

USE OF NEUROLINGUISTICS ON EFL LEARNING PROCESS  
THROUGH PEIS PROGRAM WITH YOUNG LEARNERS

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### **ABSTRACT**

Neurolinguistic is referred to the relation between the brain and the way that it receives the language, understanding that the brain has 6 areas in which it works in order to acquire, process, and communicate the language, each area has a specific function that allows the acquisition of English as foreign language, using a variety of strategies and activities that help the brain to stimulate the individual in order to be involved into the development of the language.

This study reports the findings of how neurolinguistic foster the learning of a foreign language through the Program of Integral Education Seduc (PEIS) as a strategy for teaching preschoolers in CONALDI School, using activities that allowed the English learning process on each student and helped them to acquire a new language.

Field notes, diaries, video recordings and teacher insights were used as data collection instruments. Findings suggest that working with PEIS program can be useful for kindergarten grade, but always thinking about Colombian context. Therefore, through PEIS program and the use of Neurolinguistic teachers can consider when adapting their classes, also teachers can have an idea about how students can learn using different methods and strategies that PEIS program brings.

**Key words: Neurolinguistics, Program of Integral Education Seduc (PEIS), Young Learners**

## RESUMEN

La Neurolingüística hace referencia a todos los procesos mentales en relación con el cerebro y la forma en que este recibe el lenguaje, entendiendo que el cerebro trabaja con 6 áreas, con el fin de adquirir, procesar y comunicar el lenguaje, cada área tiene una función específica que permite la adquisición de un idioma extranjero usando una variedad de estrategias y actividades que ayudan al cerebro a estimular al individuo para participar en el desarrollo del lenguaje.

Este estudio divulga los resultados de cómo la Neurolingüística fomenta el aprendizaje de una lengua extranjera a través del programa PEIS como una estrategia para la enseñanza preescolar en el Colegio CONALDI, haciendo uso de actividades que permitieron el proceso de aprendizaje en cada estudiante, y les ayudaron a adquirir un nuevo idioma.

Las notas de campo, los diarios, las grabaciones de vídeo y las percepciones docentes fueron utilizados como instrumentos de recolección de datos. Los resultados sugieren que trabajar con el programa PEIS puede ser útil para el grado preescolar, pero siempre pensando en el contexto colombiano. Por lo tanto, a través del programa PEIS y el uso de la neurolingüística los profesores pueden considerar como adaptar sus clases, para tener una idea clara acerca de cómo los estudiantes pueden aprender usando diferentes métodos y estrategias que el programa PEIS brinda.

**Palabras clave: Neurolingüística, programa de Educación Integral Seduc (PEIS),**

**Aprendices Jóvenes**

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### **Introduction**

This study presents the benefits of neurolinguistic into preschool as a strategy to work with students' brain plasticity through Program of Integral Education Seduc (PEIS) as a strategy in the EFL learning process. The study emerged from the idea of studying how PEIS could help preschoolers that never received English classes to foster their learning process making use of their brain abilities.

PEIS includes some strategies that can help this research in order to work with children in an early age. Bearing in mind the aforementioned, this research wanted to know the contributions that neurolinguistics brings to students when they learn a foreign language in this case English. On the other hand, this research was focused on improving English learning, letting the traditional process of teaching English and using new methodologies that could help students to learn a foreign language in different and interesting ways.

The relevance of the research is based on highlighting the importance of neurolinguistics inside the education field, because it does not just work with medical matters, neurolinguistics brings several benefits inside classroom, through neurolinguistics, could be used brain's abilities on each student, especially on children because in early age the brain allows a better learning process, and it is more flexible.

This proposal addresses six chapters that show how the process of investigation was done, making use of different findings along the whole investigation,. In chapter one, the reader

will find the questions that were guiding the process of investigation and the presentation of the main concerns that researchers wanted to solve.

Then, chapter two contains the basic theories and investigations in which the research was based, constructs used in theoretical framework were neurolinguistics, Neuro- education, Young learners and PEIS (Program of Integral Education Seduc).

In chapter number three it is presented the kind of investigation that the study took into account, the principal characteristics of the context and the population under study, how the information from the research was collected, and the ethics that guaranteed the confidentiality of participants involved in the investigation.

Next, chapter number four introduces a detailed description about the pedagogical implementation where the activities and timetables are presented including the learning objectives and kind of data to be collected.

Chapter five is the result of the analysis done from the data collection instruments, it presents the categories and the theories that contrast or supports the results obtained from the investigation. Finally, chapter six shows what the conclusions were and the new findings that took place during the investigation and that will be useful for further investigations.



### **Research Topic**

Fostering young learners EFL learning processes through PEIS (Program of Integral Education Seduc) and neurolinguistic activities.

### **Research question:**

How does PEIS (Program of Integral Education Seduc) may foster the learning of English as a foreign language through neurolinguistics for teaching young learners?

### **General objective:**

To analyze the contributions of PEIS methodology through neurolinguistics as a strategy to learn a foreign language in young learners.

### **Specific Objectives**

1. To describe the contributions of neurolinguistics to the teaching of English as a foreign language in young learners.
2. To identify how PEIS activities contribute the brain's areas development in young learners.
3. To describe how activities related to brain areas foster the learning of English as a foreign language in young learners.

### **Research Problem**

CONALDI School is a public institution that offers pre-school, primary and secondary education that depends on the secretary of education of Cundinamarca, the school was approved according to the resolution (N° 3344) of 2002. The school is located in Chia Cundinamarca, it has four buildings, all of them located around the municipality.

The School emphasis is to bring formation based on tools from technical education, and according to CONALDI school micro curriculum, preschooler students, the participants of this research, do not receive English classes. The principal reason to select this school is because by proximity, researchers know about the fact that younger students from the school do not learn English, also they questioned themselves about how could be the result and the improvement of preschool grades if children would receive English classes.

Participants selected for this study were students aged between 5 and 6 years old. They do not know anything about English, fact that makes the population suitable to investigate if PEIS fosters young learners EFL learning processes.

As was stated above, it was considered a problematic taking into account that English exposure needs to be done since the first years of education, by neurological reasons Penfield, W. & Roberts, L. (1995)says that “the brain presents optimal conditions for learning the language for some time. The cerebral mechanisms dominant of the cortex are developed in the childhood before the puberty.” (p.4).

This study proposed to look for the benefits to implement adapted and new methodologies on foreign language learning, taking into account students' needs, it is important to clarify that PEIS is from Chile, but the study wants to be adjusted to the Colombian educational context, also considering last investigations neurolinguistic has done in order to improve students' learning on a foreign language.

Neurolinguistics also was considered to study how students learning process works in terms of use of language and use of vocabulary, this field also was useful to identify if it is reliable or not to teach English to preschoolers.

During the research, an insight was collected in order to support students' teachers perceptions about teaching English to preschoolers (see annex 5) students 'teacher said: "De acuerdo al medio social en el que se encuentre el alumno se deberían desarrollar las actividades y los programas educativos en la enseñanza del idioma".

Teacher perception supports the idea that it is important to teach English to preschoolers, for teacher it is also important to give importance to students needs and student's context, in order to implement well, formulated projects that will be useful for students to learn a foreign language since their own interest and expectations.

## Chapter 2

In chapter two the reader will find some constructs that help this research to support the importance of working in a classroom with children since neurolinguistics. It also shows theoretical support that grounds the research, and gives an overview about how theory will be used in order to help students to learn English language with new methodologies.

Along the chapter, the reader will find relevant theory about each construct, and an explanation to support how Neurolinguistic works with brain's abilities, and brain plasticity, taking into account how the neurons work together when individuals receive new concepts, Wesson, K. (2012). (p.15).

Chapter two includes the importance to let outside the traditional methods of teaching English to start taking into account new fields such as neurolinguistics. The chapter also includes how new strategies can be a good benefit for children during their learning process. This research supports how neurolinguistics works with brain abilities, especially with children. Moreover, this chapter explains how the brain works during an early age. Nevertheless, this project explains the way that the synapses can be lost when the neurons do not keep new information, but at the same time the research shows some methodologies and strategies that authors bring as tools to work with neurolinguistics.

This is the reason why teaching English as a foreign language with new fields as neurolinguistic helps children to improve and acquire English language through new methodologies as such as PEIS, which brings through neurolinguistic into preschool the way to work with children brain's abilities. PEIS also brings new methods that help students to retain the information for major lapses of time. This chapter also shows the importance for teachers to learn about neurolinguistic, and to learn the way that the brain works when it is acquiring a new language.

Chapter two includes a contextualization of the basic theories on which the research is centered. One of them is neurolinguistic that studies how the brain works with language areas and the process that each area has at the moment to receive and process a new language. The second term is EFL that is referred Non-Native-English-speaking students who are in the process of acquiring English language.

Other term that is going to be developed in this chapter is the relation between neurolinguistic and neuro-education, which is focused on studying the interaction between mind, brain, and education, neuro-education has introduced concepts, methods and technologies that are helpful to know the brain better with the objective of improving the best way to learn.

Finally, this chapter includes the term (Program Integral Education Seduc) PEIS. It is presented as a tool that helps this research to use new strategies such as physical activities, mental activities, using routines, autonomous work, teamwork and creativity to work with children.

### **Literature review**

The aim of this literature review is to present the studies about the implementation of different strategies that nowadays neurolinguistics use in order to work with students according to their brain abilities and brain plasticity, as an advantage to facilitate the learning process in a foreign language. This literature review also includes approaches in the development of English as a foreign language using neurolinguistics as a resource.

The following study is a qualitative research done on Chile at Cantagallo School in 2011, this study wanted to show how children started to be more autonomous using teaching strategies that involved the study of brain plasticity, results of the study showed that PEIS was an appropriate methodology to start introducing neuroscience fields such as neurolinguistics into classrooms, this study contributed to the research in order to start applying PEIS routines and create activities that promoted autonomous work on each children.

According to Maldonado (as cited in Reyes, 2011)"children should be stimulated with colors, shapes, sounds". "Experience makes its neural connections become more specific and children can react appropriately in any situation. It is a matter of survival." (p.8).

The author wants to present that working with the brain has good benefits not just on medical studies; through fields such as neurolinguistics children would learn to be more autonomous, although they are small in age but they know what they have to do, they know their routines.

Neurolinguistics lets outside the traditional methods, and takes great advantage of students brains abilities and plasticity. When synapses are not used enough some knowledge would be eliminated, for that reason neurolinguistics takes improvement of different routines in order to keep knowledge on each student, pupils brain can develop fascinating things during its learning process, because it is known that when the brain acquires something new, the information is kept on the long term memory if the experience was significant. Battro, M. (2005).

In words of Maldonado (as cited in Reyes, 2011 p.4) “physical activity makes release of chemical substances that provide a general physical wellbeing. Trough neurotransmitters such as dopamine, linked to the satisfaction after a reward, and serotonin, related to happiness”

This information is certainly interesting because, it states that physical activity is useful and would be implemented in lessons to make students happier, when students are happy and motivated they could learn better, also they are focused on what they have to do for longer lapses of time.

Maldonado (as cited in Reyes, 2011) provides as example that "Physical exercise modifies the activity of the brain. The brain occupies a quarter of the energy of the body, so after the sport, the brain invests large part of its energy in circuits intended for concentration and attention" (p.12).

The author presents that learning through neurolinguistics promotes good strategies, using physical activity: physical activity makes that students acquire more knowledge in their classes, because the brain tends to make connections between physical space and learning. It occurs since the brain uses large part of its energy in circuits proposed for concentration and attention, and the experiences could give students the benefit of making their neural connections become more specific it is known that significant information makes items become stronger and kept in the long term memory for long lapses of time

Through this previous idea, students can experiment new forms of acquiring new skills in their learning process, some of the ways to acquire learning skills are the use of physical activities, the use of routines, the use of stimulus as colors, shapes, and sounds. Using neurolinguistic methodologies students will be focused on their activities, nowadays it is known that for students it is complicated to be focused on an activity or a task, if teachers start to use these new methodologies, students' brains will start working in a different way, and their learning process will have an improvement.

The next research was done in New York on 2011, as a compilation of the most important research done about linguistics, neurolinguistics, and brain abilities, its main purpose is to do a contrast among what is known about theory and practice in relation with brain processes, main results of this investigation are: the role of emotions in students, the use of neurolinguistics and linguistics on the educational fields, this study is useful for the research in order to start thinking



about how to introduce neurolinguistics in the different lessons that are going to be applied during the implementation stage.

According to Simpson. J. (2011) “some of the most active research areas in neurolinguistics are studies of the role of emotions, body movements and actions, action-movement-language and context” (p.469). The author explains that neurolinguistic has functions that in education, helps the brain to be more activated using different methods in order to facilitate the learning process in children especially in their foreign language, one of them could be cognitive functions that helps the brain to have mental process that allows any task. This functions permit that people have an active role in reception, language, attention, memory, and social cognition. (p. 474).

Furthermore, the author describes the importance to work with neurolinguistic; it helps to allow students to be engaged in the world that surrounds them. It is important to understand that neurolinguistic does not just work with speech functions, also it works with other aspects that involve children in their environment, if teacher is relating learning to students’ environment students can be identified and their learning process will be facilitated.

One strategy that was implemented, in this research was the use of divergent brain’s abilities such as music, art, games, physical activities and so on, these strategies helped the brain to retain for major lapses of time the information received and let neurons associate everything learnt before in real life, one example is the use of a foreign language as the result of synapses.

Lara. W. (2014) mentions in his study about how the brain works through different areas involved in the acquisition of foreign language using neurolinguistics as a strategy for teaching children, also he uses some activities on different lesson plans in order to improve students' learning process. Results of the investigation showed that it was complicated to teach English to young learners, because they were not accustomed to new methodologies. The research will be seen as an opportunity to investigate what happens when students are acquiring a foreign language since neurolinguistics.

“Neurolinguistics is a model of communication that allows the brain to strengthen its functions without limitations, using Neurolinguistic programming (NLP) techniques in the classroom: teachers would see changes in attitudes and changes in learning skills.” (p.15). The present study identifies that brain based research help teachers to understand how the brain works and how to take advantage of this knowledge, through this study, it is known that visual materials are making most significant the students learning process and that students cannot acquire L2 properly if they do not know how to use L1.

In relation to the previous affirmation, Lara. W. (2014) refers to the idea of making children able to create self-confidence in themselves, when students are able to communicate with others, they could manage their moods and emotions, teachers could use methodologies and activities to work not just on one brain hemisphere, brain based research could help teachers to understand how the brain learns, and how to take advantages of this knowledge to make students improve their second language learning.

With this previous idea, teachers can produce in their student's good attitudes not just personal attitudes, also better results in their learning process, students could understand better the information that is presented to them, and teachers could promote autonomous work.

Next research was a qualitative research done at Gran Colombia University on March 2009, the main focus of the research was to explain how English language is learnt through Neurolinguistics with adults, results of the investigation showed that the level of participant was improved in terms of acquisition of new vocabulary, main advantage for taking this research as reference is that, it will be understood how to work with long term memory and how it works at the moment of acquiring a foreign language.

As Castaño. C. (2009) points out "the study shows how implement a new methodology can affect the learning process, it can occur when students are familiarized in a routine learning, it means that when they learn something, they learn it in the same way, and that the methodology does not change." (P. 3).

Taking into account Castaño. (2009) the study mentioned above works with adult population from 20 to 44 years old, and the purpose of this research is to work with children, one of the outcomes maybe that working with young learner's influences in a positive way the learning of a second language.

One useful finding is that neurolinguistic could help to improve the process of retention in long term memory of new vocabulary added to oral and written speech, that the brain has to be available for meaningful since the individual needs of every single person.

This study wants to adapt methodologies from PEIS program, and these kinds of methodologies are going to be new for students. However, it is a challenge for this research to implement it for the students in order to improve their foreign language skills, this research wants to take advantage of the idea that students' brain is on process of learning during the first years, and it is developing abilities, neurolinguistic is useful to improve the brain's availability for meaningful learning, since the individual linguistic needs of every single person, and the process of retention in long term memory.

Finally, brain studies are related to the importance of working with brain's abilities, are also related to how through neurolinguistics it is possible to acquire a foreign language. This literature review provided some examples of how the neurolinguistics as a neuroscience field it is not just focused on medical studies also is showing how nowadays neurolinguistics is working on different schools' environments including the learning of a foreign language.

The use of neurolinguistics to learn a foreign language can improve the learning processes on students; it brings enough dependence to work with brain's abilities. Students learn how to be more autonomous, how to retain information during larger lapses of time, to be more concentrate on their activities, neurolinguistics works with the memory, when students are acquiring new vocabulary. The research let the designing of new instruments to be applied in order to develop student's long term memory of new vocabulary added to English skills.

When the brain is on the process of acquiring new knowledge neurons are activated, when neurons are activated it is important to continue with the learning process, because

synapses can be eliminated if they aren't significant, also is important to remain working on the use of repetitive training, but with different methods such as: physical activity that help students to work on their brain abilities. (Reyes, 2011). (p. 7).

In this chapter the literature review is related to the research study, using different perspectives and different points of view from the referenced authors, and also was interpreted what the authors wanted to say in their research's in order to know how neurolinguistics can be a benefit when working with children.

### **Theoretical framework**

In order to contextualize this research, it is necessary to explain the basic theories on which the project was centered. Those constructs as, Neurolinguistics, Neuro-education, young learners, and PEIS (*Program Integral Education Seduc*) are very useful and gave an overview to develop the activities that allow the implementation of a new method for teaching English.

