THE COGNITIVE PROCESS OF ELEMENTARY SCHOOL STUDENTS WHEN LEARNING

ENGLISH AS A FOREIGN LANGUAGE

_____

Monograph

Presented to the Program

Licenciatura en Lenguas Extranjeras con énfasis en Inglés

Escuela Ciencias de la Educación

Universidad Nacional Abierta y a Distancia

_____

In Partial Fulfillment

of the Requirements for the Degree of

Licenciado en Lenguas Extranjeras con énfasis en Inglés

_____

By

Mayra Alejandra Rodríguez Toledo

August, 2020

SPECIALIZED ANALYTICAL SUMMARY

Title	The cognitive process of elementary school students when learning english as a foreign language
Author(s)	Mayra Alejandra Rodríguez Toledo
Editorial	Universidad Nacional Abierta y a Distancia
Date	Oral Defense Date (Month, Day, Year)
Keywords	Memory, attention, processing, sequencing, elementary school students, English, education
Description	Monograph
Sources	62 References.
Contents	En los últimos años, la importancia de enseñar idiomas extranjeros ha aumentado, dicha importancia se ha reflejado en el desarrollo del Inglés en el campo académico, ya que el conocimiento del idioma se considera hoy en día como una necesidad para el desarrollo individual en diferentes áreas de la vida. Es por eso por lo que es conveniente estimular el desarrollo de habilidades cognitivas como la memoria, la atención, el procesamiento y la secuenciación en los estudiantes de primaria para el desarrollo óptimo del aprendizaje del idioma extranjero en Inglés. La enseñanza del Inglés se refleja en el desarrollo de la educación de la primera infancia y la educación primaria, este documento se centrará en el estudio de las habilidades cognitivas en el aprendizaje del inglés en la educación primaria para estimular el desarrollo de las mismas. En relación a esto el objetivo del trabajo es determinar la relación de los procesos cognitivos de memoria, atención, procesamiento y secuenciación con el aprendizaje del idioma inglés de estudiantes de primaria. En este sentido, en la presente monografía pude desarrollar un análisis en relación entre las metodologías estudiadas y la documentación profesional sobre este tema, finalmente y como conclusión las metodologías estudiadas deben ponerse en práctica, esto con el fin de estimular las habilidades cognitivas en los niños cuando aprenden un segundo idioma como el Inglés.
Research Line	ECEDU's line is part of: Education and human development. Education for human development considers the type of man that must form and therefore the type of society, in this direction, an educational process for human development must promote dialogue with culture and with multiculturalism.

Conclusions	Teachers are aware of the different existing methodologies regarding the teaching of foreign languages, although some are more current than others, each methodology to stimulate cognitive processes in the learning process responds to the needs of each age and consequently to the social demands, some of the methodologies analyzed refer to ancient times and this is reflected in the importance and power that the teacher had. However, in current methodologies, the student is an important character in the teaching-learning process.
Advisor	Diana Constanza Cruz Galeano

ABSTRACT

Student, Mayra Alejandra Rodríguez Toledo, *The cognitive process of elementary school students when learning english as a foreign language.* Licenciatura en Lenguas Extranjeras con énfasis en Inglés, May, 2020, Universidad Nacional Abierta y a Distancia.

In recent years the importance of teaching foreign languages has increased, this has been reflected in the development of English in the academic field, the knowledge of the language is considered today as a necessity for individual development in different areas of life. Therefore it is convenient to stimulate cognitive development in memory, attention, processing, and sequencing skills in elementary students for the optimal development of English foreign language learning.

English teaching is reflected in the development of early childhood education and primary education, this document focuses in the relationship of cognitive processes with learning English in primary education to stimulate cognitive development in memory, attention, processing, and Sequencing skills, having said that, the objective of the work is to reflect the importance of the cognitive abilities in the child to acquire the English language, basing the work in the elementary school educational environment.

In this sense, this document reflects the importance of the cognitive processes for learning English, through this monograph I was able to develop an analysis of the practical approach of the relationship between the methodologies studied and professional documentation on this topic, finally and as a conclusion, the processes studied must be put into practice, this to stimulate cognitive skills in children when learning a second language such as English.

KEYWORDS: Attention, elementary school students, memory, processing, qualitative, sequencing.

ACKNOWLEDGMENTS

I want to express my gratitude to God, who with his blessing always fills my life and all my family for being always present.

My deep gratitude to all the authorities and staff that are part of the National Open and Distance University (UNAD), for trusting me, opening doors and allowing me to carry out all my professional process.

Likewise, my thanks to my teachers who, with the teaching of their valuable knowledge, allowed me to grow every day as a professional, thanks to each of you for your patience, dedication, unconditional support, and friendship.

Finally, I want to express my greatest and sincere thanks to Professor Diana Constanza Cruz Galeano, the main collaborator throughout this process, who with her direction, knowledge, teaching, and collaboration allowed the development of this work.

TABLE OF CONTENTS

CHAPTER I

Introduction

Learning another language requires attention, perseverance, work, and above all time and interest, with primary school students being able to communicate through their cognitive abilities in English compensates for the effort made in developing them.

In the development of this document we will see how learning the English language broadens the student's horizons not only in their knowledge but also in their mental abilities, since knowing a second language will benefit them in their educational development.

