were not taught. I was not taught in that way and that is why we are not used to so, and we believe everything. So what we do is just use everything that come to us and we replicate that in that way. So, definitely in order to have professional and to help in the development of our country, our society, we have to somehow do it. We have to teach students to become aware and to use awareness. Which is the first thing they need to do, and when I talk about awareness is to become conscious of what they need to do, the way they learn, how they can use these abilities, how they can help them to function in the real world.

6. According to you observation, from the cognitive abilities mentioned before, What are the ones that the students practice the most?

I will say short term memory. Maybe auditory perception and visual short term memory. Those are the ones. Shifting from one language to another that is something that they do because they cannot continue with the conversation. They cannot convey the message that is why they shift but is not something that they can do because it is easy to use either the language, so I will say that those are the most common.

7. Do you consider that the abilities mentioned before have influence on the performance of the macro-skills listening, speaking, reading and writing? Why?

As I said before, some students do not get to develop and they are not even conscious that those cognitive abilities exist. So, the first thing that we need to do is teach them directly. We have to teach them how planning is going to help them if we don't teach them, they won't be able to do it. They don't even know that they are using the short term memory. They have to be conscious. And we have to teach them when we are working with future teachers. These abilities could help them but in most cases they are not conscious. It would be really helpful if they would be able to develop these cognitive abilities. Definitely yes, it will make a great impact.

8. How the students can improve these abilities while learning a second language?

Well, for example planning, planning the way they are going to study vocabulary. Planning ahead. Planning how they are going to carry out a presentation. O will say that it can prepare them for what they would be facing. The use of the short term memory, if they are able to identify whether if they are visual, auditory

learners, how they prefer to learn best. If they become aware these cognitive abilities will have an impact in their learning not only in language learning but in learning in general. They have to become aware. I will say that the key I have been repeating awareness and awareness. For example if we are not aware that planning is going to help me, how can I use it. So, they don't even know, maybe I am using it but unconsciously as you said. So, we have to know how these abilities can help us to develop our language competences. Not only language competences anything in life. I mean, we plan ahead for everything we should plan for everything we do in life but we don't do it. So, I would say that it would help them to improve a lot but they have to become aware and the one responsible to do that are the teachers. But not only here in the university this has to be done since the very beginning.

9. How do you do to have the students to develop the four the macro skills?

Well, obviously we have to plan. The methodology tells us the stages that we need to follow if we want to work with speaking. For example if I bring a speaking activity to the class. Obviously I have to follow some stages. I prepare my students if they are going to need special vocabulary and phrases and so on. And then, they practice and then we let them use the language freely. The same thing happens in the writing process we are not going to only come to our class. Let say intermediate I students, and we are going to tell them: now write a paragraph describing your last vacation. First, I need to know if the students know the tenses of the verbs in the past if they are going to talk or write about something that they have done in the past. So, there are stages that we have to follow when teaching each of the macro skills. When we teach reading, we are not just going to tell our students: ok, read this passage and answer these question, we first prepare them, we first try to engage them into what they are going to be reading. For example, for example if we are going to be reading about someone's last vacation, we are going to show pictures of places, the same with listening, when teaching listening what we do as teachers is to prepare the students for the listening process, so the students can learn listening strategies and those listening strategies is what is going to help them to become good listeners of the language. So, the way we, I would say only me but all of us in the department, what we do is when we work with each of the abilities, we follow stages. We don't tell the students: we are going to study vocabulary because we need this vocabulary in the next activity. We do this in a very smooth way, when we develop our classes. So that is the way that we try to develop these macro skills.

10. For you, what are the advantages that the cognitive abilities bring to:

Definitely if a professional is not able to process information, to plan, to synthesize, to evaluate, I wouldn't call that person a professional. First of all, the way that person is going to perform is not going to be of quality.

In the academic field, well the performance that that person is going to have in their classes or in their academic life is going to be average or poor, or maybe is going to use these abilities by chance but not because they are aware.

And in the personal life, well we know that the cognitive abilities not only help us in our workplace, it help us in our life in general. So, the way we view the world is different so we have an explanation, I will not say for everything in life, but for many things that happen in life. The reactions of people, so, if we have not developed cognitive abilities; how can we interpret what someone has done? There must be a reason for that. so, it would help us on every single sense of our life.