### **Neurolinguistics**

As points out Alshén. E. (2006) “neurolinguistics tries to explore how the brain understands and produces language and communication. This involves attempting to combine neurological and neuro-physiological theory (how the brain is structured and how it functions). With linguistic theory (how language is structured and how it functions).” (p.9). The author explains that for neurolinguistics is important to work with language and brain functions as a cohesion that attempts to describe what are the processes involved in language development. For

neurolinguistics, neurological theories are useful to identify how nerves and nervous systems are organized and how they work.

According to Asociación Educar Ciencias y Neurociencias aplicadas al desarrollo humano,(2015) in structural terms the brain has to do a complex process; it first goes through individual neurons, assemblies and small networks of neurons. The brain continues its activity through the small part, the cortical column, which organizes the vertical columns of neurons in the cerebral cortex, then the larger part ensembles such as visual perception, and finally the cerebral cortex, which is covering the two hemispheres of the brain and that, is the highest cognitive level.

Finally, for neurolinguistics neuro-physiological theories are related to the functions of the nervous system, knowing the functions of nervous system also will be known where the brain areas involved in the development of languages are. Linguistic theories are a fundamental part in the development of languages because they work with the study of the brain in order to explain the production of language in humans.

As Yule, G. (2006),has indicated, the study of the relationship between language and the brain is called neurolinguistics. Although, this is a relatively recent term, the field of study dates back to the nineteenth century. Establishing the location of language in the brain was an early challenge (p. 157-158).

The Information provided by this author is certainly interesting, despite it is quite short, it gives a concrete definition of neurolinguistics. It also gives an overview about various features of language production and language localization

Firstly, the author states that the location of language was an early challenge because, the first attempts to account for the parts of brain responsible of producing language were made on the beginning of accidents in which people suffered some damage to head and brain.

In addition, the author gives an overview about the areas involved in the production of language, such as: Broca's area, frontal lobe, hippocampus, primary auditory cortex, Wernicke's area, and middle frontal gyrus. Therefore, it is worth to mention some characteristics that each area has in relation to the linguistic production.

### **Brain areas**

Is the view of Mishkin. M. (2014) that Broca's area is widely recognized to be important for speech production, but its specific role in the dynamics of cortical language networks is largely unknown. Using direct cortical recordings of these dynamics during vocal repetition of written and spoken words. (p.4). The author explains that Broca's area has an important role at the moment to acquire the language, the use of different strategies or dynamics help Broca's area to have better results in term of speech. Even Broca's area works with spoken words, it does not mean that it is focused on individual words, Broca's area has a process that coordinates the transformation of information across large-scale. Cortical networks involved in spoken word

production, prior to articulation, (p. 6). It means that Broca's area is more involved in speech production than individual words.

According to Goldberg E. (2001) "the frontal lobe is responsible for so-called executive functions. Represent one of the more complex functions in their definition refers. Involve organizational capacity, planning, abstract reasoning, problem solving, among others." (p.4).

As stated above, the frontal lobe is the brain area that is in charge of functions such as apply previously learned information to solve problems, and analyze ideas, this brain area makes people reflect on different situations that require a high analysis and reasoning, for the author the frontal lobe has a complex process because when individual brain is using the frontal lobe, it is working with the organization of ideas, and the planning in order to solve a task as accurate as possible.

As Monge. S. (2009) says, the frontal lobe is related to middle frontal gyrus that impulse control models, judgment, and language production, working memory (work, short-term), motor skills, socialization and spontaneity. It means that the frontal lobe is in charge of control the actions and behaviors of people. In relation to the acquisition of a foreign language, frontal lobe works with language production but at the same time works with memory and recovery of items of vocabulary and utterances, for the author motor skills are totally related to the acquisition of language and memory because they are going to take part in the short term memory processes.



Martinez. Y. (2016) mentions, “The hippocampus is a part of the brain situated in the temporal lobe, which forms a part of the limbic system and participates in memory and spatial orientation.” (p. 11). The previous statement makes reference to the idea that the hippocampus is related to the acquisition of a foreign language, it is also in function of the limbic system that comprehends brain areas such as: the hypothalamus, the hippocampus, and the amygdala, Hippocampus is responsible for emotional life, and has a lot to do with the formation of memory, some activities useful to work in memory and spatial orientation include memorization games and sequences to complete.

According to Gil-Loyzaga. P. (2013) “The function of the primary auditory cortex processes the sound. Information such as pitch, volume and location of a sound is processed, and is crucial to understanding the language”. (p. 13). The author explains that the stimulus of primary auditory cortex depends on the frequency and intensity of the sounds, it means that the production of sounds have a specific measure for the brain, it does not necessary to saturate the brain with sounds that can affect the process of language at the moment to produce it, in order to work with this area, sounds need to have specific frequencies.

Dubuc. B. (2002) states, when you hear a word spoken, this auditory signal is processed first in your brain’s primary auditory cortex, which then sends it on to the neighboring Wernicke’s area. Wernicke’s area associates the structure of this signal with the representation of a word stored in your memory, thus enabling you to retrieve the meaning of the particular word. (p. 24).The author previously states, that the process that brain realizes when items of vocabulary

are taking place, is made in two different ways, first when a word is heard, it is processed through the auditory cortex that sends the information to Wernicke's area. This area makes a mental image and associates the learners' previous knowledge with the sound of the word; finally to finish the cycle, the memory gives to the receptor the concrete meaning of the word, it will be written or spoken.

According to Menn. L. (2012) "Neurolinguistics is the study of how language is represented in the brain: that is, how and where our brains store our knowledge of the language (or languages) that we speak, understand, read, and write, what happens in our brains as we acquire that knowledge, and what happens as we use it in our everyday lives." (p. 8). The author states that languages are not just related to its spoken form, languages will be also represented while they are making the processes of acquisition and learning in the brain through its different locations. Also languages will be represented in spoken, written, and symbolic forms or systems.

Bearing in mind what the author states languages also will be represented in the neural connections, it is known that neurons keep all the new information, and they store it in the long or term memory depending on the significance of the experience, the relation that the storing of information has with neurolinguistics languages will be seen in the white matter that resembles and generates bilingual people, (Pliastikas, 2015). The brain works with six areas in which they are the principal key that the brain has in order to receive and produce the language, these areas can be developed using activities that help the individual to learn a foreign language especially if it is the first time that acquire that language.

### **Neuro-Education**

Battro, Fischer & Léna. (2008) propose that “The emerging field of neuro- education, concerned with the interaction between mind, brain and education, has proved revolutionary in educational research, introducing concepts, methods, and technologies into many advanced institutions around the world.” (p.1). According to the author neuro-education is a recent and new field that is emerging and that beings to be recognized for scientifics, researchers, and educators. Neuro education aims to look for the different facts involved on learning such brain, mind and education.

In addition, Battro, Fischer & Léna. (2008) say that, “Neuro education research integrated with educational fields is letting into classrooms new methodologies that would be applied to have better students; neuro-education is also introducing new technologies that are finding how the brain works when it is acquiring new knowledge, new technologies are also making possible change some traditional methods inside schools in order to prove that the brain works better when physical substances as dopamine provide wellbeing.” (p. 1).

In addition, Neuro education on the educational field has been recognized since a couple of years and that is making important changes on the way of teaching not just on languages, also in other areas. These changes in the future will be important to create better schools and better student’s neuro-education, as the author stated above said will help students to learn in an easy and interactive way on which they are the center of education.

According to Battro, M. (2005) “Neuro-education deals with the embodiments of culture in our brains during the entire life-span of a person. Neuro- education is a trans-disciplinary field, with many actors and institutions involved”, (p.9). The diversity of approaches, techniques and programs reveals a bright and large spectrum of interests that should be preserved and enhanced”. The statement makes reference to the idea that neurolinguistic and education are dealing not just with anatomical and physiological functions of the brain, neuro-education is also dealing with the expressions of culture inside the brain, this would be interpreted in terms of knowledge as the brain like a huge library that keep all the useful information in little compartments called neurons, if the information inside the compartments is not used it is going to suffer a damage and maybe never would be recuperated.

The author states that neuro-education as a part of neuroscience has a lot of people and institutions interested in working with the brain and how it works, in order to preserve knowledge in humans and in order to avoid the short memory with the objective to try to make that each new learnt concept will be significant and preserved in mind for larger lapses of time.

The idea of all the emerging fields of neuroscience like neuro-education is that Scientifics, educators and researchers could continue investigating on these topics because some of them nowadays are unknown, new topics require of a lot of investigation for its huge complexity, and some topics on which was made research would change results or will need improvements over time, as the case of educational fields, that are changing all the time.

Battro, A. (2014) says, "Neuro-education is a new interdisciplinary or trans-disciplinarily that promotes greater integration of the Sciences of education with those dealing with the human person neurocognitive development" (p. 9). This statement makes reference to the idea that neuroscience would not work alone, that it needs of sciences of education to improve the learning process in humans. As the author also points out, the union of neurosciences and education has given origin to an emerging field that is called neuro-education.

Hopkins. J. (2009) describes, "the emerging field of neuro-education explores how children learn and what practices promote and sustain the learning process. Neuro-education is an interdisciplinary field that combines neuroscience, and education to help to create improved teaching methods and curricula." (p.3).

The author explains that neuro-education promotes benefits on children learning process in order to help students to acquire the knowledge in a different way, using in the curriculum strategies that help the brain to be more attentive, retain the information for more lapses of time, and at the same time children try to practice a foreign language using situations of real context provided by teachers as help in children learning process.

The relationship between neuro-education and neuro-linguistic is that both fields major concern is the brain in the teaching and learning process, for these fields language takes an important role, because through neuro-education could be identified how the brain works on the acquisition of language in different contexts, with different students, and different students behaviors. Through neuro-linguistics teachers will help students to stimulate their brain in order

to learn a new language and also teachers will help students to acquire better ways to behave, also teachers will identify how each brain area works when is receiving linguistic stimuli working with a foreign language.

According to Alshén. E. (2006) methods in neurolinguistics will be described and research dealing with different aspects of linguistics – phonology, morphology, syntax, semantics, pragmatics, multilingualism and reading and writing processes.

In this article is implicit the relation between neuro-education and neurolinguistics, because the different aspects of linguistics are working with education, as the author states neurolinguistic aspects are applied all the time in the process of teaching a language, teachers have to be conscious that students can stimulate it by themselves using their creativity when they are doing their tasks, it could be through role plays, images, music, the environment that surrounds them. The repetitive training can help the students to have more capacity, speed of recovery of functions and improvement in their learning process.

### **Young learners**

Pearson (2009) mentions some characteristics that young learners have in terms of behavior. “Is very active. Is often noisy, restless, and exuberant. Likes to participate in activities and perform small tasks, though they still may be difficult to do.” (p. 4). This statement makes a description about young learners, how they can have different attitudes at the moment to do something when they are learning, these attitudes can be positive or negative and also learners

during early age have the opportunity to learn to take their own decision in the activities that they are doing.

In reference to Esol. (2008) “young learners are developing their thinking skills, their first language systems, discovering rules for interacting with others, understanding their own reactions to others and to events.” (p.3). this statement means that young learners are in their own process to receive a specific knowledge, this is the way that they start to interact with new things in which they never were involved before, and also early development can help young learners to learn a new language relating experiences to their own context, all these new experiences help them to learn easily and have significant improvements in their abilities, interests and characteristics at the moment that learners are familiarized with new knowledge.

In addition, Esol. (2008) mentions that “learning a foreign language may help young learners to develop self-esteem and positive attitudes to learning English.” (p.4). It means that introducing English in early age can increase learners’ motivation at the moment to learn a new language, this language can be taught using different activities in which young learners are involved, for example, the use of games, songs, manual arts, and so on, creative activities make learners stimulate the brain and increase abilities in cognitive and linguistic terms, but activities that are going to be used have to be planned thinking on the best opportunities to provide significant language in order to have good results at the moment to teach the language.

On the other hand, Pearson (2009) “the teacher provides students with an environment in which they are surrounded by messages in the target language that communicate interesting,

relevant information in language they are able to understand—language that is comprehensible to them.” (p.4). It means that it is necessary to involve the English teaching in young learners’ environment, when they are learning it is important to include everything that surrounds them, it is a way on which teachers can use the linguistic function through things that students find interesting to practice the language.

As English language is new for them, it is important to use strategies in order to help them to learn it, and could be through, shorter, less complex sentences, rephrasing and drilling, and use of gestures and visual reinforcement. (Pearson, 2009) those strategies help learners to be more familiarized with the language and also, start to know more about the pronunciation of new words and the sound of each one, especially if it is the first time that they are involved with the language, teachers need to be creative at the moment to teach English, because the idea is to be a facilitator in the teaching of a language in young learners.

Taking into account to McManis, L. (2012) “the main challenge in accurately assessing Young English Language Learners children is to establish what a child knows in each language, how much was learned of the curriculum, and ways to structure the learning environment so that learning going forward can be maximized” (p.6). The author explains that it is very important not to overwhelm learners teaching them many things, especially if they are not in context, because learners are not going to learn as they should, it is necessary to know what they need to learn, their necessities, likes, dislikes, and start to introduce a new language using their own setting, it



will be a good commence for them, because learners will feel comfortable and also that's a good motivation for them acquirer a new language.

Furthermore, McManis, L. (2012) affirms that: "the language in which the child should be assessed to learn the upper boundary of ability, linguistically and cognitively." (p.6). For the author it is important that teachers know the abilities that each learner has in order to have a good beginning with all of them, and at the same time look for some linguistic weaknesses that they have, to start introducing a foreign language to young learners it could be appropriated to start with the recognition and production of the language through sample words, and in terms of cognitive processes learners can start working with the memory or language, so that, early age provides huge opportunities to acquire the language, but using appropriate language with them without any pressure.

### ***PEIS (Program of Integral Education Seduc)***

PEIS is a program that focuses on the teaching of reading and writing through an interactive methodology, where the child is the protagonist of their own learning. Cantagallo Preschool. (2011) this Chilean methodology integrates literature skills such as reading and writing, the program also uses this methodology on areas as English in order to let students work by themselves with the interaction of teachers just in certain moments of the lessons.

This program shows that children must be autonomous in their learning process; that teachers inside the classrooms do not have to do all the work for them, teachers are the

facilitators of learning and they can give students important knowledge and instructions, but the most important cognitive part on the learning process is students' work.

According to the program of integral education, SEDUC. (2007) "PEIS is an educational approach that involves a set of pedagogical actions effectively collecting personal rhythms of student learning, favoring higher levels of autonomy, teamwork and creativity. At the same time, it enables a better integration of knowledge and human training linked to learning." SEDUC program is in charge of schools who are using PEIS methodology, the sense of using this methodology is to center the learning on students, and let them work at their own rhythms. For SEDUC the institution in charge of PEIS program is believed that the use of neuroscience in the classroom makes integral and autonomous work on each student.

In words of Reyes, P. (2011) "this innovator program brings to the classrooms findings investigations of the latest research in neuroscience, and brain's plasticity as an advantage to facilitate the learning process." (p. 7). According to the author brain plasticity is the way on which the brain can modify its own environment, especially on first years, also it is said that the learning process is facilitated through neuroscience because it remains a lifelong property of the brain.

PEIS seeks to promote early learning through dynamic, personalized and attractive methodology enhancing in children interest in letters, numbers, English language, art, music, the game and the sport. It intends to develop the maximum capacities and individual skills. For PEIS each child is his- her own learning manager, methodology works respecting students' rhythms,

interests, skills, and abilities. Stimulates the enormous power of imagination of children with significant and stimulating experiences through different activities that allow students to think and do the things by themselves.

According to Oliger, A. (2009) “although learning to read is not part of the objectives of pre-primary, it is key to prepare the ground. [...] It is 'write' since children begin to draw, because they already have a sense of communication. From there they evolve into letters, a word or phrase, as if it were a game". The author explains that program of language PEIS is based on a methodology that works with the phonological development, verbal fluency, comprehension, vocabulary, and writing, it gives opportunity to students to think and deepen their understanding better, teachers role is to take advantage of students brain potential and knowledge at the moment to start learning

PEIS classes are developed in a cozy, cheerful atmosphere and confidence that helps good learning. The working day and the special distribution of the classroom benefits autonomy, responsibility and maturity of each child, each activity is totally different but they are related to the main topic in order to promote learning in different ways according to students' likes and dislikes. PEIS is focused on helping students to identify in which ways they learn, and what kind of activities they enjoy. PEIS program uses the implementation of different activities in a whole day in order to let students find the best option to receive the knowledge, teachers just help them in terms of instructions because the rest of the time the process of the learning depends on each student autonomy.

Furthermore, PEIS program uses learning centers in a whole day, each learning center has specific activities related with the main topic, and the idea of using learning centers is that, children will choose which activities they want to do, all the students have to participate in the activities proposed for the different learning centers, but the idea of PEIS program is to promote autonomous work on each child.

### Chapter 3

This chapter aims to describe the methodological procedures followed in order to use neurolinguistics into preschool through PEIS (Program of Integral Education SEDUC) as a strategy to foster English learning in children. The first aspect of the research paradigm is the explanation of the supporting theories related to the type of research that is involved in this study. Secondly, the research design includes the research approach which contains supporting theories to explain why the descriptive research is relevant in the study, it is presented a contextualization that includes setting, and participants' information. Finally, the chapter presents the data collection instruments and their importance during the research.

#### **Research paradigm**

##### *Qualitative research*

This research is located in qualitative research, and this research paradigm contains the main characteristics that belong to this kind of study: first, this research is based on the words of Tewksbury. R (2009) who said "The data that is used in qualitative research comes from a range of collection methods. These methods include interviews with individuals, observations of people, places and actions/interactions" (p. 43). In this research the data collection will be used to describe what happen in a classroom, children's background, actions and interaction of students, personal information, the analysis of how students draw, write, speak, etc. The data

collection also will be used to direct guided conversations with groups of individuals when they are learning a foreign language.