The purpose of this monograph is to present the cognitive processes of primary school students in learning English, considering the characteristics of the students, and their need to improve their knowledge of the language, for which a series of studies is incorporated bibliographic, since the intention is that whoever uses it, integrates it with ease in their daily practice, thus achieving that students gain knowledge of the English language in a more natural, spontaneous and fun way, favoring the construction of communication schemes to starting from its use and its functionality in the daily classroom.

Finally, appropriate references will be found to be used and enriched in any project or pedagogical situation in the development of cognitive abilities in elementary school children at the time of learning English, even if they are modified according to the requirement of the socio-cultural context of the student in Colombia.

Significance of the Study

The purpose of this study is to focus on basic cognitive processes such as memory, attention, processing, and sequencing as fundamental factors in the process of significant learning English in elementary school children in Colombia. In this sense, the present study seeks to reflect the importance of stimulating these cognitive processes in students to strengthen the ability to acquire a new language.

In this way both students and elementary teachers in Colombia are enriched with new methodologies and strategies, this will make basic cognitive processes such as memory, attention, processing, and sequencing have an effective purpose in learning a second language, making a valuable contribution to education.

Education experts focused on English express that, rather than transmitting a language based on repetition, it is necessary to stimulate cognitive factors such as memory, attention, processing, and sequencing, in the process of learning English for a good level of development and acquisition of language (Giráldez, 2015). It is very important to use the basic cognitive processes as it is complemented with teaching material according to the subject, active study techniques, and methodological strategies, where students are interested in learning.

Given the above, the reason of this study aims to highlight the importance of stimulating basic cognitive processes in elementary students, thus developing communicative and interpersonal characteristics which should emphasize the development of linguistic, cognitive and academic skills, since these are the ones that facilitate the future personal, academic and professional performance of children.

Statement of the Problem

Linguistic education has ceased to be a simple field of application of concepts and methodology to become a fundamental fact of human development, in this way great theorists such as Vigotsky, Bruner and Piaget, have recognized language learning in the cognitive evolution of human beings as in the process of cultural and historical evolution of humans (Duran, 2003, p.15).

From this point of view, real education consists of providing the necessary conditions to allow cognitive functions such as memory, attention, processing, and sequencing to develop. This constructivist education suggests that the best thing to guarantee learning is to help the child develop and make his thoughts and emotions more mature; It is valid not only for the strictly cognitive but also for the development of social skills (Lúquez, 2003, p.8).

One of the main problems that have been identified regarding the learning of a second language in Colombia is that many times, the same teachers are largely unaware of the English language and ignore the cognitive process that English learning entails. This, on a cognitive level, does not strengthen the memory, attention, processing, and sequencing in the child's learning process, because this process is interrupted thanks to the lack of mastery in the teaching of English by part of the teacher.

In this regard, the MEN (Ministerio de Educación Nacional) argues that low levels can be explained by the fact that "teaching this language has not been a real priority of our official education system, nor has the cognitive process been considered within the learning process (MEN, 2015).

In this point of view, in the professional practice of English language teaching, it has been observed that in primary school students between the ages of 6 and 10, the deficiency of development in the cognitive functions of memory, attention, processing, and sequencing, is due to the absence of teaching and methodological materials for the development and stimulation of cognitive characteristics in the learning of a second language, which leads to the poverty of significant learning (Garza, 2004).

The problem is that teachers continue using traditional methods that focus on repetition to learn English and not on practical methodologies to achieve a good learning process and cognitive assimilation of the English language.

Given the above approach, the following question is asked:

How the cognitive processes of memory, attention, processing, and sequencing determine the English language learning in elementary students?

Objectives

General Objective

To determine the relationship of the cognitive processes of memory, attention, processing, and sequencing with the English language learning of elementary students.

Specific Objectives

To define the cognitive processes of memory, attention, processing, and sequencing within the learning.

To identify the relationship between English language learning and the cognitive processes of memory, attention, processing, and sequencing of elementary school children.

To describe English language learning experiences from the development of cognitive processes in elementary school students.

CHAPTER II

COGNITIVE PROCESSES

According to Shatil (2013), cognitive processes include basic mental processes such as learning, language use, problem-solving, decision making, reasoning, and intelligence, in other words, different cognitive functions play a role in these cognitive function include the processes of memory, attention, processing, and sequencing, these cognitive functions work together to integrate the new knowledge and create an interpretation of the world around us, in this way, we can understand the cognitive process that we use to incorporate new knowledge and make decisions based on it.

From this point of view, Salazar (2019) says that cognitive processes refer to several tasks the brain perform continuously, they are procedures in charge of processing all the information we receive from the environment, for this reason, a harmonious interaction between cognitive processes is fundamental so we can analyze reality adequately and adapt to it, consequently thanks to mental processes we can be flexible to changes and demands of the situation, for this reason, our executive functions oversee coordinating these processes.

In this way according to Tokani (2018), cognitive processes are typically operationalized to represent unitary trait characteristics, it is unlikely that any single process will suffice to explain individual differences in any situation, hence, everyday competence might be described as the phenotypic expression of combinations of basic cognitive processes that permit adaptive behavior in specific everyday situations, so it is important to address the issue of memory as a cognitive process.

Memory as a cognitive process:

According to Korczyn (2013), memory is the ability of the brain to store what a person learns or experiences in the day, and then resort to such information when necessary, but as in the cognitive function of attention, the concept of memory is not unitary either, since there are different types of memory, this cognitive process helps the person to code, store and retrieve information from the past, memory allows the person a basic process for learning since it is what allows us to create a sense of identity.

In this regard Salazar (2019) says we have different kinds of memory; short-term memory and long-term memory, these types of memory interact together but they not depend at all on the same brain areas, as a result, these two types of memory work in the coding, storage and retrieval of information, which will allow the person to maintain an autonomous and lucid process.

As well as memory is another of the most fundamental higher cognitive functions in the brain because of the learning and the language that is considered a higher cognitive process (Alarcón, Mazzoti and Nicolini, 2005), memory in addition to communicating with the environment and our peers is used to internally regulate our behavior (through self-instruction), in this order of ideas this argument connects us with the memory as a cognitive process in the learning process.

Memory as a cognitive process in the learning process:

In this sense, Voss (2010) says that memory depends on learning in the student, but learning also depends on memory, because the knowledge stored in its memory provides the framework to which the new knowledge imparted in a classroom is linked, therefore, teachers are responsible for the development of the highest levels in students, as such they have the privilege and opportunity to influence quality by stimulating student memory as a cognitive process.

From this point of view, Bakerly (2011) says; memory is essential to the learning process because it lets you store and retrieve the information that you learn, memory is nothing more than the record left by a learning process, in this way, memory and learning are so closely connected that people often confuse and mix them, this means that learning and memory entangled in an endless spiral throughout life, a process that, at the same time changes the structure of our brain permanently.

In this regard, Quintero (2012) mentions that the specialists in cognitive processes who study them consider these processes as two distinct phenomena, these specialists define learning as a process that will modify subsequent behavior, memory, on the other hand, is the ability to remember past experiences, the in a consistent analysis we can say that learning and memory are cognitive functions that encompass a variety of subcomponents, these components can be structured in different ways, for example, we can focus on their temporal dimension, or differentiate various forms of memory under their content or mechanisms of acquisition.

In this sense, it is important to talk about long-term memory in the student learning process, according to Bakerly (2011), it is important to work on the idea of long-term memory so that students can remember the summary of the classes and their exams, we must remember that the first step is to work to get good attention in students so they can move from sensory storage to long-term retention, in this sense you can also Stimulate second language learning from long-term retention.

In the analysis, it is good to highlight the importance, according to Voss (2010) of dynamically stimulating long-term memory in the learning process, since it is one of the most important steps in which retained information that passes from short-term memory to Long-term memory, where they are permanently stored for future use.

In this regard, the memory in the learning process is the higher cognitive process (logical or intellectual) that defines the temporal dimension of our mental organization (Brem, Ran & Leone, 2014), in this way, the cognitive process of memory in learning allows Automation and consolidation of appropriate learning habits when the information is meaningful, the process is facilitated, it is important not to forget that the teacher and memory play a leading role in facilitating these factors, concerning memory, the cognitive factor of attention plays an important role since it allowed memory as a cognitive process to develop, as it is evident in the following section.

Attention as a cognitive process:

According to Flesher (2013), attention is the ability to choose and concentrate on relevant stimuli, attention is the cognitive process that makes it possible to place ourselves towards relevant stimuli and consequently respond to it; This cognitive ability is very important and is an essential function in our daily lives, luckily, attention can be trained and improved with the appropriate cognitive training.

In this regard, Haimov (2013) says, attention instead of being a mental faculty, is part of mental activity it is also a selective process when we pay attention to any stimulus it means that we have removed our attention from other stimuli, for this reason, our mind selects a single stimulus, the most appropriate to pay attention, attention also depends on the particular interests of each individual, this makes us understand that the attention is an important mental process, without it, other mental processes such as imagination, learning, and thinking, are neither possible nor useful.

In this case, James (1890) says, the attention is "The takeover by the mind" is a clear and vivid way in which the concept of attention can be focused and defined, from this point of view, attention cannot be reduced to a single anatomical structure, and it cannot be evaluated with a single test, attention is composed of such as selective, sustained and alert attention must also be taken into account that it has qualitative and quantitative aspects.

On the other hand, according to Groeger (2000), the attention function is one of the most important cognitive functions that we have, due to all the cognitive processes that occur in the brain, it can be affirmed that attention occupies the most place important since all the sensory stimuli that arrive at the same time and continue to the brain are useful in the process to carry out a motor activity, when some attention mechanism is affected as a result of an injury, as a consequence there will be a psychiatric pathology.

Finally, Voss (2010) says, attention is a functional prerequisite for the development of most of our daily activities, such as perception, memory or language, in this order of ideas, this argument connects us with attention as a process cognitive in the learning process.

Attention as a cognitive process in the learning process:

As regards to attention and learning, Aharonson (2011) says, it is very different, however, very dependent on each other, in the educational field there are two ways in which students' attention can be directed, working on the motivation of the students and working on the type of stimuli, this implies that attention as a cognitive process can reason about reactive processes such as deliberative and motivational processes that control attention, as well as their interaction.

From this concept, Garcia (1997) says, attention, motivation, and emotion are related from the neurobiological point of view, motivation and emotion are considered as determining factors of attention, thus a state of high motivation and narrow interest in the attention focus decreases, the capacity for divided attention, this concludes that divided attention is particularly vulnerable, while sustained attention is relatively preserved in the early stages, since it allows us to remember with more precision the details, school lessons, etc.