Qualitative data helps to this research to obtain information about student's background, qualitative research is also useful for researchers to do an analysis and interpretation of the facts that could be obtained through the use of neurolinguistics, finally qualitative research will be used to seek answers to the research question on which this project is centered.

The second characteristic of qualitative research is referred to "the meanings, concepts, definitions, metaphors, symbols, and descriptions of things." Berg, (p.39) (as cited in Tewksbury, 2009) the previous information is regarding in the use of neurolinguistic in a classroom and the way that the brain works in its learning process, especially on English learning process; qualitative research will be used to describe how the brain has different ways to acquire knowledge.

This research is focused on the real context, and during the investigation process the research will have some series of lessons that will emphasize how the brain works using its abilities, because it is known that each student has different ways to learn a foreign language such as English, it could be through draws, writings, games, activities. These activities could be tools for a good language learning development in this research.

## **Research approach**

### *Descriptive approach*

This study is located in descriptive research, according to Polit & Hungler. (1999)“the purpose of descriptive research is to observe, describe and document aspects of a situation as it naturally occurs, this involves the collection of data that will provide an account or description of individuals, groups or situations”. (p. 16)

Previous information states that descriptive research would be useful, first to observe students' knowledge, then to describe a particular situation inside English classes, the study provided information about student's language development and particular situations that will occur during English classes. Descriptive research is very useful to document all the insights that provide to the study clues about how to work with students, and how to start adapting new neurolinguistic methodologies to the population that was selected for the research.

On the other hand, according to Polit & Hungler. (2004)“descriptive research is referred to studies that have as their main objective the accurate description of the characteristics of persons, situations or groups. This approach is used to describe variables rather than to test a predicted relationship between variables”. (p.10).

This statement means that descriptive research will be useful in this study to describe not just student's characteristics, the study will describe student's improvement on EFL English as a foreign language), also descriptive research will show advantages or disadvantages of using

neurolinguistics on EFL learning process into preschool, finally the most important step in descriptive research is to use veridical and clear information in order to show the best improvements in English language learning.

One of the main advantages of descriptive research is that, descriptive research does not use numerical data and is easier to record information through diaries, artifacts, field notes and video recordings, another advantage of using descriptive research in this study, is that descriptive research is used as a portrayal of participants experiences, finally in this research will be used descriptive research to show teacher's experiences and students experiences during the process of learning English through PEIS.

### **Setting**

Participants selected for this research are children located in a public school situated in Chia Cundinamarca, which is called **Colegio Nacional Diversificado de Chía (CONALDI)**. This school promotes the development of values, knowledge, and students abilities; the institution considers that the development of the previous characteristics helps students to be able to create their own life project; also with the development of students' aptitudes the institution is strengthening children capable to change their own context.

According to the institutional philosophy students are intended to be creators of a better society through the development of their own abilities and knowledge. The school emphasis is intended to bring to student's formation based on tools from technical and human formation;



some of the subjects that the institution brings to achieve its emphasis are vocational areas such as:

Business administration

Electricity

Mechanical engineer

Technical drawing

School emphasis has a methodology on which students have to select carefully one of the vocational areas given by the institution, then since sixth grade students have to go deeper in the subject until eleventh grade, in eleventh grade it is supposed that students have a huge knowledge on the vocational area and they will select it as a professional career, this emphasis also make students conscious about their future and life objectives.

The vision of **Colegio Nacional Diversificado de Chía (Conaldi)**, is to educate children and adolescents in their cognitive, communicative and competitive dimensions. Since the human, academic and technical approach the school will promote the development and construction of attitudes, values knowledge, abilities and skills in order to boost student's life projects.

The research is focused on kindergarten students, Colegio Nacional Diversificado de Chia (Conaldi) in primary and preschool grades particularly works with vocabulary during English classes, but students do not have an English book because the school at the beginning of the year just request basic school implements. As the idea of this research is to avoid the traditional English classes and books which are not useful.

### **Participants**

Colegio Nacional Diversificado de Chia (Conaldi) has around 5 different buildings; on each building there are located different students according to their grade and age.

The building where the population of this research is located, is called *Luna Nueva*. This section of the school has around 160 children, and six teachers, preschooler children are divided into two school hours, three preschool grades are studying in the morning from 7:00 am to 12:00 pm, and the other three preschool grades are studying in the afternoon from 12:00 pm to 5:00 pm.

Participants selected for this research are children aged six years old, students have different backgrounds form social strata 2-3, and some students have some trouble in their lives and homes, problems of aggressiveness and lack of attention from their parents. Based on the observations done, it could be noticed that inside classroom, some students learning processes are different because some children are more advanced than others, and some children need more

teacher attention, sometimes they find hard processes such as write, also some students have few speech difficulties.

The study worked just with one grade from kindergarten, because in general kindergarten grades have around 23 children. The population was selected because young children fit perfectly on the requirements of the study, first children are EFL learners, secondly it is known that younger children are suitable for the study because their brain is in the process of acquire new information and learn a new language, if the learning experience and the implementation of this study works well, probably children will keep in their long term memory significant and relevant information about English.

English knowledge of Children is basic because it is known that in preschool grades the major focus of education is dimensional, so teachers are working most of the time in other areas of knowledge, according to the content of the curriculum design for English area, the school does not have specific English content for preschool grades.

### **Ethics**

In order to do this project researchers developed two consent forms, the first one included an explanation for the principal of the school, the consent explained the procedural for implementation the project aims, and schedule, on the second consent was included the explanation of the project, and a space for parents and teacher approval. In this project identity of

each student was kept private, and neither the name nor the image of results from the research will be known by the reader; this in order to protect the rights of participants. (Annex 1)

### **Data collection instruments**

This section presents, the different instruments that were used for collecting data during the research project. Also in this section is going to be explained how the data collection instruments provide some answers to the research proposal.

### **Field notes**

According to Thorpe. R. (2008) “field notes are contemporaneous notes of observations or conversation taken during the conduct of qualitative research. Depending on the circumstances, the notes taken can be full (e.g. verbatim transcripts of conversations taken by hand or recorded by a tape recorder) or brief notations that can be elaborated on later” the author explains that field notes are useful in order to get interesting data collection during the observations, field notes can help this research to identify students’ environments, students’ attitudes, the way on which students receive the learning process, and what kind of difficulties students could have.

Field notes were useful to keep information about what happen when students receive a foreign language in a different way using the different strategies that neurolinguistic brings, and through the strategies provide information about the changes that students could have during their learning processes, and the actions that students do, students’ expression, the way that they

respond to new methodologies. Taking field notes about all these students processes help to this research to identify if these methodologies that neurolinguistic brings can be useful or not in a foreign language learning.

In accordance to field notes Thorpe. R. (2008) explains “Keeping good systematic field notes is an essential part of undertaking qualitative research as observations and interviews are only useful to the extent that they can be remembered” (p. 13). It means that filed notes in observations are an essential instrument on this research, because the observation help to this research to identify how the brain works on each student, how students like to work, drawing, playing, doing manual arts, etc. and through the observation researches can analyze how the brain receive the learning process with different methodologies on each student. For that reason, the observations have to be clear and complete in order to analyze the process that this research will have.

Regarding what the author states above it is important to take into account to (Thorpe. 2008). That provides information about the use of “mental notes, when it may be inappropriate to take notes; jotted or scratch notes, taken at the time of observation [non-participant observation; participant observation] or discussion and consisting of highlights that can be remembered for later development” it means that is not good idea to delete important information, for the brain is complicated to keep all the information, the brain tends to eliminate unnecessary things, and everything during the observation is important for this research, because each activity that students do are important in order to analyze their process and the way the students acquire new

methodologies using neurolinguistics as a resource in this research. For that reason, the author explains the importance to do complete field notes, it helps to this research to be more precise and the analyses of the observations can be easier to do too, because it has a whole information with evidence.

### **Diaries**

According to Yi, J. (2008) “diaries are observations of experiences that are recorded over a period of time. While they refer to such records as diaries which tend to be associated with ‘confessions’ or ‘baring the soul’ highlighting the unavoidable tension between writing a record of personal relevance”(p. 12). It is a technique that could help to this research to identify students’ feelings, thoughts, how they feel doing different activities such as drawing something that students feel or see in their lives, it could be also through songs, games, physical activities, etc. It is a way to know everything about students, children tend to see the life really different, and through diaries this study could know what can of changes children have when they learn in a different way using methodologies that help students to be themselves, and diaries provide this option.

In addition, Yi, J. (2008) affirms “Diary study is used for pedagogical purposes, course evaluation and basic research on language learners” (p.13). It means that diaries bring a possibility to know how students perceive new methodologies that neurolinguistics brings in order to take advantage of the brain during the learning process on children. As mention before it is a strategy to get information about students’ learning process in a foreign language. It is a way

to know if children are leaning a foreign language as this research wants, through new methodologies that help students to acquire a new language in a different way, and know if students feel uncomfortable or comfortable using them as a resource, and identify through diaries students' thoughts, experiences during the process that this research will have with each student.

In order to contextualize the instruments stated above, it is important to make clear why two different tools such as diaries and field notes, that are kind of similar where used in order to gather information.

Data collection instruments were done in order to solve two different facts that needed answer during implementation, First of all, questions formulated for Field notes were just related to neurolinguistic processes and language learning brain areas, they were also used to keep a register through observation about students use of language and vocabulary in relation to the input provided through the different activities.

On the other hand, the questions proposed for Diaries were done in order to support the processes and stages done while Implementing PEIS. They were mostly used as pedagogical purpose in order to identify inefficiency or inefficiency of PEIS, then with the information obtained from diaries was more useful to formulate the changes that were done during the implementation.

### **Video recordings**

According to Garcez, Duarte & Eisenberg (as cited in Loizos. P. 2008) “video recording is necessary whenever any set of human actions is complex and difficult to be comprehensively described by one observer as it unfolds” (p.250) this data collecting instrument appears in order to have an essential part beside the observation, the use of video recordings in data collection instruments facilitate to have a complement of field notes taking during the observations, this kind of technique helps this study to avoid missing important and necessary information emerged in the research site, because some actions are difficult to describe or remind, and through video recordings it will be easier to see and do in this research.

In addition, Garcez et al. (2011) Affirms that “the video recording is also suitable for studying complex phenomena such as teaching practice, full of liveliness and dynamism, which is influenced by several variables simultaneously” (p. 251). The authors explain that through this data collection instrument the researcher can see the complex network of production of meanings and senses expressed in words, relationship that children have between them, simultaneous gestures that children could do during the activities done by teachers, also video recordings can show children’s cultures and it can capture the essence of narratives at stake that are impossible to describe in a field notes.

This research selected this data collection instrument taking into account what Garcez et al. (2011), say: “the use of video recording allowed the micro genetic exam of the manipulation of artifacts by children and the interactions established among themselves and with the



educators.” (p.252). Through video recordings the researchers can capture the context of interaction between teachers and students, it helps to do repeated revision from the videos in order to obtain all the information about what happen during the observation, and create a comprehensible analysis of the phenomenon, and identify the attitudes that children could have in different activities or children’s preferences and the way that they interact with others, and with teachers, both teachers and students can express their feelings, ideas, likes, dislikes, and catch all the information at the same time, through video recording it will be easier to identify and analyze.

The use of video recordings in this research provides a visual evidence taken while teachers implement activities such as: games, physical exercises, manual arts with children, it will be useful in order to link aspects occur in the research side.

### **Students’ artifacts**

The use of documents facilitated this research in order to understand what students wanted to tell through their own creation, for example: children draw a sunset, in this case the artifacts that the students use, are pieces of paper in which they draw the aspects need for each session, it helps this research to identify students’ behavior, and it helps the study to understand the way that the brain works using different components that will be useful in order to know how students can acquire a second language, also children can do through manual arts, these artifacts help this research to understand why students are different and learn in different way through different activities.

According to Mogalakwe. M. (2006)“Documents are produced by individuals and groups in the course of their everyday practices and are geared exclusively for their own immediate practical needs” (p.222). It relates the use of other instruments, it is good resource to keep evidence and information in which is visual and helps this research to analyze certain aspect that through videos and field notes can be difficult, and students’ artifacts can facilitate the analysis, because each student has their own way to learn, the brain even is similar it works in different way on each one, and the idea is try to know how teachers can work using different resources with each student through things that are important for children in their foreign language learning process.

### **Students’ teacher Insights**

According to Corbin. J. (2008)“insights into data do not just occur haphazardly, they happen to prepared minds during interplay with the data,” (p.32). The author explains the importance to have theories about professional knowledge in relation to the topic of investigation, in this case teacher that is going to be interviewed should be familiarized with everything about PEIS methodology and its procedures.

In this research, insights were useful to notice many factors, first of all they will be useful to know what are students’ teachers perceptions are about teaching English to young learners, the author stated above says that insights are more verdict even for prepared minds, they also feel fear about interviews, one advantage of insights as data collection instrument is that most of the time the narrative takes place in anonymity.

Secondly, insights will be implemented in order to identify students' teacher perceptions about how PEIS methodology will influence participants of the study while they are learning English. Finally, Insights also will be used to recognize teacher perception about utility of PEIS program. This information gathered from teacher's insights will help to this project to identify if it is important to teach English to younger children.

Taking into account to Corbin. J. (2008) an insight occurs and the analyst is able to make sense out data that up until this time had little or no meaning. (P.34). This means that researcher also influences insights results, researcher through a previous knowledge is giving his- her own arguments about information that was collected , researcher also has to have the ability to select what is the most useful information that insights results will provide.

As the author states if the results given by teachers through insights about the reliability of teaching English as a foreign language to young learners are according to research problem, the results will help the research to implement new methodologies as an strategy in order to improve and foster the learning process in children, another benefit from teacher insights is that teachers will understand that is important to have a big knowledge about education, but according to the context that teachers work.

The final conclusion that will provide teacher insights could be that, every single result helps this research to understand the importance to start teaching English to children, and implement the appropriate methodologies according to the students' attitudes, environment, cultures, and so on.

Now, it is going to be presented how research instruments were used during the study

Field notes (see annex 2) allowed researchers to describe classroom environment, student's attitudes in terms of use of language, use of vocabulary, routines and students moods, the tool also was useful to describe how students behaved during the learning process of a foreign language, and what kind of difficulties and progress students had according to the activities used to work with each brain area in charge of the acquisition of a foreign language.

Diary (see annex 3) allowed researchers to describe what happened during each lesson, what verbal or nonverbal attitudes were taking place during the classes, and the tool also was useful to register if students had difficulties in terms of cognitive, linguistic, behavioral or situational processes.

The most important contribution of diary was that it helped researchers to register how students received PEIS methodology and what were the class evidences that gave an overview about the efficiency or inefficiency of the methodology.

Video recording tool (see annex 4) was used to register students' oral production and their verbal and nonverbal attitudes, all of this information was gathered and analyzed, being highly important to highlight situations in which the students were using and responding well to the input provided by teachers.

Students' teacher insight (see annex 5) was useful to complement the statement of the problem and to register what was teacher perception about young learners learning of a foreign language through PEIS program methodology.

Finally, Artifacts (see annex 6) were used to keep an evidence of students' progress and use of language in sessions five, six and seven the instrument was very useful to support how PEIS program through neurolinguistics help students to learn English easily, stimulating their brains with dynamic activities. In the following chapter the reader will find data analysis discussion.

## CHAPTER 4

This chapter presents the pedagogical implementation plan based on the theoretical framework which mainly works with PEIS (program of integral education SEDUC) as the base to explain how neurolinguistics works with the learning of a foreign language with preschoolers. This chapter includes an overview about the different brain areas that support the activities done during the implementation stage; it also includes sampling about students work during the implementation stage.

Main concern of this research is that population selected for the study is not receiving instruction on English language, bearing in mind that preschooler students were left out from English classes, in this chapter the reader will find how the principal problem of the research will be solved through the pedagogical intervention, aiming to generate a change in the problematic stated above; this study wants to adapt the Chilean PEIS program according to students' needs from the CONALDI School.

Despite the adaptation of PEIS comes from another country, the research wants to adapt it in order to show how the pedagogical intervention results demonstrate if it will be possible to alleviate students' needs in terms of acquisition of a foreign language learning, students' autonomous learning, cognitive and linguistic development.

This project includes a series of activities that were designed in order to work with each brain area; activities are specifically proposed to work with the abilities that the brain has in

order to acquire a foreign language. (See chart1). This includes the explanation of the different processes that the brain areas have according to the acquisition of a foreign language.

Based on Asociación Educar (AE, 2016) the brain areas that are involved in the learning of a foreign language are six. These areas are: Broca's area, Wernicke's area, primary auditory cortex, Middle Frontal gyrus, hippocampus, and frontal lobe.

In order to give an overview about the processes that the brain areas have, this chapter explains some theories in which each area works with language.

Broca's area is in charge of the recognition of speech production, vocal repetition of written and spoken words, the frontal lobe works with functions such as: apply previously learned information to solve problems, and analyze ideas; frontal gyrus works with impulse control models, judgment, and language production, working memory (work, short-term), motor skills, socialization and spontaneity; the hippocampus is responsible for emotional life, and has a lot to do with the formation of memory; the primary auditory cortex, processes the sound. Information such as pitch, volume and location of a sound is processed; and finally Wernicke's area makes a mental image and associates the learners' previous knowledge with the sound of the word, then, the memory gives to the receptor the concrete meaning of the word, it will be written or spoken.

Finally, brain's areas mentioned above are going to be studied per lesson, and since the beginning of implementation, students are going to be analyzed in terms of cognitive and linguistic processes.

It is estimated that at the end of the project, students could behave according to the PEIS program methodology, also it is expected that students could acquire a foreign language with the different abilities that the brain has when it receives a new language.

According to Albamar School, (2016) "through dynamic, personalized and attractive methodology we enhance in the child interest in letters, numbers, English language, art, music, the game and the sport"

Classes are developed in a cozy, cheerful atmosphere and confidence that helps good learning. The working day and the special distribution of the classroom benefits autonomy, responsibility and maturity of each child.

During classes each course is attended by two educators of children, who share the work of headquarters and assume specific day roles, such as the teaching of English. Almost all the work done by children is related to learning centers where teachers provide to children with activities in which students can manipulate and learn through significant activities.



Implementation was developed following PEIS methodology as accurate as possible, but implementation classes were done in seven sessions, and the procedural of classes was done step by step always doing the same routines, now in the following chart the procedural of classes followed is going to be presented:

### WHOLE SESSIONS POCEDURE

ARRIVAL	While teacher # 1 was organizing the classroom and the materials for the different learning centers, students were taken to the courtyard by teacher #2 in order to do physical activity.
GROUP MEETING	When classroom was organized the next activity was attendance, In the attendance chart, students pasted up the image of the animal that they selected since session number 1
CHOICE TIME	Teacher told students what were the different learning centers to work with and students selected the activity that they wanted to do.
LEARNING CENTER ACTIVITIES	On each learning center teacher gave children instructions about the activity that was proposed and students were doing the activities by themselves. After children of the different learning centers did their job, teacher gave the instruction to change of learning center.
CLOSING DEPARTURE STAGE	When students finished the activities of the proposed learning centers, teachers made a consolidation of the topics and asked children about what they enjoyed from the class and what vocabulary they were able to remember

Some differences done during implementation were made taking into account that population that PEIS program works is smaller, bearing in mind this idea, we implemented three learning centers until session number four, then we changed to two learning centers because students that were without teacher guidance sometimes did not want to work, we made an assessment test at the end of implementation in order to check students recalling of vocabulary, also PEIS methodology has another stages such as: snack, read aloud and rest time, but by issues such as time we omitted these steps.

In the next part, this chapter will show in detail step by step the whole implementation planning:

(Chart 1)

**ACTIVITIES AND TIME TABLE**

<b>Session and date</b>	<b>Learning objectives</b>	<b>Pedagogical activity/ies</b>	<b>Kind of data to be Collected</b>
<p><b><i>First session</i></b>  <b><i>Date:</i></b>  <b><i>April</i></b>  <b><i>04th, 2016</i></b></p>	<p>Students started to get immerse on English classes.</p> <p>Students learnt the routines that were going to be practiced during English classes.</p>	<p><b>Choice time</b></p> <ol style="list-style-type: none"> <li>1. Students were learning about the new series of routines in order to work on all English classes.</li> <li>2. Each student selected an animal image and then they pasted it on the attendance chart.</li> <li>3. Students were choosing between three learning centers wherever they wanted.</li> </ol>	<p><b>Field note</b></p> <p>This instrument was used to identify students’ language production related to Broca’s area.</p> <p><b>Diary</b></p> <p>This instrument was useful in order to notice student reactions to PEIS methodology and the</p>

	<p>Students learnt to select the activities of the learning centers by themselves.</p>	<p><b>First learning center</b>                  In the first learning center were located the principal names of each greetings. (Morning, afternoon, evening, and night).                  1. Teacher taught to students the difference between each greeting through a flashcard                  T: (This is the morning) Ss: Repeated what the teacher was saying.                  2. Students had to separate different images of greetings.                  T: was be attentive to the image that the student were choosing.                  S: had to say the greeting according to the image.  <b>Second learning center</b>                  1. Students were learning a song about greetings.                  2. Students were repeating and singing after the teacher the greetings song.                  3. Students were associating the song according to images related to greetings.  <b>Third learning center</b>                  1. Students painted with crayons some images that represent greetings, such as: (Rooster, Sun, greet and bed).                  2. Teacher asked students to associate the images with the greetings. E.g: (Rooster is with the morning), students had to</p>	<p>learning of new routines.  <b>Video Recordings</b>                  This instrument was be used to register students' production of language.                  It will be used if students had speech difficulties.  <b>Insight</b>                  In this class students teacher wrote her perception about teaching English to young learners. This question was made to collect information in order to complement the research statement of the problem.</p>
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<p><i>Second session</i> <i>Date:</i> <i>April 11th, 2016</i></p>	<p>Students recognized through different materials the name of the vocabulary related to body parts.</p> <p>Students associated body movements with the name of the different body parts. Students identified by themselves the body parts such as: Head, shoulders, knees,</p>	<p>repeat the vocabulary.</p> <p><b>Closing departure</b> At the end of the activities Students shared what they learnt during the activities. Teachers did a review of the most relevant things that students could remember about routines Teachers helped students to remember the new vocabulary.</p> <p><b>Choice time</b> 1. Each student selected the animal image that they had selected in the previous class and then they pasted it on the attendance chart. 2. Students were selecting what they wanted to do between the three proposed learning centers of the class.</p> <p><b>Introduction</b> Teacher used a clay figure that represented body parts in order to explain to students what are the body parts and its corresponding names on English.</p> <p><b>First Learning center</b> 1. Teacher kept on different envelopes pieces of a body puzzle, Each student received an</p>	<p><b>Field note</b> This instrument was used to keep a register about how students receive a new language through Frontal lobe area.</p> <p><b>Diary</b> This instrument was useful to recollect all the facts related to feelings, thoughts, expression, verbal and non-verbal attitudes in relation with PEIS methodology.</p> <p><b>Video Recordings</b> This instrument was used to register students' production of language Also it was used to collect students' verbal and nonverbal behaviors and language production.</p>
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	<p>toe and tummy.</p>	<p>envelope and then they had to associate the figures with the human body figure in order to assemble the puzzle proposed for the class.</p> <p>2. Teacher asked students for the body parts that they find in their puzzle.</p> <p><b>Second learning center</b></p> <p>1. During the activity students had to trace themselves.</p> <p>2. Teacher took the decision of choose the smallest students from the group.</p> <p>2. The student selected had to be traced by their peers. Laying down on a newspaper with his-her arms and legs outstretch. The other children traced his-her classmate shape on the newsprint.</p> <p>3. When the drawing was ready students had to design the drawing clothes with fabric scraps.</p> <p><b>Third learning center.</b></p> <p>1. Teacher put in a container different types of raw pasta.</p> <p>2. Teacher asked student to use different types of pasta in order to draw a picture of their body.</p> <p>3. Teacher used electing to start asking students by the names of body parts that they have learned.</p> <p><b>Closing departure</b></p>	<p><b>Field note</b> This instrument was</p>
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<p><i>Third session</i> <i>Date:</i> <i>April</i> <i>18th, 2016</i></p>	<p>Students worked with flashcards in order to identify and remember the family members' names. Students communicated with others what they learnt about family members</p>	<p>At the end of the activities Students shared what they learnt during the activities. Teachers made a review about the most relevant things that students could remember about new vocabulary.</p> <p><b>Choice time</b></p> <ol style="list-style-type: none"> <li>1. During class students were doing physical activity on the playground.</li> <li>2. In the classroom door, teacher said hello to every student in order to help students to remember previous vocabulary related to greetings</li> <li>3. Each student selected the animal image that they had chosen in the previous classes and then they pasted it on the attendance chart.</li> <li>4. Students made a selection of what they wanted to do between three activities proposed for the different learning centers.</li> </ol> <p><b>First learning center</b></p> <ol style="list-style-type: none"> <li>1. Students played a memory game where they had to find pairs or similar images about family.</li> <li>2. Students had to say the name of the family member when they found the corresponding pair.</li> </ol> <p><b>Second learning center.</b></p>	<p>useful to observe how students received and pronounced the vocabulary learnt using the middle frontal gyrus area.</p> <p><b>Diary</b></p> <p>This instrument was useful in order to identify if students could remember the routines that were taught since the first class by themselves.</p> <p><b>Video Recordings</b></p> <p>This instrument was used to register students' production of language. It was useful to identify students' speech difficulties.</p>
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<p><i>Fourth session</i> <i>Date:</i> <i>April</i> <i>25th, 2016</i></p>	<p>Students identified the location of the parts of the house in their own design.</p> <p>Students understood short stories in English and they could answer simple questions related to the story.</p> <p>Students understood how</p>	<p>1. Students had to tell teacher family members' names according to some images.</p> <p><b>Third learning center</b></p> <p>2. Through role play, students had to say a family member, and then, students who was next had to repeat and say other family member.</p> <p><b>Closing departure.</b></p> <p>At the end of the class, students had to share the most relevant things that they learnt during the session.</p> <p><b>Choice time</b></p> <p>1. Students were doing physical activity on the playground.</p> <p>2. In the classroom door, teacher said hello to every student in order to help students to remember previous vocabulary related to greetings</p> <p>3. Each student selected the animal image that they had selected in the first class and then they pasted it on the attendance chart.</p> <p>4. Students were choosing between activities proposed for the different learning centers.</p> <p><b>First learning center</b></p> <p>1. Teacher said to students that they had to create their own house.</p>	<p><b>Field note</b></p> <p>This instrument was useful in order to identify if students could use their memory to solve a task.</p> <p><b>Diary</b></p> <p>This instrument gave another view about changes that next lessons should have.</p> <p><b>Video Recordings</b></p> <p>This instrument was used to register students' production of language. It was useful to identify students' speech difficulties and production of language.</p>
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	<p>to follow a pattern to solve a puzzle.</p>	<p>2. Teacher divided the students from the learning center and some students painted a box with the figure of a house. The other members of the group painted some images related to house parts.</p> <p>3. Students had to paste the images in the house according to teacher's instructions, and teacher asked students the names of the parts of the house.</p> <p><b>Second learning center</b></p> <p><i>1. Pre reading activity</i> Teachers made questions in order to start with the reading activity.</p> <p>2. Through some images teacher contextualized students with the story "three little pigs". Questions that gave an overview to students about the story were:</p> <p><b>Eliciting:</b></p> <p>-What is this? Is it a rooster? Is it a Horse? Is it a cow?</p> <p>-How many pigs are there?</p> <p>-What color is pig head?</p> <p>-Which house is stronger?</p> <p>3. Teacher was reading the story to children and teacher asked them some questions related to the reading.</p> <p><b>Third learning center</b></p> <p>1: All the students in the learning center received a piece</p>	
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<p><i><b>Fifth session</b></i> <i><b>Date:</b></i> <i><b>May</b></i> <i><b>2nd, 2016</b></i></p>	<p>Students pronounced and identified words through recordings.</p> <p>Students were able to associate vocabulary with real objects.</p> <p>Students were be able to associate sounds and images to classify vocabulary related to fruits.</p> <p>Students were be</p>	<p>of a puzzle with different color.</p> <ol style="list-style-type: none"> <li>2. Students had to choose those cards that have the color that the teacher gave them in the piece.</li> <li>3. Students tried to assemble by themselves the proposed puzzle.</li> </ol> <p><b>Closing departure.</b> At the end of the class, students had to tell the most relevant things that they learnt during the session.</p> <p>In this session teachers decided to do just two learning centers, students were working in their tasks and teachers were attentive about students' learning process all the time.</p> <p><b>Choice time</b></p> <ol style="list-style-type: none"> <li>1. During class students were doing physical activity on the playground.</li> <li>2. In the classroom door, teacher said hello to every student in order to help students to remember previous vocabulary related to greetings</li> <li>3. Each student was selecting the animal image that they have chosen since the first class, and then, each student pasted it on the attendance chart.</li> </ol>	<p><b>Field note</b> This instrument was useful in order to identify how students received and produced the language learnt, and also was useful to observed how students associated sounds and images.</p> <p><b>Diary</b> This instrument was used to establish the efficiency or inefficiency of PEIS program in the teaching of a foreign language.</p> <p><b>Video Recordings</b> This instrument was used in order to evaluate students' process in terms of language production.</p> <p><b>Artifact:</b> This instrument was be used in order verify students' production of</p>
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	<p>able to remember the vocabulary of the previous classes.</p>	<p>4. Students were choosing between two activities proposed for the different learning centers.</p> <p><b>First learning center.</b></p> <ol style="list-style-type: none"> <li>1. Students worked with skewer sticks they had to put the fruit according to teacher's instruction.</li> <li>2. Students had to repeat the fruit name several times.</li> </ol> <p><b>Second learning center</b></p> <ol style="list-style-type: none"> <li>1. Students were listening a recording about some fruits.</li> <li>2. Students put on a recipient the fruit image that was sounding in a recording, at the same time, students had to repeat the fruit name after the recording.</li> </ol> <p><b>Closing departure</b></p> <p>This stage was be very important because, students showed their language production trough drawings</p> <ol style="list-style-type: none"> <li>1. Students received a blank sheet</li> <li>2. Teacher said to students that they had to draw the fruits that they learnt during the lesson.</li> <li>3. Students had to go in front and say to teachers what fruits they had been drawing and why.</li> </ol> <p>Teachers continue working with two learning centers as the previous class in order to be</p>	<p>language through drawings and recalling of items of vocabulary.</p> <p><b>Field note</b></p> <p>This instrument was used in order to recognize students' auditory abilities.</p> <p><b>Diary</b></p> <p>This instrument was used to know students' teacher perception about teaching English to young learners using</p>
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<p><i>Sixth session</i> <i>Date:</i> <i>May</i> <i>16<sup>th</sup>, 2016</i></p>	<p>Students identified colors and relate them to objects of the class.</p> <p>Students used their auditory abilities to recognize spoken words.</p> <p>Students wrote through imitation vocabulary related to colors.</p>	<p>focused on students' learning process during the class.</p> <p><b>Choice time</b></p> <ol style="list-style-type: none"> <li>1. During class students were doing physical activity on the playground.</li> <li>2. In the classroom door, teacher said hello to every student in order to help students to remember previous vocabulary related to greetings</li> <li>3. Each student selected the animal image that they had selected since the first class, and then, each student pasted it on the attendance chart.</li> <li>4. Students were choosing between activities proposed for the different learning centers.</li> </ol> <p><b>First learning center:</b></p> <ol style="list-style-type: none"> <li>1. Teacher played a song about colors.</li> <li>2. Students repeated the word that was heard on the recording, then they had to sing the song.</li> </ol> <p><b>Second learning center.</b></p> <p>Copying words:</p> <ol style="list-style-type: none"> <li>1. Each received a chalk and a black construction paper.</li> <li>2. Teacher showed to students an image of a specific color. Students had to say what color was the object and then try to</li> </ol>	<p>PEIS program.</p> <p><b>Video Recordings</b></p> <p>This instrument was used in order to evaluate students' process in terms of language production.</p> <p><b>Artifact:</b></p> <p>This instrument was used in order verify students' production of language through writing.</p> <p><b>Field note</b></p> <p>This instrument was used to keep a register about how students are using and recalling the language learning during the whole sessions.</p> <p>It was used to</p>
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<p><i>Seventh session</i> <i>Final session of the implementation</i> <i>Date:</i> <i>May 23<sup>rd</sup>, 2016</i></p>	<p>Students were able to identify all the vocabulary learnt during the whole sessions.</p>	<p>copy the object color name in the black construction paper.</p> <p><b>Closing departure.</b> Students showed their language production trough written production.</p> <p><b>Choice Time</b> 1. During class students doing physical activity on the playground. 2. In the classroom door, teacher said hello to every student in order to do help students to remember previous vocabulary related to greetings 3. Each student selected the animal image that they had selected since the first class, and then, each student pasted it on the attendance chart.</p> <p><b>Assessment test</b> 1. Students received an assessment test. 2. Students were listening a specific vocabulary related to the main topics learnt in the previous classes that were about: Greetings, Body parts, Family members, My sweet home, fruits, and colors. When students</p>	<p>identify the relation of the classes' results with the theoretical framework and the research question.</p> <p><b>Diary</b> This instrument was used to establish the efficiency or inefficiency of PEIS program in the teaching of a foreign language to young learners.</p> <p><b>Video Recordings</b> This instrument was used in order to recognize students' verbal and nonverbal attitudes.</p> <p><b>Artifact:</b> This instrument was used in order verify students' production of language.</p>
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		heard the specific item, they had to paint it with a specific color.	
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### **Data Analysis**

This chapter discusses the results of the pedagogical intervention in which the participants of this study took part of some activities, where they were working on classes that developed different task, each class was done taking into account one of the brain areas in order to analyze language learning and language production.

It is now necessary to go through the data analysis of the information collected during the stage of implementation in Colegio Nacional Diversificado in order to understand how the implemented activities played an important role in students learning process of a foreign language. To collect the necessary data, it was essential to select some instruments in order to accurately organize the information and in that way have it ready to be analyzed. The instruments that took part in this data collection were: Field notes, diaries, video recordings, students' artifacts, and students teacher insights.