In fact, Caballero (2017) says, the stimuli in the attention process is essential to codify and process information, since, without attention, there is no a conscious learning, probably the main challenge we face every day in the classroom is precise to maintain an adequate level of attention, because many of the students have problems in some of the aspects related to it, from the difficulty to focus their attention, keep it during a certain period, or control the impulse to attend to irrelevant stimuli.

In this way, attention occurs simultaneously with other processes such as perception, short-term and long-term memory, from which it is not possible to detach, besides, when paying attention, it is necessary to discriminate which information to process and which not, about attention, the cognitive factor of processing plays an important role as a cognitive process to develop, as it is evident in the following section.

Processing as a cognitive process:

According to Haworth (2016), when we talk about the cognitive processing of the brain, we're not talking about the motor acts (such as the footfall) or the sensory acts (smelling the toast), but instead, we're entering all of the information we've gathered and using it to operate effectively in the world (operating your new device), the brain does an enormous amount of cognitive work all the time, taking in information and transforming it, storing it, recovering it, and putting it to work, such processing allows us to interact intelligently with the world around us.

Also, Lupón (2016) says, the cognitive processing means the activity or sequence of activities that a subject carries out from the moment a stimulus enters through its senses until it emits a response to it, it means that this activity implies a mental representation of the information through symbols and finally, carry out a specific action plan concerning the response.

As an example Haworth (2016) says, let's imagine that we are in the grocery store, doing the shopping for the week, you look for the items you need, make selections between different brands, read the signs in the aisles, go to the cashier and exchange money; All these operations are examples of cognitive processing; the speed of these processes dictates our responses to stimuli, known as our reaction time, over time, the reaction time naturally becomes a bit slower, in this order of ideas this argument connects us with the processing as a cognitive process in the learning process.

Processing as a cognitive process in the learning process:

According to Khan (2015), the student's brain brings information, manipulates it, and stores it ready for future use, that information is first briefly stored as sensory storage, then moved to the short term or working memory and then either forgotten or transferred to the long term memory, as semantic memories (concepts and general information) and procedural memories (processes) images.

In this case, Khan (2015) says, this theory addresses how as children grow their brains also mature, leading to advances in their ability to process and respond to the information they received through their senses, the theory emphasizes a continuous pattern of development, this means that the transfer of information processing to long-term memory is important since information cannot rest in short-term memory (short-term memory can only contain seven pieces of information at a time), which means that a short-term memory overload can cause cognitive overwhelm.

Specifically, Lupón (2016) says, teachers can help students who suffer from information overload by letting them know what the critical elements of the information are; In other words, prioritizing the information, it is necessary to ensure that students have the attention and help them establish connections between the new material and what they already know, provide the repetition and review of the information, present the material in a very clear way and focus on the meaning of the information, concerning processing, the cognitive factor of sequencing plays an important role as a cognitive process to develop, as it is evident in the following section.

Sequencing as a cognitive process:

According to, Savalia (2016), sequencing is based on the brain's, which means that in the same way the sequences must be intentionally assembled to achieve an objective, these require the participation of attentional processes, with the repetition, in this way these plans will be directed to objectives that become habits.

In the same way, Shukla (2016) explains, sequencing consists on establishing a series or succession, temporary or logical, of events or situations that have a certain relationship with each other, it means that this process is established through logical relationships, each activity or step in a sequence except for the first and the latter connects with at least one predecessor and one successor.

Similarly, Bapi (2016) says, cognitive sequencing is about how the brain decides which cognitive process to apply at a given time to solve complex and multi-step cognitive tasks, it is argued that this issue has been neglected concerning its importance for systematic reasons, but the work recently on how individual brain systems achieve their calculations has set the stage to productively.

In this regard, Herd (2013) says, the ability to sequence information is essential for human performance, from what the author says and in other words, the ability to sequence constitutes the cornerstone for higher-order cognition related to language and goal-oriented planning, information related to the order of the elements, its synchronization and fragmentation are important aspects of this, in this order of ideas this argument connects us with the sequencing as a cognitive process in the learning process.

Sequencing as a cognitive process in the learning process:

According to Fonollosa (2015), sequencing learning is a critical component of human intelligence, the ability to recognize and produce ordered sequences is a defining feature of the brain and a key component of many cognitive performances, sequence learning and production is a hierarchical process, such as in speech organization, behavioral sequences, and thought processes.

In another order of ideas, Neftci (2015) says, there are two broad categories of sequence learning explicit and implicit with subcategories, explicit sequence learning has been known and studied since the discovery of sequence learning, however, recently, implicit sequence learning has gained more attention and research, because it represents a way of learning with underlying methods that people are unaware of, in other words, learning without knowing.

On the other hand, Rabinovich (2015) says, the exact properties and number of mechanisms of implicit learning are debated, other forms of implicit sequence learning include motor sequence learning, temporal sequence learning, and associative sequence learning, sequence learning, more known and understood as a form of explicit learning, is now also being studied as a form of implicit learning as well as other forms of learning; Sequence learning can also be referred to as sequential behavior, behavior sequencing, and serial order in behavior, this allows us to identify the relationship between learning English and the cognitive process of memory.