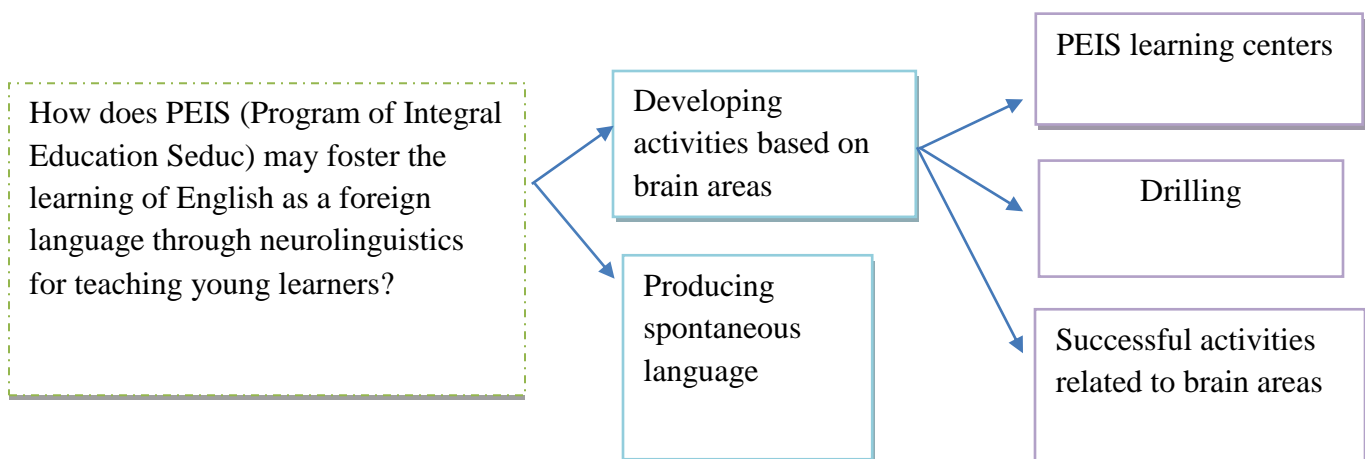
The purpose of data analysis is to transform the data collected into evidence that supports the development of the research question and research objectives. After evidences were collected, all the information gathered from the instruments stated on chapter four, the data was analyzed, by color-coding, highlighting situations in which the students were producing language, (Saldaña, 1998) using language in response to a brain area through the different proposed activities and using behaviors related to PEIS routines.

According to Saldaña. J. (1998) “color coding involves a process of circling, highlighting, bolding, underlining, or coloring rich or significant participant quotes or passages that strike you - those "codable moments" worthy of attention”. (p. 16).

After highlighting the most useful information from instruments, two main categories were established, the information was carefully selected taking into account that the most important issue is to give solution to the research objectives and therefore give an answer to the research question:

*How does PEIS (Program of Integral Education Seduc) may foster the learning of English as a foreign language through neurolinguistics for teaching young learners?*

Now, we will present the data obtained and classified from our instruments, this classification has categories and sub-categories; the data was organized in the following way:



### **Category number one**

#### ***Developing activities based on Brain Areas***

On this study, the first category shows how students received, and understood language through the different activities that were used in order to work with brain areas involved in the learning of a foreign language. During each one of the lessons it was found that dynamic activities were useful to help students to strengthen their cognitive abilities.

Furthermore, during students learning process researchers noticed that with the use of specific activities, students could understand and acquire the vocabulary easily, they were able to retain it for major lapses of time. The use of each exact activity that was focused on a specific brain area affirms that, letting outside usual methods for teaching a foreign language takes great advantage of students brains abilities and plasticity.

Of this central idea, this category is composed by three subcategories that explain specific points when talking about researchers' implementation, these components of the implementation gave an overview in order to clarify how researchers used PEIS methodology.

### **Subcategory number one**

#### ***PEIS learning centers***

PEIS methodology was the central part of each session, because the procedure is based on routines, as researchers of this study, the major focus during implementation was to teach



students to behave following the routines step by step, bearing in mind that the steps that each class followed were: Physical activities, attendance chart, choice time, activity centers, and closing departure stage.

In order to do a contextualization about how PEIS methodology procedure works the following excerpt shows how was done the beginning of one of the English classes.

*Excerpt 1*

*“(...) Teacher (1) started to organize the classroom before students come to the class, and teacher (2) maintained students outside of the class for a few minutes. Teacher (2) who was in the courtyard taught students a song called “we have choices” in order to encourage students to choose the activities that they wanted, after that, teacher (2) took students to the classroom in order to start with the activities. And teacher (1) who was organizing the classroom, received in the door all students with a greeting, and students answered good morning as teacher wanted.”* (FieldNote#3, 18th/04/2016).

For PEIS one of the principal topics is the implementation of routines on each class according to Reyes. P. (2011) “if we repeat a routine is as we train in mathematics: these connections let a mark, doing a task more efficient every time”. (p.6).

The idea of each class was to teach students what they had to do during all sessions, and teach them that English classes had a specific order. Every time that a class started students asked teachers about what they have to do, after, during and at the end of the class. Outcomes

were positive in terms of students' behaviors at the beginning of the classes it was hard to teach students what they had to do, but since session number four they had the idea clear about routines.

In relation to neurolinguistics processes Excerpt 1 has a close relation with neuroplasticity definition. According to Aguilar. L. (2010)“currently, the concept of neuroplasticity supports the new vision that the nervous system is in constant dynamic changes in its properties, in response to changes in their environment” (p. 3)

It means that neuroplasticity is the process that involves changes on the brain practices, with neuroplasticity process, individuals could start behaving according to changes in their environment, PEIS routines changed students habits in terms of what they were accustomed to do in a class, they started to adapt their ways of behave according to PEIS procedures. For research participants during first lessons it was kind of hard to follow the steps that classes had, but with a lot of practice they did it well as is evidenced on the following excerpt.

*Excerpt 2*

*“Routines: students remembered the routines perfectly, at the beginning they helped us remember all the things that we use to do before starting the activities.” (FieldNote#4, 25<sup>th</sup>/04/2016).*

*Excerpt 3*

*“Students remembered all the activities step by step, in the courtyard they asked teacher if they were going to paste the animals in the attendance chart, and if they were going to change the activity.”*

Previous statement shows evidence about what was students’ reaction to the new routines that researchers taught them since the first class, on seventh session it was very significant to hear students asking teacher in the courtyard about the class steps. Reyes. P. (2011). States that “Although children are small they know what they have to do.” (p.4).

Relation among statements and neurolinguistic processes will be seen since Klein. S. (2003) point of view, who states that “learning is a relatively permanent change in the ability to perform a specified behavior as a result of the experience.” (p.4).

As it is known experiences change individuals’ way to behave, when and specific experience starts to be acquired immediately people involved in the experience needs to start

changing their habits. Changes of habits will be positive or negative, it depends on the individuals and the experience provided, for example participants of the research ways to behave changed according to the experience provided by teachers with PEIS methodology, it will be seen since their own beliefs, students started to manifest what they enjoyed about English classes.

*Excerpt 4*

*At the end of class students told to teachers what they enjoyed about the English classes and some students said that the most interesting part of classes happened when they had to paste the animals in the attendance chart. ” (FieldNote#7, 23<sup>rd</sup>/05/2016).*

The excerpt shows the last procedure of the class, in this step teachers usually asked students about what they enjoyed from the whole class and students, had a clear idea about the routines and what were the activities that they enjoyed the most.

According to Purves et al. (2003)“neural plasticity will occur in many parts of the brain, generating different synaptic mechanisms as a result of different learning standards”, (p. 11). In terms of neurolinguistic processes and its relation with PEIS methodology, the idea of working different activities, was to create on students new neural connections that their brains will use later when students will start to learn English.

During English classes PEIS methodology works with different activities carefully designed by teachers, as researchers the idea was to do the same procedure, using different activities to present English to students, almost all the classes students were divided by groups and each teacher was doing an specific activity with children. Following excerpt shows how classes were divided during implementation.

*Excerpt 5*

*“We divided the class into 3 groups, each group had different activities according to the main topic, each activity has a specific time, when it finished students had to change to the other activity.” (DiaryFormats#1&4, 04<sup>th</sup>/04-25<sup>th</sup>/04, 2016).*

Teachers encouraged students to choose the activities where they wanted to work by themselves, in order to teach them about autonomy, group work and cooperation among classmates. Also students knew that when they were working in the learning centers, they had to work in their activities alone, at least teacher asked them to work in groups.

Continue talking about activities, students work, and their relation to neurolinguistic processes, it is important to take into account to Aguilar. L. (2010) who states that “Neuroplasticity is a process by which nerve cells manage to increase their connections with other neurons stably as a result of the experience, learning and sensory and cognitive stimulation.” (p.12). principal idea of using PEIS methodology was to provide students activities designed to make them take advantage of their brain processes, as is evidenced in the following excerpt.

*Excerpt 6*

*“Teacher gave to each student some images of fruits and each student had to classify the fruits in the plates that had the name of the fruit.” (FieldNote#5, 03<sup>rd</sup>/05/2016).*

The idea of the activities is to promote the creativity on each student in which they learnt to do all the things by themselves without help. (Oliger, 2009) PEIS program uses the implementation of different activities in a whole day in order to let students find the best option to receive the knowledge.

According to Juarez, B. (2013) “neurolinguistic aims to improve the quality of teaching-learning process, through effective communication between teacher-student and generate stimulating mental states allow for their achievement.” (p.1). the author explains the importance to work with students in their mental processes, and the activities that teachers will provide must let students to think really carefully on how they had to do it. If students have good stimulus from teachers, they will be able not just to do simple mental processes, they can think and analyze on activities that require more complex reasoning.

Neurolinguistic processes involve a reasoning from individuals, during implementation it was important to teach students to think by themselves and take the time to do the activities, For that reason, this excerpt shows how students took time in order to complete the activity as well as possible, by themselves.

*Excerpt 7*

*“The use of different activities helped students some students to stimulate their learning process, because they can find them interesting according to their likes.”* (DiaryFormat#1&4, 04<sup>th</sup>/04-25<sup>th</sup>/04, 2016).

Teachers were the facilitators of learning and they gave students the bases of English knowledge and instructions on each class, but the most important process was done by students, they learnt to do the activities by themselves, at the beginning it was complicated to teach, because students always asked if teachers could help them to do the activities, but since the fifth session students showed a huge change in terms of autonomous work.

*Excerpt 8*

*“Students are more independent at the moment to choose the activities or do the things as they think it is correct, they do not ask all the time “teacher it is correct”* (DiaryFormat#5, 03<sup>rd</sup>/05/2016).

This result shows how students started to be more independent in their tasks and in their own decisions, “the child is the protagonist of their own learning. Cantagallo Preschool.” (2011) students needed to learn how to create new things by themselves and generate ideas in their activities; the use of imagination was noticed on each student when they did the activities on each session.

In relation with the activities and learning centers implemented by PEIS methodology, it was noticed that students' concentration in the activities was good, but teachers could not pay attention to all students, especially to those who were working alone, so some decisions were done in order to improve the development of classes.

Teachers reduced the three learning centers into two, at the beginning of the implementation, teachers left one learning center alone while the rest of the learning centers were the teachers all the time, and students who were alone during the classes did not have an accompaniment from teachers, for that reason, teachers realized that working with two activities would be more appropriate for students and teacher, so that, it was decided to work with two learning centers since the fifth session until the end of the implementation.

Taking into account to Solanich, R. & Serrat, A. (n.d.) "the students try to have greater personal autonomy to realize that learning to learn." (p.6). Neurolinguistic processes allow students to be more independent on their tasks, the idea is that students learn to do all the things by themselves, it is important to generate on each student new challenges in order to stimulate them to do the things without teachers' help, and in the excerpt 8 it was noticed on student

*Excerpt 9*

*"This opportunity class was divided into two learning centers, because for us was complicated to control three learning centers at the same time, and we did not focus on students' learning process as it should be done."* (DiaryFormat#5, 03<sup>rd</sup>/05/2016).



Learning centers activities had to be done by teachers, because it was really important that students had a significant learning through teachers' guide, the idea was that teachers helped students to improve in their weaknesses during the activities and be attentive if students had questions, and working with three activities did not help students to have a successful learning process, because students who were working alone seemed distracted some times.

*Excerpt 10*

*“When teacher let students of center 2 were working alone students started to misbehave” (VideoRecording#3, 18<sup>th</sup>/04/2016).*

On the other hand, classes were developed in a cozy, cheerful atmosphere and confidence that helps good learning. The working day and the special distribution of the classroom benefits autonomy, responsibility and maturity of each child, each activity was totally different but they were related with the main topic in order to promote learning in different ways. (Oliger, 2009) this statement helped teachers to understand that even students needed their own space, they required an adviser during the class, teachers major focus must be check if students were learning or not, teachers realized that students learnt better using two learning centers, they looked more attentive, all of them participated in the activities, and they answered when teachers asked them questions.

According to Zamora, O. (2013) “neurolinguistic also provides means to transform thoughts, behaviors and feelings, so that they allow students to act positively and have more

confidence.” This statement proves that for teachers was necessary to reduce the learning centers into two, because they needed to be concentrated all the time and received help when they required it. Two learning centers did not just help teachers to manage the class and students, also helped students to be attentive to the activities and allowed students to participate on the activities and improve their behavior, also students felt comfortable working with the teacher and they did not feel alone as the first four classes, they were working with their classmates, and it was good for all of them.

*Excerpt 11*

*“Students have changed in terms of misbehave, the change has been really positive and also the participation on each student has increased, they were attentive, focused on the activities, and they cooperated when teachers asked them something related with the topic.”(DiaryFormat#6, 16<sup>th</sup>/05/2016).*

As participation increased at the same time, with activities happened something similar, students showed a huge change in terms of autonomous work during the classes, their brain started to be more flexible, participation also was evidenced, students answered what teachers were asking and also students interventions to talk about what they were doing increased. They usually shared new ideas about what they knew about the topics of the class, students were independent in their participation and also in their work during activities.

The following excerpt supports that students' autonomy increased not just choosing what they wanted to do, also in their own decisions to solve the proposed tasks.

*Excerpt 12*

*"Students are more independent in the moment to choose the activities or do the things as they think it is correct, they do the things and they think it is good."* (DiaryFormat#6, 16<sup>th</sup>/05/2016).

Working with two learning centers allowed teacher to improve and increase students' strengths, especially during the three last classes, when teacher took a decision to work with those learning centers, students did not stop to learn, every moment they were attentive, focused on their task and the most important aspect is that students learn to be more independent doing their activities using their imagination.

Learning centers were an important part of implementation, and researchers also had to behave according to PEIS model, during the process some changes were done and some strategies were used in order to work with the participants.

According to Mendez, S. (2012) "neurolinguistic techniques for children, constitute a strategy and a model to learn that can be applied to education and children's learning, for example: Promoting autonomy and respect for their own space." This state provides how the use of different activities promoted a learning strategy in order to work with children and let them to learn using different models or activities on each class, because teachers were focused on the

neurolinguistic process in all students, and also encouraged students to do and create new things by themselves. During research it was found that PEIS and neurolinguistic processes have relation with strategies that teachers use in order to introduce English language

**Second sub category:**

***Drilling***

PEIS major focus is students as creators of their own learning, teachers' role is seen most of the time as instructional, because teachers provide the activities and they explain and guide students in the tasks just when it is necessary. (Reyes, 2012) during PEIS process teachers were the interlocutors who provided questions in order to help students to go deep in the meaning of a concept or word.

The following results from a video recording transcription show the use of strategies as questions, that teacher used during the activities in order to see if students understood the topic.

**T: (teacher) Ss: (Students) S:(student)**

Excerpt 13

*“Students were working with some flashcards of fruits in order to associate the previous vocabulary (Fruits) with the new (colors)”.*

*T: Listo ahora seguimos con... ¿se acuerdan de este? (Teacher Shows to students a mango flashcard).*

*Ss: Mango*

*T: Yes, this is mango. ¿Y el color?*

*S: Orange*

*T: ¡Good! Orange.*

Excerpt 14

*T: ¿De qué color es la apple?*

*Ss: Rojo.*

*T: Pero, ¿en Inglés?*

*Ss: Rojo*

*T: ¿Apple de qué color es?*

*S: Rojo*

*T: ¿Y rojo, cómo se dice rojo en inglés?*

*Ss: RED!*

(Video recording#6, 17<sup>th</sup>/05/2016)

Another important fact of using questions as a strategy for teaching English was that students could strengthen their cognitive and linguistic processes, (Lara, 2014) at the end of implementation students did not need too much of teacher guidance, they could relate their environment to class topic.

*Excerpt 15*

*“Students through flashcards and a song on the activities could understand the topic easily and students did not have difficulties to remember each one.*

*Teacher used some questions such as:*

*T: ¿Qué cosas de tu salón son Red?*

*Ss: Students answered appropriately also they started to associate their personal things such as their clothes with the colors”.*

*(FieldNote#6, 16<sup>th</sup>/06/2016).*

*Excerpt 16*

*“Second Learning Center:(Teacher was using questions in order to make students identify colors in their own classroom)”.*

*T: ¿Dónde hay Green?*

*S: Green, en la e (pointing a letter from classroom decoration).*

*S: En la puerta*

*S: En las cortinas también.*

*T: ¿ En las paredes hay Green?*

*S: (runs to the Wall) Si.*

(Video recording#6, 17th/05/2016)

Previous findings can be also supported by Oliger, A. (2009) who states that “PEIS gives opportunity to students to think and deepen their understanding better; teachers’ role is to take advantage of students’ brain potential and knowledge at the moment to start learning.” (p.35). Therefore students were encouraged to associate previous class topics with the new ones, using questions as the tool to make them understand better the topic and produce vocabulary on a foreign language, major idea of using questions as a resource for deepen understanding was to help students to create significant experiences which could be allowed in students long term memory.

In fact, questions were not the only tool that teachers used to do students retain vocabulary for major lapses of time. However, it helped teacher to know if students understand what they learnt and also see if students had doubts during the lesson. In addition, apparently for students was very useful during most of the activities when teachers used drilling as a strategy that allowed them to repeat and kept a new concept in their minds, drilling helped teacher to

facilitate pronunciation of some words that students were learning and also it was an opportunity for helping students who had speech difficulties.

*Excerpt 17*

*“They could associate the images with the words, students could understand what the reading was about using images, and the use of drilling and eliciting on each activity helped students to understand and identify the vocabulary easily”.*(FieldNote#4, 25<sup>th</sup>/04/2016).

According to Tice. J. (2005) “based on the Behaviorist view that learning to speak a foreign language - like other skills - was simply a question of correct habit formation, it was thought that repeating phrases correctly lots of times would lead to mastery of the language”. (p. 2).

Previous information was certainly interesting to support that drilling is very useful to help students in their Neuro-linguistic processes, drilling is the most accurately strategy to avoid fossilization of words, for the author drilling is not just used to correct students pronunciation it is useful to start mastering the process of acquisition of a foreign language.

During implementation researchers noticed that some students had some speech difficulties to pronounce, drilling was useful for teachers to work with students in order to avoid inter language fossilization, and start mastering and using the new language.



*Excerpt 18*

*“Some students could pronounce the new vocabulary well, however, for some of them it has been complicated to do that, some words for them were difficult but teachers help them to pronounce the words through drilling.”*(FieldNote#3, 18<sup>th</sup>/04/2016).

*Excerpt 19*

*“Even some of them have speech difficulties, teacher through drilling helped them to pronounce the words, students said the color syllabus by syllabus, and the results were positive, and they could do it better than before.”* (FieldNote#6, 16<sup>th</sup>/05/2016).

It is known that for neurolinguistics, repetitive training plays an important role on the learning of a foreign language, because it can help the students to have a better capacity for recalling items of vocabulary as an improvement on the learning process of a foreign language. (Alshén. 2006).

Bearing in mind what the author states and research results, repetitive training is important to learn a foreign language, practice makes individuals allow the new information in their minds, probably when participants of the research will need to use again the words that they learnt, they will remember through the significant experiences the words easily.

In relation to the acquisition of a foreign language and neurolinguistic processes some activities related to brain area were implemented in order to work and identify students' abilities

in terms of use of language, the following category shows the findings related to activities to work with brain areas.

### **Third sub category**

#### ***Successful activities related to brain areas***

During the 6 sessions, teachers worked with 6 areas that brain uses in order to acquire and produce the language through different activities that help the brain to stimulate the language better, each area has diverse ways to receive the language. Some activities related to brain areas were more successful than others by reasons such as use of materials and students production of language. Now, researches are going to explain the areas that had better results at the moment to implement the study.

Session number one was done taking into account Broca's area, it was the first class that students received English and they found it very interesting. Broca's area works mostly with speech production, and however it was a new class for students, they behaved well. CONALDI School does not teach English to preschoolers, so for them was complicated to learn that language, and teachers found that some students had few speech difficulties.

*Excerpt 20*

*“Students received the input through drilling using flashcards, also we used a song, first students were hearing the song, and then, they repeat what they heard, and finally they associated the song with images and movements.” (FieldNote#1, 04<sup>th</sup>/04/2016).*

Mishkin. M. (2014). “Broca’s area is widely recognized to be important for speech production.” (p.4).

Despite Broka’s area works with speech production, it is important to complement that during the research, was found that activities such as songs, and materials as flash cards, are the resources that help students to produce language, Also in terms of speech production there were some instances where students started to produce and use the vocabulary previously learnt automatically.

*Excerpt 21*

*“However in the third center (paint center) a boy started to sang the song about greetings, in this center, students had just to paint and it was a surprise when the student sang some parts of the song without music it was automatically.”*

(Video recording#1, 4th/04/2016)

Class number one was successful to create strategies that will help students to understand who English sounds are done and how English works, when students could recognize some

factors they were able to imitate English sounds and their pronunciation was improved. Also dynamic activities helped students to identify vocabulary and imitate it when students heard a song their capacity to keep a word in their minds with its correct pronunciation increases.

*Excerpt 22*

*“When some students could associate the images by themselves, the song was useful in term of pronunciation, and also it helped a few students to memorize the greetings and repeat the vocabulary several times.”*

(Video recording#1, 4th/04/2016)

Broca’s area has an important role at the moment to acquire the language, the use of different strategies or dynamics help Broca’s area to have better results in terms of speech production. (Mishkin. 2014).

When teachers take advantage of new materials and resources it becomes a significant experience for students implementation showed that students were able to memorize when they hear the pronunciation of a word, recalling of words was not the only fact that students produced, as Broca’s area works mostly with speech production students were able not to produce phrases but, they were able to imitate short phrases in English.

Frontal lobe was one of the best areas in which teachers saw outcomes through the activities that were implementing in order to identify if students had good results working with

this area. Frontal lobe works with five motor skills such as: mold, cut figures, paint, write and works with figures based on points. This area involves organizational capacity, planning, abstract reasoning, problem solving, among others Goldberg E. (2001) the idea was to find activities that helped the brain to work just with frontal lobe, and stimulate this area on each student using effective resources at the moment to implement the activities.

*Excerpt 23*

*“In the fabric center, in this activity students had to draw one of their classmate and then they had to use fabric pieces in order to design clothes for the drawing. The video shows that the activity was interesting for some students.”* (VideoRecording#2, 11<sup>th</sup>/04/2016).

Frontal lobe represents one of the more complex functions as in their definition refers, it involves organizational capacity. (Goldberg, 2001) students had to use different fabric pieces in order to create different posters working in groups; they were working with the organization of ideas, and the planning in order to solve a task as accurate as possible. Even they are child; they were able to organized and used in a correct way the material in order to do the activity as well as possible.

In addition, this area makes people reflect on different situations that require a high analysis and reasoning skills (Goldberg, 2001) it means that this area makes people to think about diverse and difficulties circumstances that happened at the moment to feel insecure or take a decision that permits to give solutions in a specific situation or task.

*Excerpt 24*

*“Teacher gives to a student a piece of fabric very long and student was constantly asking teacher to cut the piece of fabric because she was associating the size of the fabric with the size of the drawing that she was decorating. Also if teacher could not help her she tried to adjust the fabric pieces by herself.” (VideoRecording#2, 11<sup>th</sup>/04/2016).*

According to Guillen J. (2012)“the frontal lobe enables people to choose, plan and make voluntary and informed decisions.” It means that children can do complex things depending on their frontal lobe capacity. However, this area can improve, it weaknesses with execute functions that allow the area to be more active when it is working with activities related with frontal lobe. Making appropriate decisions requires self-control, cognitive flexibility, planning and perseverance. (p.5) as the frontal lobe development depends on social interaction, the educational process is key in the maturation of the individual.

Continue describing the brain areas, the next area is called primary auditory cortex, it is related with all that surrounds the sounds, this area works with activities related with language production, sounds and music images. Gil-Loyzaga. P. (2013) during this session students were working with activities that helped this area to be developed, in order to do that, teachers created activities that helped the brain to stimulate this area.

*Excerpt 25*

*“Teachers used a recording, drilling that helped students to produce the language properly through images that facilitated students to identify the vocabulary better.*

*Teacher said to each student a name of a fruit*

*¿Dónde van las pear? And students classify well the different images. At the beginning for students was hard to classify the images but, then they did it without help and also they could pronounce the items of vocabulary well, teacher asked each student what was the item that she was pronouncing and students answered appropriately to the teacher’s question.”*

*(FieldNote#5, 03<sup>rd</sup>/05/2016).*

Through this activity, students were engaged doing this activity, they produced the language constantly, and they had the opportunity to say new words that in their context all those words were new, and also they answered questions related with the topic with a correct pronunciation during the activity, when some of them had wrong pronunciation, teacher repeated the word, and then, they pronounced them well, the idea was that students listened the word first for several times, and then, they repeated the word in order to stimulate the area through the processing of words before student say them.

In addition, the use of recording helped students to identify how the sounds of new words are pronounced, especially if those words are in a foreign language, in this case, teachers created a recording in which they recorded the name of some fruits in order that students can identify how these words had to be pronounced, when students listened the words, they repeat them as they heard.

*Excerpt 26*

*Recording -Apple, Apple*

*S: Apple, ¡La manzana!*

*T: ¿Qué tienen que dibujar?*

*S: Apple*

*T: ¿Qué dijo el audio?*

*S: Apple*

*Recording: -Mango, mango.*

*T: Mango*

*S: ¡Mango!*

*Recording: -Banana, banana.*



*Ss: banana*

*T: ahora vamos a dibujar una banana.*

*S: ya dibuje la banana.*

(VideoRecording#5, 03<sup>rd</sup>/05/2016)

This result shows an evidence of how students could produce some words after listened them in a properly way. According to Gil-Loyzaga. P. (2013) “primary auditory cortex is crucial to understanding the language.” (p.3). It means that it is very important to be focused on the pronunciation of words, when they are wrong pronounced, children will produce them as teacher teaches them, it is necessary to help students to identify how the words should be pronounced, because probably as children listen the words, they are going to pronounce them. When the author says that primary auditory cortex is crucial to understand the language, the author is making reference to the way that the words have to be taught, especially at the moment to pronounce them, it helps the brain to associate the words in the area and produce them perfectly.

During session number six students showed a huge improvement in their use of language, the sixth session worked with Wernicke’s area in charge of representing the words that someone is hearing, is the view of Dubuc. B. (2002) that “Wernicke’s area associates the structure of this signal with the representation of a word stored in your memory, thus enabling you to retrieve the meaning of the particular word.” (p. 24). The previous statement shows that for children is easily

to represent what they are hearing with drawings and with their own words next excerpt supports that:

*Excerpt 27*

*“At the end of the activities students had to write the name of the colors, and one student associated the colors with the fruits and he just not wrote the name of the color, he drew the fruits according to the specific color. E.g. Yellow and he drew a mango. And he just had to write the name, it was a surprise for us when he did it”. (DiaryFormat#6, 16<sup>th</sup>/05/2016).*

It is hard to imagine that children will produce language so easily because their age, but the fact is that children memory is incredible. Students brain was able to associate images with the meaning of a word, something that helped students to associate the vocabulary and its sound during session number six was that students in previous classes had seen the real fruits, not just representations of the fruits, so that use of realia helped them to draw immediately the representation of what they learnt about fruits.

Relation of concepts and images also was helpful for students to start connecting new concepts, they used the previous lessons to associate colors with the fruits and for them the strategy was easy to identify things in their own context.

*Excerpt 28*

*“Students were pointing by themselves the classroom things that they could associate with the color e.g.: Teacher told to students if they could point something blue and some students were pointing their clothes.”(Diary#6, 16<sup>th</sup>/05/2016)*

This area makes a mental image and associates the learners’ previous knowledge with the sound of the word. Dubuc. B. (2002) the author explains that Wernicke’ area it is a significant part in the acquisition of language because students have to listen and then in their brains the image associated with the word is represented in order to produce language or a visual representation of the word.

Students were producing in written form the words that they were hearing, it could be said that some students find easy to represent the written form of the vocabulary, but for others it was easy to listen, imitate and then reproduce the word. Previous information corroborates that Wernicke’s area played an important role in students’ brain at the moment of start fostering a foreign language.

*Excerpt 29*

*(Teachers made a consolidation of the topic with the whole class, to work with Wernicke’s area students had to imitate how English words are done, teacher showed in the board to students how the name of the colors is written and students were trying to write by themselves colors name). (FieldNote#6, 16<sup>th</sup>/05/2016)*

The memory gives to the receptor the concrete meaning of the word, it will be written or spoken. (Dubuc, 2002) memory was the principal factor in session number six, during implementation was found a significant excerpt that shows how students' memory was working in order to recall items of vocabulary.

*Excerpt 30*

*T: Abajo vamos a escribir. ¿Qué color es este?*

*S: Banana*

*T: ¿De qué color es la banana?*

*S: Yellow*

*T: Yellow, la banana es yellow.*

*S1: En el tablero dice Banana*

*S2: ¿Banana dice? ... Yellow.*

(Video recording#6, 16th/05/2016)

Excerpt number 30 showed that participants of the research learnt better with the activities related to listen, and draw, at the moment of learning a foreign language it will be take into account that is important to work with activities that will involve apply previously learned information to solve problems, and analyze ideas.

During implementation stage, researchers found that children started to produce language by themselves and that they were able to use the language learnt in specific moments automatically, the following category is presented showing how students' spontaneous use of language and vocabulary was.

**Category 2: Producing Spontaneous language.**

The second category will show how the production of words were pronounced by students in spontaneous moment during the classes. According to Alshén. E. (2006) “Neurolinguistics tries to explore how the brain understands and produces language and communication. (How the brain is structured and how it functions).” (p.9) during the whole sessions, the main idea was to help students not just learn new vocabulary in a foreign language, the classes were also focused on the production of these vocabulary. Students needed to have specific processes in which those procedures helped the brain to stimulate through activities focused on each area. In order to do that, it was necessary to try to find activities that helped the areas to be stimulated.

First of all, it is important to expose the aspects involved in the production of language, students could do it through the activities that were implemented, and the way that teachers encouraged students to pronounced that even when some students had speech difficulties. For neurolinguistics is important to work with language and brain functions as cohesion that attempts to describe what are the processes involved in language development. (Alshén, 2006).

During the sessions, it was important the production of language on each student not just using drilling all the time, the main idea was that students could pronounce vocabulary that was taught, by themselves. According to (Visvader. P. 2013) “the goal is to give individuals who have limited verbal abilities a method of independently and spontaneously expressing themselves in any setting” (p. 16). The author explains that teachers need different methodologies that encourage students to participate and produce language. Output needs to be so significant for students and in that order of ideas students have to produce the language by themselves. It is important to take into account that teachers mean focused is to pay attention to those students that are shy to participate or have speech difficulties.

The following samples show how students pronounced the name of vocabulary in spontaneous moments in different sessions, and also how students were increasing their vocabulary during the implementation.

*Excerpt 1*

*“Students did not stop to say the name of the fruits during the class, but at the same time students repeated the name of the color by themselves without help” (FieldNote#6, 16<sup>th</sup>/05/2016)*

In this excerpt is noticed how students were able to reproduced the vocabulary that teachers were providing, also they were saying the vocabulary using a strategy called “contextualizing” .The previous vocabulary results were effective in terms of students’ responds

not just in the participation in the class, also in the production and use of vocabulary in a foreign language.

*Excerpt 2*

*“Some students started to say some fruits and sing the song about body parts and doing its corresponding movement while they did the achievement test.” (FieldNote#7, 23<sup>rd</sup>/05/2016)*

According to B.F. Skinner. (2007) “operant conditioning: if a response (the operant) is followed by a reinforcing stimulus, response strength is increased.” (p.5) as previous input (a song) was interesting for students, their brain was able to associate previous experiences provided by teachers. Students did not need of teachers input again and they were able to say automatically what they previously learnt.

Positive reinforcement was applied during firsts classes and then students started to produce language spontaneously because they felt less afraid of use English language.

*Excerpt 3*

*First learning center*

*T: listo chicos ¿Qué color éste?*

*S: Banana*

*T: in English?*

*Ss: Yellow*

*T: Muy bien*

(VideoRecording#6, 16<sup>th</sup>/05/2016)

*Excerpt 4*

*Teacher gives to each student the different fruits in a stick and starts to point the fruits.*

*T: What is this?*

*Ss: Mango*

*T: Mango*

*Ss: Banana*

*S: Strawberry*

*T: Strawberry! Good J.!*

*Excerpt 5*

*T: What is this?*

*Ss: Pear, pera, pera...*



*T: Non, in Spanish no.*

*T: pear*

*T: listo, and finally*

*S: Banana*

*S: Apple*

*T: Apple! good J.*

(VideoRecording#5, 03<sup>rd</sup>/ 05/2016)

*Excerpt 6*

*Recording: Purple*

*Ss: ¡Apple!*

*T: purple*

*S: Las uvas*

*S: las uvas son purple*

*T: ¡muy bien!*

(VideoRecording#7, 23<sup>rd</sup>/ 05/2016)

*Excerpt 7*

T: ¿Cuál es éste?

S: Good morning

T: ¡muy bien!

T: Y éste?

S: Good night

T: Muy bien!

(VideoRecording#1, 04<sup>th</sup>/ 04/2016)

*Excerpt 8*

T: ¿Cuál es éste color? (teacher shows a grapes flashcard)

Ss: Purple

T: ¡good job!

(VideoRecording#6, 16<sup>th</sup>/05/2016)

This data explains how students' spontaneous response was produced by teachers positive reinforcement, it is important to praise students when they are producing language, it does not

matter if students have wrong pronunciation, the idea is that, they will feel comfortable using the language, then students' output comes spontaneously.

Students' spontaneous response was evidenced through teachers' motivation to make students talk in different moments during the class, especially when some students had speech difficulties, students produced language by themselves because also drilling and practice were used to practice knowledge learned earlier to produce fast and correct answers.

*Excerpt 9*

*Second Learning Center*

*(Teacher was using eliciting in order to make students identify colors in their own classroom)*

*T: ¿Dónde hay Green?*

*S: Green, en la e (pointing a letter from classroom decoration).*

*S: En la pueta*

*S: En las cortinas también.*

*T: ¿En las paredes hay green?*

*S: (runs to the Wall) Si.*

*(VideoRecording#6, 16<sup>th</sup>/05/2016)*

As it was the first time that students received a new language, for them, at the beginning was complicated to say some vocabulary, but with the time students started to associate and to produce the language with their context. While teachers asked them the name of the colors some students identify some of them that entire surround the classroom, for example, in order to

describe the color that teacher was asking, students used Lego, walls, door, students' clothes, classroom curtains and the chairs. (Skinner, 2007) says that operant conditioning functions when an individual learns to make a particular response to a particular stimulus and then makes the same or a similar response in a slightly different situation (p. 5). It means that the work that students did during the class was spontaneous, because they were able to identify the colors by themselves not just using the flashcards as resource, also all that were in their environment.

It means that, students' spontaneous responses were evidence when particular students started to point the things in her surrounding, and then, she went to the wall to point that the wall was green.

On the other hand, PEIS methodology promotes not just students' autonomy in terms of work, also PEIS works with individual skills and abilities. (Albamar School, 2016) as provide that, the following excerpt shows evidence about students' autonomous work using the reasoning to solve a task.