Memory as a cognitive process in English language learning:

According to Jiménez (1997), the fact that memorizing is closely linked to the process of understanding and the process of learning, this fact is demonstrated in the acquisition of the mother tongue as well as in the learning of a foreign language where we understand and transmit messages thanks to our ability to recognize and understand the phonemes, words and structures previously registered.

Similarly, Jiménez (1997) says, taking the example of vocabulary learning, the student can be trained to sort the words according to their grammatical category, their simple or compound form, type of affixation that presents, meaning that connotes, the relationship that maintains with other words, etc, this means that the student in a vocabulary learning process can account for what they have learned in their English class, using sequencing to organize and make sense of what they want to say in their spoken or written sentences.

Sequentially in teaching English, Faerch (1984) says, memory has received an uneven evaluation, the method of grammar and translation, as well as the approaches derived from structuralism, insisted on oral repetitions of word lists and decontextualized phases and processes within of English learning, this means that due to the influence, on the one hand, of cognitive theories that conceive learning as the implantation of communicative approaches and mechanical exercises, learning English has become a monotonous and repetitive process, in instead of a spontaneous process of practice and a constant reconstruction of knowledge.

Including what Buzan (1987) advises, in the memorization process, before starting a class or a study session, it is considered appropriate to plan the way to carry out the learning regarding the class and distribute the time that will be used in the said task, planning means organizing the topic that always obeys a teaching criterion, this obviously represents the purpose of a memorization phase but at the same time when it comes to achieving active and meaningful learning of the English language, it is recommended to take breaks and rest to resume learning without making the process tedious.

However, Craik (1975) says, memory is characterized by following a rhythm set by its own laws, in general, during a class or a study session, what is learned at the beginning and end of the period is better remembered, this It means that it is easier to memorize the elements linked to each other and those that stand out for some reason when the class is not interrupted from beginning to end, also, it is necessary to keep in mind that more information is remembered after a few minutes posterior the end of the study session.

In contrast, Brown (1987) says that to help students to consolidate memorization in the process of learning English, it is convenient to take a ten-minute break, change activities, or even if possible change places, before returning to carry out a brief review of what has been learned, in this way, we will help the student to consolidate the information and also to obtain an overview of what has been memorized about learning and the purpose intended in the class, this allows us to identify the relationship between learning English and the cognitive process of attention, which will be discussed in the next section.

Attention as a cognitive process in English language learning:

According to Merzenich (1998), some studies say attention is the most important pillar in the process of learning English because it is a prerequisite for the processes of consolidation, maintenance, and retrieval of information to occur, it has been shown that attention is basic for the creation of new neural connections and the formation of stable brain circuits, this means that the generation of stable and lasting neural circuits and connections only occurs when attention is paid.

In this regard Ortiz (2009) says, the teacher's class style is a factor that helps or hinders the maintenance of attention in the classroom, also, there are fluctuations in attention levels, in other words, sustained attention decreases throughout the day and also throughout the performance of different tasks, it is, therefore, necessary to establish rest periods, some authors recommend ten minutes of rest every hour or an hour and a half, corresponding to the cycles sleep and the cycles observed during the day and when transmitting content.

On the other hand, Compton (2011) says, the ability to focus attention is basic for monitoring English learning and depends among other things on the motivational state of the child towards school tasks; The selective mechanisms of attention control allow directing the processing towards the pertinent information, discarding the irrelevant and controlling the orientation of the attention focus, this means that in the classroom, projecting attention allows formative actions of the student's knowledge and the learning objectives, from certain ages in children these control processes are facilitated, particularly the processes of selection and organization of attention.

According to this when learning English, Solana (2012) says, the stimulation of attention favors learning processes, it has been proven that performing attentive exercises for a few minutes before the start of the class directly improves the quality of attention and executive functions, this means that the focus of interest is one of the most important functions of attention, as it characterizes most of the activities that respond to objectives and require specific responses, this allows us to identify the relationship between learning English and the cognitive process of processing, which will be discussed in the next section.

Processing as a cognitive process in English language learning:

Burden (2008) states that in recent years, more and more attention has been paid to cognitive processing and its union with the methodology of learning English as a foreign language, it is recalled that from a cognitive perspective, it is considered that the student actively participates in the learning process using various mental strategies to organize the linguistic system he wants to learn, this means that elements such as concentration, memory, evaluation, and understanding require a methodology where the student has integral participation from cognitive processing.

On the other hand, Dakowska (2001) says, the student receives the messages from their environment, organizes them, transforms them and later recovers them during the learning process, it is not just about understanding the message, it is also important to find a logic in what is taught and grasp the connections and relationships that may exist between them, that is, it is a process that consists on a series of operations through which one thing is transformed into another, in this case in the learning of a foreign language, this means that the context in which the student or teacher is in and outside the class transmits a wide variety of informative content, the student taking advantage of their previous knowledge and learning strategies, reformulates the acquired information and then transmits it.

In contrast, Tracy (2005) says, the orderly planning of a class allows designing the stages of processing and learning, this means that to reach the objectives that proposed in class, the tasks that are most relevant should be done quickly and well, to make room for other activities, this gives space to an information processing and transmission of what has been learned regarding the foreign language English in an effective way.