*Excerpt 10*

*Recording: Head.*

*S: (asking to a classmate) ¿Es la cabeza?*

*S: sí, creo que es la cabeza.*

*S: (started to sing and point the body parts), head shoulders knees and toes...*

(VideoRecording#7, 23<sup>rd</sup>/ 05/2016)

Students' autonomous work was reflected on the use of questions by students between themselves, students were doing an assessment test, they only had painting the name of the vocabulary according to the recording voice, so one student used his body in order to remember what were the correct parts that he had to paint in the test, so he rose and started to sing and do the movements of a song that was taught in session number two.

*Excerpt 11*

*“In the third center (paint center) a boy started to sang the song about greetings, in this center, students had just to paint and it was a surprise when the student sang some parts of the song without music it was automatically.” (VideoRecording#1, 04<sup>th</sup>/ 04/2016)*

Bandura, A. (1977) suggests that humans can learn automatically through observation rather than through personal experience. (p.2) the author explains that it is important to provide students a good model for using English language in order to stimulate students' different abilities. For that reason it is necessary to get students involved in their environment and context in which students feel enthusiasm to learn through their likes and dislikes and make them to produce spontaneous language.

*Excerpt 13*

*“The other students of the class could pronounce the vocabulary easily, some of them repeated the words in spontaneous moments, and students started to sing the song, and said the words of some vocabulary learnt in the previous classes.” (FieldNote#7, 27<sup>th</sup>/05/2016)*

Students first heard, in teachers a model of pronunciation for them was easily to produce the language and imitate it. Mediating processes occur between stimuli & responses. (Bandura, 1977) for the author it is necessary to allow a specific process that provide students to learn in different ways through hearing and imitation, and also, help students to respond to those processes, it could be through activities that encourage them to participate and use the language, errors are permitted the most important factor is production of language, as they need a stimulus teachers can provide different strategies in which teachers can help to improve students' spontaneous language production.

*Excerpt 14*

*“Students were working just with one crayon and during the achievement test they said “Yo necesito red para la apple, no es yellow.” (FieldNote#7, 27<sup>th</sup>/05/2016)*

*Excerpt 15*

*“When teacher showed the colors through flashcards, students automatically said the correct color in English” (FieldNote#6, 16<sup>th</sup>/05/2016)*

This is another evidence that supports what the author said above in this data; here, students were recalling and remembering what teachers told them, so they started to use the vocabulary to do the proposed activity, but they were talking among them, and they corrected their own mistakes each other, they knew what they had to do, it means that the stimuli was done by teachers, and students produced the output as they considered that was appropriated.

Neurolinguistic allows the learning of a foreign language through specific activities that work with the acquisition of a language in relation with brain abilities and plasticity, those activities were applied to enrich English classes and avoid traditional methods for teaching English, PEIS program fosters the learning of a foreign language, because students found a fun and interactive way to participate, create and cooperate while they are using a new language.

## Chapter 6

### CONCLUSIONS

The following chapter explains what the principal implementation findings were; the chapter shows some important facts that led researchers accomplish and give answer to research main purposes. Those purposes were focused on describing PEIS as a methodology that uses learning centers and studies the relation between the brain and the use of language.

First of all, the study wanted to answer this question: *How does PEIS program may foster the learning of English as a foreign language through neurolinguistics for teaching young learners?*

Neurolinguistics using PEIS as a strategy for teaching preschoolers allowed students to work on an implicit way in their different brain abilities, students increased their English speech production, use of language and vocabulary, reasoning, and capacity to solve different tasks and problems using different strategies.

The development of an appropriate atmosphere, focused on PEIS methodology and taking into account students' needs, likes and dislikes through dynamic activities combined with some physical activities. First of all, allowed teachers to introduce English to students that never received the language.



Secondly, participants of the research learnt to work with English language, since the things that surround them, students discovered that English will be fun and very useful. They learnt to be independent in their work and, teacher during implementation knew that for English classes are just necessary teacher instructions, few guidance and a lot of questions that allowed students to explore and discover the knowledge by themselves.

Teaching on an active way and have students constantly changing of activities, enhances teachers to create new tasks that will have into account, that are the specific skills that each brain area works, classroom environment will be enriched with a cheerful atmosphere where everybody wants to participate.

After analyzing the data, it was found that students' self-esteem and participation increased, also teachers' enthusiasm for planning and creating materials raises teachers' motivation in the classroom.

When an atmosphere of participation was evidenced in the classroom, the challenge for teachers was to work with students that had few speech difficulties, and continue working with all students in the constantly recalling of vocabulary.

At the beginning of lessons it was hard for students and teachers to work with three learning centers, especially if one learning center was working without teacher guidance, for that reason it was decided that for using PEIS methodology it is necessary to have a proportion between the amount of teachers and the quantity of students. When learning centers were divided

into two, it was more effective than having a group working alone, because sometimes children accustomed to constantly teacher guidance disrupted teachers and classmates.

The research also was looking to give an answer to the general objective in order to explain PEIS contributions in contrast with research results: Neurolinguistics helps the brain to acquire a language using the brain areas that work with the acquisition of a language through specific activities in which linguistic brain areas are involved; teachers took advantage of the specific activities to work with the abilities that the brain has in order to introduce a foreign language.

First of all, PEIS contributes to neurolinguistics as a resource to investigate how to do English classes better and how to help students to be proficient, or at least get in touch with a new language. In terms of the use of language, PEIS will be useful to study how students' brain work and how to solve problems as fossilization and speech difficulties.

Secondly, PEIS creates in children the interest for learning English language, production and use of language through questions creates internal stimuli on children and they will be more interested on what they are learning for that reason, their long term memory and capacity for recovering items and utterances will increase.

Neurolinguistics also has some contributions to the teaching of a foreign language:

Working with Neurolinguistics allowed teachers to explore how the brain areas work on students. It was found that not just medical fields are required to study how the brain produces

language; education also will give some clues to identify how students' brain produces and works with the acquisition of a language.

It was found that the contributions of neurolinguistics also will be seen in the use of activities, during the research some activities did not work because they were not focused on students' needs, likes and dislikes, it is important for teachers to plan the activities after identify students' needs.

Teachers now will identify how important is to work with children when they are starting to learn, their brain has a huge capacity for acquiring a foreign language, there is a belief that because they are small, they cannot receive English instruction, neurolinguistics provides the tools to start teaching English, some of them are: practicing through listening and writing small words, reading stories and using drilling and eliciting to solve questions.

PEIS has different strategies that allow children to learn in different ways, teachers took specific activities as resources to work with each area; as was stated previously, the brain has 6 areas that involve the acquisition of a foreign language, and for each session teachers worked with a specific area.

During the sessions, teachers noticed that not all the areas worked as it was expected. Too many factors such as students' behavior and interest in the different proposed activities influenced the development of the classes. Brain areas as: primary auditory cortex, Broca's area, Wernicke's, and frontal lobe were successful in terms of activities and engagement, students

showed a positive learning progress. Students responded to the proposed activities that involved the four areas stated above.

The program implemented increased students use of language and use of vocabulary, students manifested how they liked the activities and how they loved English, as PEIS methodology states working with significant activities increases children maturity. (Reyes. P. 2011). Students' teacher said that she could notice that working with different activities showed how students' attention and concentration have grown. (See Annex #5)

Learning centers main contribution was evidenced in students focus on each task, during the implementation, students selected the activities that they liked and it was noticed that students learnt from the experiences that they found more interesting.

In addition, learning centers were successful for teachers because they could identify each student need and progress, it is important to say that the time invest on learning centers also was significant because teachers and students are more concentrated and usually classes are not boring.

For teaching a foreign language, learning centers were effective in order to introduce new topics learning centers also allowed teachers to review topics of previous classes. Teacher guidance through learning centers is reduced because children have to work by themselves.

As disadvantage, it was found that working with learning centers is not recommended for big groups of students and that, learning centers need a huge space to work, if classrooms are small students would get distracted and disrupt English classes.

### **PEDAGOGICAL IMPLICATIONS**

- Time planning requires a lot of effort activities must be selected carefully taking into account previous classes and each student needs, likes and dislikes.
- Resources have to be chosen thinking on the school budget or teachers' estimate
- Classroom has to be adapted to English classes, it is always necessary to have space for attendance charts, reading activities and closing departure stages.
- Physical activities are not necessary to do in the courtyard, inside classroom activities could be done such as songs and stretching.

#### *Learning centers*

As was previously stated, it was found that the amount of teachers working with PEIS methodology must be divided in the amount of students, classes need to be developed in the same conditions with all children it does not mean that teachers have to be all the time with children, but they are required for instructions and procedures as physical activities, attendance chart, closing departure stage, and answer question if student need it.

### *Planning*

Planning will be done according to class results, if during class some facts need to be worked, it is necessary that teachers will plan next lesson according to students' needs. Planning requires a lot of time invest and research activities a lot on brain areas, it is also necessary to plan lessons thinking on students likes not on teachers likes.

### *Classroom organization*

It is necessary to have a big space in the classroom in order to distribute all students, in a way on which every member of the class will have their own space it is suggested that PEIS methodology is better for small groups of students. A reading center will be included in the classroom when starting to work with PEIS, teachers will teach students that if they finish they will go to reading area in order to avoid misbehavior and interruptions.

### *Physical activities*

They are extremely necessary at the beginning of English classes, the main objective of introduce this into class, is to have students more concentrated and focused in their tasks, physical activity will vary and also it could include songs related to a class topic in this way students will keep the vocabulary more easily in their minds.

### *Implementation*

It will be better to work for major time, this research was done in seven sessions but it could be more effective to work more days with students involved in the research, in order to gather more evidence about students' progress.

Achievement test will be shorter because students will get bored with too much questions, another way to evaluate students' progress will be done asking students to draw vocabulary and ask them what they draw and why. During the achievement test it is also important to give students time to rest because the brain could be saturated with enough information.

A lot of resources are needed in order to provide students with the material for the classes; some materials will not be engaging for students, it depends on the population to work with.

### **FURTHER RESEARCH**

Now, it is necessary to take into account the following findings for further research because it was found during the research that some of the following procedures are very important in order to develop PEIS methodology appropriately.

Activities included for gyrus and hippocampus areas must be changed or adapted because most of the materials required for the activities will generate students focus in materials and not

in the topic. The investigation will be done in order to fit students' needs according to the population.

It will be interesting to investigate how PEIS methodology functions with children of primary or secondary school because nowadays PEIS just works with preschoolers.



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## **ANNEX 1**

### **Consents**

Chía Cundinamarca, 07 de Marzo del 2016

Señor:

German Alberto Vargas Pérez

Rector Colegio Nacional Diversificado de Chía

Cordial saludo:

La presente carta tiene por finalidad solicitar su aprobación para realizar la implementación del proyecto pedagógico: *Uso de la neuro-lingüística en el proceso de aprendizaje de una lengua extranjera a través del programa PEIS en preescolar*. Esta propuesta de investigación se está realizando como requisito de grado en el programa de Licenciatura en Idioma Extranjero Inglés de UNIMINUTO.

Este proyecto está siendo dirigido por las estudiantes: Kimberly Tatiana Hernández Matiz y Jenny Alejandra Quintana León y la asesoría del magister Pedro Alejandro González Mesa.

El proyecto tiene como finalidad implementar la enseñanza del inglés en el grado preescolar a través del programa chileno PEIS. El cual lleva al aula las últimas

Investigaciones acerca de cómo funciona el cerebro al momento de adquirir un idioma como lengua extranjera.

Cabe resaltar que los participantes del proyecto, su información personal y los resultados obtenidos en esta investigación serán de total confidencialidad.

La implementación de este proyecto tiene una duración de 6 semanas que comprenden las fechas del 28 de marzo al 2 de mayo del 2016. Solicitamos nos permita realizar estas

intervenciones los días lunes de 8:00 am a 9:30am debido a que por nuestro horario académico de la universidad estos son los días que tenemos disponibilidad.

Para mayor claridad en las fechas de implantación y propósito de la misma, se anexa cronograma de trabajo y formato de autorización para padres de familia.

Agradecemos su amable atención y valiosa colaboración.

Cordialmente,

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Kimberly Tatiana Hernandez Matiz

C.C. 1070922811

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Jenny Alejandra Quintana León

C.C. 1020773380

Chia, Cundinamarca 07 de Marzo del 2016

## FORMATO DE AUTORIZACIÓN PARA PADRES DE FAMILIA

Estimados Padres de Familia:

Reciban ustedes un cordial saludo.

La presente circular tiene como finalidad pedir su consentimiento para llevar a cabo el proceso de investigación llamado: *Uso de la neuro lingüística en el proceso de aprendizaje de una lengua extranjera a través del programa PEIS en preescolar.*

Este proyecto investigativo estará a cargo de Kimberly Tatiana Hernández Matiz y Jenny Alejandra Quintana León estudiantes de la Licenciatura de Idioma Extranjero Inglés octavo semestre de la corporación Universitaria Minuto de Dios UNIMINUTO. Bajo la dirección y asesoría del docente Pedro Alejandro González Mesa.

Este proyecto será de gran beneficio para su hijo, ya que aprenderá inglés a través del programa chileno conocido como PEIS, un plan piloto para la enseñanza del inglés. Este programa se basa en fortalecer el proceso de aprendizaje y estimular las funciones cerebrales desde que se es pequeño.

Cabe resaltar que los datos de sus hijos, y los resultados obtenidos en la investigación serán de total confidencialidad. Si está de acuerdo le solicitamos amablemente diligenciar sus datos y regresar con el director de curso el siguiente consentimiento.

-----  
Yo \_\_\_\_\_ Identificado con cédula de ciudadanía  
\_\_\_\_\_ Padre del niño \_\_\_\_\_ del grado \_\_\_\_\_.

Estoy de acuerdo en que mi hijo participe en el proyecto de investigación como parte de la población seleccionada para el mismo.

Firma: \_\_\_\_\_

C.C

**ANNEX 2**

**FIELD NOTES**

Field Note format

<b>Objective:</b>		
<b>Field note number:</b>	Date:	Observer name:
Describe classroom environment:		
Describe Students attitudes in terms of (Use of language, use of vocabulary, routines, and moods)		
During the lesson, how students received the input?		
How the class and the different activities strengthen cognitive and linguistic processes of students?		
Did you notice any change in the learning process of the students? (Behavior, use of language, strategy to solve a task), describe them.		
Did you notice if students find any difficulties in any task? Which one? (Narrow the kind of difficulty (Cognitive, linguistic).		
Additional notes: Was the class successful for students, yes no, why?		

Field Note #3

<p>Objective: To work with the third area that involves language learning. (Angular gyrus) Identify population characteristics and behaviors, register students learning process of a foreign language.</p>		
Field note number: 3	Date: 18 <sup>th</sup> -04-2016	Observer name: Kimberly Tatiana Hernández Matiz Jenny Alejandra Quintana León
<p><b>Describe classroom environment:</b> When we arrived, students were not in the classroom, teacher started to organize the classroom before students come to the class, and the teacher maintained students outside of the class for a few minutes. Teacher who was in the courtyard taught students a song called “we have choices” in order to encourage students to choose the activities that they wanted, after that, teacher took students to the classroom in order to start with the activities. And teacher who was organizing the classroom, received in the door all students with a greeting, and students answered good morning as teacher wanted.</p>		
<p><b>Describe Students attitudes in terms of (Use of language, use of vocabulary, routines, and moods)</b>  <b>Routines:</b> teachers asked to students if they know the steps in which the class is organized, students answered step by step the order of each activity. However we remember every class the steps in order to help them remind each step, but in this session it was noticed this change in students, because they could remember everything. At the end of the activities, teachers did some activities related to the previous two classes and all students remembered some items learnt before. It means that the use of routines have helped students to remember vocabulary.  <b>Use of language:</b> in this case, most of students could produce the language easily, activities were related to speaking, and they were useful for students to produce the language for more times, students were attentive and had good attitude in each activity.  <b>Use of vocabulary:</b> some students could pronounce the new vocabulary well. However for some of them it has been complicated to do that, some words for them were difficult, but teachers helped them to pronounce the words through drilling.  <b>Moods:</b> at the beginning of the class some students had misbehavior, they did not pay attention and in some cases they ignore us. However in the activities all student were focused, especially the student who did not want to work in the previous class. She was attentive all the time, and she participated with good attitude. At the end of the activities some students had misbehavior again, teachers through some activities encourage students to participate on them, and students changed their attitudes and they participated in the activities.</p>		
<p><b>During the lesson, how students received the input?</b>                  Students received the input through drilling and making activities that permitted students to remember the vocabulary such as: song in order to help them to produce the language, memory game, when students find the similar images they had to say the name of the image, and flashcards, students had to say a name of a family member according to the flashcards.                  The activities were useful for students, and they received the input in a positive way as we wanted.</p>		
<p><b>How the class and the different activities strengthen cognitive and linguistic processes of students?</b>  <b>Cognitive:</b> students could remember the vocabulary through the activities, all the activities were focused on speech production, and memory, and it was useful for students and helped them to improve in students’ learning process.  <b>Language:</b> Even some students continue having difficulties in speech language, teachers helped them to produce it through drilling, and in this case teacher encouraged students to sing a song alone and helped them to produce the language using it as resource.</p>		

The other students do not have speech difficulties, but teachers encourage students to improve their language production better.

**Did you notice any change in the learning process of the students? (Behavior, use of language, strategy to solve a task), describe them.**

Behavior: at the beginning of the class some students were not good behavior, this time was complicated to manage the whole class, because they were not attentive, and they did not want to obey our instructions, but in the rest of the class all the students were good attitude and they participated all the time in the activities, 3 or 4 students walked around the class, but not for much time.

The use of language: Students could produce the language, at the beginning for them it was complicated, because they were not feel in confidence, but a few minutes later, they started to be attentive and participate on each activity, they sang, and repeat the vocabulary.