In relation to this Alonso (1994) says, we process information better if it appears well organized, for example, in class, we must present the contents on the board in a clear and structured way, it is not useful to write a series of words to memorize randomly and without being in context, students should be aware of the importance of organizing the material they use outside of class, in this sense, it is understood that the mind requires putting thoughts in a certain order to process, be more productive and address effectively the learning of English, this allows us to identify the relationship between learning English and the cognitive process of sequencing, which will be discussed in the next section.

Sequencing as a cognitive process in English language learning:

Villegas (2016), states that the activity of sequencing in the process of learning English is a highly complex cognitive ability, defined at the level of the mental process by various phases, which means that each one is determined by sequences of actions, where the synchronous articulation of the execution of the actions of each phase results in a series of mental operations in which the individual establishes, restores and transforms information structures.

From the above according to Serrano (2016), during the cognitive sequencing process within the learning of a foreign language a series of brain functions is completed, this means that within the learning process, the logic of the brain can generate sequences that, connecting with each other, generate knowledge, applying this in everyday life.

In this regard, Buzan (1996) explains that the brain has four fundamental abilities, which are language, logic, analysis, and the ability to perceive, in relation to this categorization, it is possible to identify the form and elements with which each one operates, thus, the application of each skill can be fostered in the classroom to potentiate sequencing as the basis of the definition of the English learning process in the student, therefore, interpretation and construction are essential when designing learning activities, because it is about supporting a mental operation like sequencing that involves a vast number of tasks to be performed by the brain.

At this point, it is important to carry out a review of the approach made by Dr. Bloom (1971) who says, we must give importance to cognitive objectives within the sequential framework, where the objective of less complexity is knowledge, this means that followed by understanding and analysis in the learning process, will allow sequencing in an orderly manner and language learning will be more effective, this allows us to describe English language learning experiences from the development of cognitive processes in elementary school students.

Characterization of English learning in elementary school students

According to Dobe (2017), the description of the population in relation to the learning of English in primary school children in Colombia and the development of cognitive characteristics is exposed as follows; Children between 6 to 11 years of age develop certain cognitive characteristics such as the ability to think concretely through memorization, attention, processing, and sequencing, this allows them to transform information into learning and turn objectives into actions.

In relation to this the MEN (2016), says to know what are the mental operations in children at this stage of life, this will allow us to understand how elementary school children learn or what is the same to know how cognitive development occurs in other words, their ability to think and reason, in this sense the first operations are called concrete because the objects and facts about which they are thinking are physically present in front of the child, in this case learning in the English foreign language through of the teacher.

In this regard, according to the MEN (2006), the level of language required for primary school students in Colombia included in the curricular guidelines and in the Common European Framework of Reference for Languages (CEFR) corresponds to reaching level A1 in English as a foreign language, although it is expected that throughout higher education, students develop levels intermediate and advanced English, during basic education, educational institutions, within the framework of school autonomy, may propose to reach higher levels, if the regional and cultural characteristics of their environment allow it, taking as a reference point the basic standards of competences.

In this sense the MEN (2006) says, to allow an integrated and gradual development of the language through the various levels of education, the basic standards of competencies in foreign languages (English) are grouped into sets of grades, as well, from first to third and fourth to fifth, for each group of grades, what students should know and know how to do in the language at the end of their passage through said grade groups have been established and a specific level of performance has been defined that is comparable, both with the goals of the Ministerio de Educación Nacional, as with the levels of the Common European Framework (CEF).

On the other hand, Piaget's (1947) studies of cognitive development describe that this is a period in which the child's ability to think concretely develops, the development achieved also allows flexibility of thought, manifested by the possibility that mental operations are reversible, which facilitates, for example, the learning of modern languages such as English.

From this point of view, Piaget (1947), states that the child establishes with his environment the ability to use the cognitive skills of memorization, attention, processing, and sequencing, to learn in a concrete and organized way based on stable phenomena such as learning in a basic and consequently, in an analysis, it can be deduced that there must be a previous development of these skills in the child for optimal learning in basic English initially, this opens the way for us to describe the learning of the English language learning from the development of cognitive processes in elementary school students, in the next section.

English language learning from the development of cognitive processes in elementary school students

According to the MEN (2016), although the Spanish language is the official language of Colombia throughout the territory, apart from those to those of the ethnic groups in their territories, education and current life take place in an increasingly bilingual context Especially in elementary school students, learning English as a foreign language is required to investigate the cognitive process of students when learning it, since much of the knowledge generated in the world is published in languages other than Spanish, mainly in English, likewise, many of the cultural and entertainment options can be accessed if you are fluent in English.

Concerning this, the MEN (2016) says, since 1994, in the General Law of Education recognized the importance of learning a foreign language, starting in elementary school students, this to allow a correct cognitive development in language acquisition, thus, the definition of the compulsory areas of primary basic education was included: "Humanities, Spanish and foreign languages".

In this sense, in the Colombian context according to the MEN (2016), giving importance to cognitive development in elementary school students when they learn English, offers an education-oriented to learning a foreign language with more effectiveness, this means that, within bilingual schools, in many cases, cognitive stimuli are implemented and developed in students to strengthen and promote the foreign language in a balanced way, on the other hand, they have a lower proportion native teachers in this and more bilingual Colombian teachers.

English language learning experiences from the development of cognitive processes in elementary school students

According to Blázquez (2010), the role of the students in primary school represents the most important component within the process of teaching and learning the English language, since once it ends it will be them who can verify the learning results, through their level reached when using their communicative competence at the end of the school year, which supported the cognitive processes of each student.

In relation to this, Ordorica (2010) says, one of the main issues when teaching, is the role that cognitive processes play in learning the English language, they are who play a more active role since they will be responsible for the level of development of language skills and it is they who must give an indicator of teaching to the teacher in the classroom, this because the development of cognitive processes is not the same for each student, what is sought with this is to encourage the student to develop correctly in the language, giving priority to a practical command of English, which helps their communicative development.

Concerning this, according to Richards (2001), one of the classroom experiences regarding learning and cognitive processes when learning English in elementary school children, dates back to fourth through fifth-grade students who, according to the standard of learning, they carried out an activity in English class that had the purpose of making more functional and competent use of this foreign language, thus, the students elaborated a dialogue to then film and edit it to articulate the learning of new aspects.

In this sense, according to Richards (2001), this project works on different aspects of this language with students from 9 to 11 years old, an activity whose objective is to introduce children to English in a fun way through the play, in a way that becomes the protagonists of their learning, stimulating the cognitive functions of memory, attention, processing, and sequencing.

On the other hand, Garcia (2012) says that for primary students studying English as a foreign language, one of the most important learning environments is the classroom, within their learning process is developed and which will be the appropriate environment, this means that is necessary to provide conditions that will allow the students to communicate in the English language and practice it constantly with your classmates and teacher.

In this sense, according to Núñez (2011), to achieve that the student develops the communicative competences of the English language, the direct method of teaching (teacher-student) focused on listening and speaking can be adopted, this will allow the development of memory, attention, processing, and sequence, which makes the student not only capable of understanding texts but also being able to interact and communicate in a second language.

In relation to this methodology, Muñoz (2010) says that more emphasis should be given to communicative teaching, this is based on tasks, projects, etc., what is sought with this is to develop and take advantage of children's cognitive processes to develop their communicative skills and facilitate the English language learning.

To conclude, MEN (2006) says it was necessary to adopt a common language that established the performance level goals in the language through the different stages of the educational process, therefore, the Ministerio de Educación Nacional chose the " Marco Común Europeo of Reference for Languages Learning, Teaching and, Evaluation".

In relation to this the document developed by the European Council, which describes the teaching methodology according to the application levels of the language in elementary school children, it is therefore important to stimulate and develop the memorization, attention, processing and sequencing processes in children, for early learning and development of the foreign language teaching, English.

CHAPTER III

Methodology

Taking into account that the main objective of the present study is to determine the relationship of the cognitive processes of memory, attention, processing, and sequencing with the learning of the English language of elementary school students, documentary research is carried out, which consists of a monograph.

According to Baena (1985), documentary research is a technique that consists of the selection and compilation of information through the reading and criticism of documents and bibliographic materials, libraries, newspaper libraries, documentation, and information centers.

In this regard, it should also be emphasized that the present study is based on the qualitative research methodology consisting in descriptive data, based on people's own words, spoken or written, and observable behavior (Taylor and Bogdan, 2000), the materials used for this research have been bibliographic references provided by different authors referenced in the area of education, psychology, as resources to receive more information from specialist English teachers.

Secondly, in the methodology the scene and the people have been seen from a holistic perspective, the people, the scenarios or the groups are not reduced to variables, but considered as a whole, in this case, the groups analyzed within the school context they are seen as a whole (elementary students).

As strong points of the work are the use of different resources such as bibliographic references and testimonies, these resources are the facilitators to observe and understand the realities existing within the English classroom, in turn, in order to contrast the methodologies used in the sessions of foreign language in other courses.

CHAPTER IV

Results and Discussion

The results obtained through qualitative studies regarding the cognitive process of elementary school students when learning English as a foreign language allow us to analyze aspects that were raised in the objectives, vital for the development of the monograph, and make it possible to present a proposal or argumentative conclusion.

It is pertinent to clarify that all the bibliographic sources analyzed allow writing a document with detailed information regarding the cognitive processes (memory, attention, processing, and sequencing) by elementary students when they begin to learn English as a foreign language, this argued in detailed information from experts in the area of education and psychology, according to their professional and personal experience, considering to the following question:

Related to the question, how the cognitive processes of memory, attention, processing, and sequencing determine the English language learning in elementary students? in the information obtained from the analysis of the documents consulted it is evident that a significant part of the bibliographic study is knowing and managing another language by primary school children.

Regarding the learning of English by primary students and according to the objectives set, it could be said that students generally develop in written comprehension and development activities, in the documentation carried out, the most characteristic lack the use of English in the classroom is in terms of cognitive skills, or in other words, the teaching-learning relationship between the students themselves and the teacher.

Many teachers are unaware of the development of cognitive skills that are executed when learning English in the classroom, these are an important axis for the development of this language in children, it could be said that when learning English many of the students appreciate the stimulation in said skills since the level of English can improve if you work in a team and run classes, not for repetition but rather for helping, stimulating and learning with auditory, written, field and drawing methodologies, to name a few examples.