**Strategy to solve a task:** In the song, teachers encouraged each student to sing alone, they did it without any problem. With memory game, teacher helped students to say the name of the family member when they found the similar images, she asked to each student what was the name of the family member found, some students answered well, but others not, when it occurred teacher through drilling helped them to say in a correct way.

**Did you notice if students find any difficulties in any task? Which one? (Narrow the kind of difficulty (Cognitive, linguistic)).**

Some students did not answer the questions correctly, and some of them confused the names of some family members. In terms of linguistic skills some students could not pronounce some words, others answered but with difficulties in their speech.

**Additional notes: Was the class successful for students, yes no, why?**

The class was successful, students participated during the class, especially in the activities, in terms of behavior they have changed their attitudes and they have had more motivation, and other important aspect is that students have had good results in terms of language production, they started to produce the language without any problems. However it is necessary continue working on.

**ANNEX 3**  
**DIARY FORMATS**

Diary Format

Diary number: Class number :	Date:	Observer name:
What was the lesson topic?		
<b>Describe What happened during the lesson</b>		
<b>What verbal or non-verbal attitudes did you notice during the lesson?</b>		
<b>Verbal:</b>		
<b>Non verbal:</b>		
<b>Did you find any problem during the lesson? Which one? (Linguistic, cognitive, behavioral, situational).</b>		
<b>How students perceived new methodologies?</b>		
<b>How were student's attitudes, did you notice any change?</b>		
<b>What are the class evidences that could give you an overview about the efficiency or inefficiency of PEIS?</b>		



Diary Format #4

Diary number: 4 Class number: 4	Date:25 <sup>th</sup> -04-2016	Observator name: Kimberly Tatiana Hernández Matiz Jenny Alejandra Quintana León
What was the lesson topic? My sweet home		
<p><b>Describe What happened during the lesson</b></p> <p>Teachers started the class in the courtyard, we asked students, if they could remember what the topic that we learnt before, and students answered some family members' names and in additionally, students remembered the parts of the body through a song.</p> <p>We divided the class into 3 groups, each group had different activities according to the main topic, (family members), each activity has a specific time, when it finished students had to change to the other activity.</p> <p>In this lesson students' misbehave changed a lot, they obeyed us all the time, students' attitude was good, students did not walked around the class, students did not talk too much, and students were working on each activity</p> <p>We used flashcards, worksheets, houses, and paint the worksheet in order to do the activities interesting and useful for each one.</p>		
<p><b>What verbal or non-verbal attitudes did you notice during the lesson?</b></p> <p><b>Non-verbal attitudes:</b> in some cases, when a teacher asked about the parts of the house, some students did not want to answer, they started to see around the class, and down their head.</p> <p><b>Verbal attitudes:</b> Some students repeated the vocabulary after the teachers, and also they asked to the teachers when they could not understand.</p>		
<p><b>Did you find any difficulty during the lesson? Which one? (Linguistic, cognitive, behavioral, situational).</b></p> <p>Linguistic: Some students continue having speech difficulties, and for some of them talk in front of their classmates continue being difficult.</p> <p>Cognitive: Some students like to go to the others centers to interrupt other students.</p> <p>Behavioral: even the misbehave has been improving, some students continue having misbehavior; they like to interrupt, not obey or not pay attention to teachers' instructions.</p>		
<p><b>How students perceived new methodologies?</b></p> <p>Some students found interesting the use of good activities, each activity for them was good and helped them to learn different in every moment.</p>		
<p><b>How were student's attitudes, did you notice any change?</b></p> <p>Students have changed in terms of misbehave, the change has been really positive and also the participation on each students has increased, of course it is necessary continue working on those aspects.</p>		

**What are the class evidences that could give you an overview about the efficiency or inefficiency of PEIS?**

Students are more independent in the moment to choose the activities or do the things as they think it is correct, they do not ask all the time “teacher it is correct” they do the things and they think it is good. However teacher is attentive if they are doing the activities different, and immediately help them to do it better.

The use of different activities helped some students to stimulate their learning process, because they can find them interesting according to their likes.

Each activity was different, it was good for some students, because they could participate in all activates, and learnt in different ways.

**ANNEX 4**

**VIDEO RECORDINGS**

Video Recording #1

<b>Video recording number:</b>	<b>Date:</b>	<b>Hour:</b>
Write a short overview about the video content:		
If it is necessary, include the video recording transcript:		
Additional notes: (Use this space to include additional notes about fact that you could not identify or write in the field notes).		

Video Recording #5

Video recording number: 5	Date: 03 <sup>rd</sup> /05/2016	Hour: 8:00
<b>Write a short overview about the video content:</b> This opportunity class id divided in two learning centers and video shows how students worked with realia in order to identify the fruits and their corresponding name. On the second stage of the video Students draw fruits according to a recording.		
If it is necessary, include the video recording transcript: <i>First learning center (group #1)</i> Teacher is showing to students real fruits in order to learn the fruits T: ¿cómo se llama esto? Ss: Pera T: In English?		

Ss: pi, pe, pear, pear.

T: Y ¿esto?

S: Manzana.

Ss: Apple

T: Apple

Ss: Apple

T: Y esto se acuerdan ¿cómo se llama?

Ss: Banana

T: Banana.

T: Y ¿esto?

Ss: Fresa.

T: la más difícil de pronunciar...

T: StrawBerry

T: y ¿ésta?

Ss: Mango

T: Y ¿esto?

S: uvas

T: grapes, repitan, grapes

Ss: grapes

Teacher gives to each student the different fruits in a stick and starts to point the fruits

T: What is this?

Ss: Mango

T: Mango

Ss: Banana

S: Strawberry

T: Strawberry! Good Jimmy!

T: What is this?

S: ehh. Uva...

T: Grapes, repeat grapes, grapes

T: What is this?

Ss: Pear, pera, pera...

T: no in Spanish, no?

T: pear

T: Listo, and finally what is this?

S: banana

S: apple

T: apple!

Good Jeimy!

*First learning center (Group #2)*

T: listo, antes de empezar, ¿cómo se llama esta fruta?

Ss: mango

T: mango

T: pear, repeat, pear

T: David Santiago. ¿Cómo se llama esta fruta?

Ss: Apple

T: This?

Ss: banana

T: and this, strawberry

Ss: strawberry.

T: listos todos sentados, ¿Que vamos a dibujar?

S: las fresas, las fresas.

T: la fruta que se oiga en el celular.

Recording: -Strawberry, strawberry.

T: strawberry, dibujen strawberry.

S: la fresa, la fresa.

S: La uva.

S: la fresa, si, la fresa.

Recording: -Mango, mango.

T: Mango

S: Mango!

T: vamos a dibujar el mango.

S: Amarillo!

T: Amarillo, Yellow, good.

Recording: -Banana, banana.

Ss: banana

T: ahora vamos a dibujar una banana.

S: ya dibuje la banana.

T: ya la dibuje.

T: Donde está la banana.

Ss: pointing the drawing.

T ah, muy bien!

Recording -Apple, Apple

S: Apple, La manzana!

T: que tienen que dibujar

S: Apple

T: ¿Qué dijo el audio?

S: Apple

S: Manzana

T: Yired, dibuja Apple, cual es Apple? Cual es Apple? Una rojita...

S: .....

T: ¿Cuál es apple? Man...

S: Manzana.

T: Muy bien, manzana, Hi5. Ahora dibuja un Apple.

Recording: -Grapes, grapes

T: ¿Qué es grapes?

Ss: Uvas.

T: Uvas, grapes.

T: Juan, ¿cuáles son las grapes? ¿Juan Pablo?

S: ... Uvas

T: ¡Muy bien!

T: la última fruta a la 1. La ultima fruta,

S: a las dos.

Recording: - Pear, pear

T: ¿Qué dijeron?

S: La pera

T: pear ¡muy bien!

*Closing departure stage:*

T: Listo, ¿Qué frutas, dichas en Inglés aprendieron?

S: Mango, fresa...

T: In English?

S: Mango, fresa...

T: Strawberry

Ss: Strawberry

T: ¿Qué más dibujaron?

S: banana

S: eh manzana

T: ¿manzana en Ingles?

Ss: Apple, apple

T: ¿pera en Ingles?

S: Pear!

T: Pear!

T: ¿manzana en ingles?

S: pearr, ahh Apple.

T: Ahora repitan después de mi:

T: Mango, banana, grapes, Apple strawberry, pear.

T: Eso aprendieron hoy ahora digan díganme ustedes.

S: pear

S: banana

T: STRAW?

S: STAWBERRY.

Additional notes: (Use this space to include additional notes about fact that you could not identify or write in the field notes.

Students have been improving their pronunciation a lot; they are able to remember more items of vocabulary for major lapses of time.

ANNEX 5

STUDENTS TEACHER INSIGHT

Students Teacher Insight #1

**Percepción docente:**

**Preguntas:**

**Antes**

1) ¿Considera usted que las políticas educativas en la enseñanza de lenguas extranjeras, están orientadas en torno a los aspectos sociales y culturales del país? ¿Si, no, por qué?

**Durante**

2) Desde su punto de vista, ¿cómo se podrían contextualizar las políticas educativas con aspectos sociales y culturales de los estudiantes?

**Espacio para su respuesta:**

1- Este gobierno ha fortalecido las competencias en lenguas extranjeras desde diferentes niveles del sistema educativo. No ha tenido en cuenta el entorno, ni la necesidad cultural de los alumnos, aun no tiene la implementación de proyectos para formación de los alumnos ni la de los docentes en el área de inglés.

2-

- De acuerdo al medio social en el que se encuentra el alumno se deberían desarrollar las actividades y los programas educativos en la enseñanza del idioma.
- que en las instituciones educativas exista un docente mínimo del área de inglés para la educación preescolar, básica, media y superior, esto fortalecería el proceso de enseñanza del idioma inglés.
- Capacitación en general a todos los docentes de las diferentes áreas de desempeño en el idioma inglés.

Percepción docente:

Preguntas:

Espacio para su respuesta:

¿Cuál es su percepción acerca de la implementación del programa PEIS, lo encuentra usted útil?

Es un programa bueno ya que en las actividades realizadas con los alumnos se nota enormemente la motivación y el resultado respecto a los conocimientos del área en cada uno de los niños. Sería de gran apoyo para el docente que siempre existiera la oportunidad en el aula de reforzar los conocimientos y aprender de esta forma dinámica y de fácil comprensión para los alumnos. Es útil y pediría que se implementara enviando a las docentes a realizar las prácticas con los niños del grado preescolar.

Students Teacher Insight #2

Percepción docente:

¿Cree usted, que la implementación de programas como PEIS podría ayudar a mejorar las falencias y a crear mayor interés en aprender una segunda lengua por parte de los estudiantes colombianos?

Según lo observado sí, ya que los alumnos trabajan por grupos diferentes actividades, pero teniendo en cuenta el mismo tema. Se nota más la atención y concentración por parte de los alumnos, al igual que la participación y la adquisición del conocimiento.

Students Teacher Insight #3



**ANNEX 6**

**Lesson Plan #1**

Teacher's name		Time	Date	Nr of session
Grade	Class Level	Topic		Language Skills
Linguistic brain area		Abilities of the brain area		

Learning objective (students)	Personal aim (Teachers)

Learning objective (teachers)	Personal aim (Students)

Materials and Resources <sup>1</sup>	Bibliography

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<b>Anticipated problems (linguistic, behavioural, situational)</b>	<b>Planned Solutions</b>

<b>Learner's expected output</b>	<b>Learner's expected comprehensible input</b>

<b>Stage</b>	<b>Time<sup>2</sup></b>	<b><u>Detailed</u> description of Activities, Procedures, Teaching techniques, Grouping, Materials, and Instructions script<sup>3</sup></b>
Arrival		
Introduction		
Choice time		
Activity center #1		
Activity center #2		
Activity center		
Closing departure		

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**Lesson Plan #2**

Teacher's name		Time	Date	Nr of session
Kimberly Tatiana Hernández Matiz Jenny Alejandra Quintana León			11-04-2016	2
Grade	Class Level	Topic		Language Skills
Pre-school	Beginners	My body		
<p><b>Linguistic brain area:</b> Frontal lobe</p> <p>According to Goldberg E. (2001). “The frontal lobe is responsible for so-called executive functions. Represent one of the more complex functions in their definition refers. Involve organizational capacity, planning, abstract reasoning, problem solving, among others”.</p>		<p><b>Abilities of the brain area:</b></p> <p>Hebrero. S. (2012). The frontal lobe works with fine motor skills such as:</p> <ul style="list-style-type: none"> <li>• Mold</li> <li>• Cut Figures</li> <li>• Paint</li> <li>• Write</li> <li>• Work with figures based on points</li> </ul>		

Learning objective (students)	Personal aim (Teachers)
<ol style="list-style-type: none"> <li>1. Students will be able to identify the different body part names.</li> <li>2. Student will be able to retain vocabulary items.</li> </ol>	<ol style="list-style-type: none"> <li>1. Teachers will be able to identify the factors that influence learners reasoning ability.</li> <li>2. Teachers will be able to identify how each student solve the different activities that are presented in the activity centers.</li> </ol>

Learning objective (teachers)	Personal aim (Students)
<p>1. Identify the different stages where students will have problems in linguistic terms: use of language, recalling of items. Fine motor problems, abstract reasoning.</p>	<p>Students will be able to recall the different items of vocabulary through the different lesson plan stages.</p>

Materials and Resources <sup>4</sup>	Bibliography
<ul style="list-style-type: none"> <li>• Colour papers, Worksheet, Glue.</li> <li>• Poster about body parts, newsprint, scissors, markers, fabric scraps, glue.</li> <li>• Raw pasta, disposable plate, glue, container.</li> </ul>	<p>Goldberg E. (2001). <i>Bases neurobiológicas de las funciones ejecutivas y lóbulos frontales</i>. Taken from: <a href="http://www.neurowikia.es/content/basesneurobio1%C3%B3gicas-de-las-funciones-ejecutivas-y-1%C3%B3bulos-frontales">http://www.neurowikia.es/content/basesneurobio1%C3%B3gicas-de-las-funciones-ejecutivas-y-1%C3%B3bulos-frontales</a></p> <p>Hebrero. S. (2012). <i>Juegos para el cerebro</i>. Taken from: <a href="http://www.gabineteinfantil.es/index.php/20-escuela-de-padres/juegos/28-juegos-para-el-cerebro">http://www.gabineteinfantil.es/index.php/20-escuela-de-padres/juegos/28-juegos-para-el-cerebro</a></p>

Anticipated problems (linguistic, behavioural, situational)	Planned Solutions
<ol style="list-style-type: none"> <li>1. Students might find difficult a task.</li> <li>2. Students do not enjoy working with other classmates.</li> <li>1. Students might spend too much time on an activity.</li> </ol>	<ol style="list-style-type: none"> <li>1. Provide clues in a way on which students can infer how to solve a task.</li> <li>2. Promote autonomy and cooperative learning in class.</li> </ol>
Learner's expected output	Learner's expected comprehensible input
<ul style="list-style-type: none"> <li>• Students identify in their own body the different names of the body parts.</li> <li>• Students remember from their previous</li> </ul>	<ul style="list-style-type: none"> <li>• Students produce short sentences or item names on English.</li> <li>• Students understand the class methodology.</li> </ul>

experience the name of other parts of the body that are not included in the lesson. (Eyes, nose, mouth).		<ul style="list-style-type: none"> <li>Students are able to remember previous lesson items of vocabulary.</li> </ul>
Stage	Time <sup>5</sup>	<b>Detailed description of Activities, Procedures, Teaching techniques, Grouping, Materials, and Instructions script<sup>6</sup></b>
<b>Arrival</b>		1. While students arrive, they are going to paste the papers with their names in the attendance chart.
<b>Introduction</b>		<ol style="list-style-type: none"> <li>Teacher is going to use a clay figure that represents body parts in order to explain to students what are the body parts and its corresponding names on English.</li> <li>Teacher is going to ask to each student in which center is going to work, then teacher writes student's names in the board.</li> </ol>
<b>Choice time</b>		<ol style="list-style-type: none"> <li>Teacher asks students to organize a train</li> <li>Teacher will begin to walk with students around the room and stop in front of each desk or interest center.</li> <li>Teacher asks, who is going to be in this work station? Then students who selected that center of interest are going to stop there.</li> </ol>
<b>Activity center #1</b>		<p>Explanation of the activity:</p> <ol style="list-style-type: none"> <li>To organize the workplace, teacher is going to cut into pieces the proposed worksheets.</li> <li>Teacher is going to keep on different envelopes the different pieces of the worksheet</li> <li>Each student will receive an envelope and they have to associate the figures to assemble the puzzle proposed by teacher.</li> <li>Teacher Is going to ask the students for the body parts they have in their puzzle, and then teacher is going to analyze the information that students gave in terms of retention and use of language.</li> </ol>
<b>Activity center #2</b>		<p>Explanation of the activity:</p> <ol style="list-style-type: none"> <li>In the center of interest of students are going to receive in a folded paper number and the child with the highest number is going to be the student who is going to be traced by their peers.</li> </ol>

	<p>2: The selected student is going to lay down on a newspaper with his-her arms and legs outstretched.</p> <p>3: The other children are going to trace his-her classmate shape on the newsprint.</p> <p>4: when the drawing is ready students have to design the drawing clothes with the fabric scraps.</p>
<p><b>Activity center #3</b></p>	<p>1: Teacher will put in a container different types of raw pasta</p> <p>2: Teacher will ask the student to use different types of pasta in order to draw a picture of their body.</p> <p>3. Teacher is going to use electing to start asking students by the names of body parts that they have learned in English.</p>

ANNEX7

Student's artifacts