It could be said that the stimulation of cognitive skills is still a useful tool for teaching English, many of the students for the proper understanding of English during the different sessions or the teachers themselves use different strategies, such as the use of gestures, The use of digital whiteboards, images, videos, etc., the specialists on which this study is based, see the use of these strategies as appropriate since apart from facilitating understanding, they have a positive impact on the classroom environment. the monotony of the sessions and lead students to be participants in their learning, from which the following question arises:

What other factors does the teacher take into account in the development of the sessions? (Distribution of students, use of a digital whiteboard, etc.)

In response to this, it could be: Working in groups, carrying out projects, resources on the digital board, flashcards, practical activities (experiments or practices), visual activities with the board, distribution of students according to their characteristics and those of the activity to be carried out, materials, class lighting, silence, verbal and non-verbal language, review of previous or necessary content, identification of key vocabulary to facilitate the comprehension and realization of oral skills before written ones, meaningful learning, use of the digital whiteboard, etc.

CHAPTER V

Conclusions and Recommendations

Teachers are aware of the different existing methodologies regarding the teaching of foreign languages, although some are more current than others, each methodology to stimulate cognitive processes in the learning process responds to the needs of each age and consequently to the social demands, some of the methodologies analyzed refer to ancient times and this is reflected in the importance and power that the teacher had, however, in current methodologies the student is the important factor in the teaching-learning process.

There is no doubt that, for the optimal development of foreign language sessions and the development of cognitive processes in children, the selection of the appropriate methodology is essential, English teachers themselves are those who develop their methodology to enhance the students' acquisition of a better language level.

We cannot forget the importance of the teacher's English level, the teacher is the one who guides the class and the reference for the students, the students learn from the teacher himself and his level of English has a positive or negative impact on them, through the referencing carried out in the primary education stage, could say that the level reached by the students would be equivalent to an A1, however, there are gaps on the part of some teachers in pronunciation, since they do not reach the level of the pronunciation of a native in the English language.

On the other hand, the monotony has a negative impact on the students since they stop paying attention, are distracted, and lose interest in the subject since the activities and contents to be carried out are properly complex, however, the protagonist of the process of teaching-learning is the student.

In this regard the evolution of the student in their cognitive processes is an important factor therefore, it is not necessary to value only the comfort that the teacher supposes, but it is necessary to influence the learning of the students, for this reason, it is necessary to emphasize the need to use different types of mechanisms for teaching English.

In this sense would be appropriate to provide parents with courses on the adequate search for resources to stimulate the cognitive abilities of the students, at the same time it is appropriate to inform them about the risks associated with the inappropriate use of new technologies.

REFERENCES

Alarcón, Mazzoti, and Nicolini. (2005). Psychiatry.

https://books.google.com.co/books/about/Psiquiatr%C3%ADa.html?id=Gv11OgAACAA

J&redir_esc=y

Aharonson (2011). Attention as a cognitive process. https://www.cognifit.com/attention

Alonso, E. (1994). Cómo ser profesor y seguir siéndolo. Madrid: Edelsa.

Baena (1985). ¿Qué es la investigación documental? Definición y objetivos.

https://investigacioncientifica.org/que-es-la-investigacion-documental-definicion-y-

objetivos/

Bakerly. (2011). Cognitive Science: Memory and Learning. https://gsi.berkeley.edu/gsi-guide-

contents/learning-theory-research/memory/

Brem, Ran & Leone, (2014). Learning and memory.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4248571/

Bapi, R. (2016). A Unified Theoretical Framework for Cognitive Sequencing.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5114455/

Buzan, T. (1987). Use your Memory. Londres: BBC Publications.

Buzan, T. (1996). The Mind Map Book: How to Use Radiant Thinking to Maximize Your

Brain's Untapped Potential. Plume. Penguin Books. USA; 1996.

Brown, H. (1987). Principles of Language Learning and Teaching. N.J: Prentice Hall.

Burden, R. (2008). Psicología para profesores de idiomas. Enfoque de constructivismo social.

Madrid: Edinumen.

Bloom, B. (1971). Taxonomía de los objetivos de la educación: la clasificación de las metas

educacionales. Tr. Marcelo Pérez Rivas. CRAT. México; 1971.

Blázquez, A. (2010). Metodología de enseñanza del Inglés como segunda lengua. Innovación y

   Experiencias Educativas (30)

Caballero, M. (2017). Atenttion and Learning. https://neuroeducacionweb.net/atencion-y-

   aprendizaje/

Craik, F. (1975). Depth of processing and the retention of words in episodic memory. Journal of

   Experimental Psychology, 104: 268-94.

Compton, R. (2011). Cognitive Neuroscience. Belmont: Wadsworth.

Duran, M. (2003). La convivencia escolar, una tarea pendiente en los padres - Educrea.

   https://educrea.cl/la-convivencia-escolar-una-tarea-pendiente-en-los-padres/

Dakowska, M. (2001). Psycholinguistic bases of the teaching of foreign languages. Warszawa:

   PWN

Dobe, P. (2017). Características de los niños en primaria.

   https://sites.google.com/site/primariadobe/caracteristicas-del-curso

Flesher, I. (2013). Personalized cognitive training in unipolar and bipolar disorder: a study of

   cognitive functioning. Frontiers in Human Neuroscience.

   https://www.cognifit.com/attention

Fonollosa, J. (2015). Learning of Chunking Sequences in Cognition and Behavior

   https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004592

Faerch, C. (1984). Learner Language and Language Learning. Clevedon: Multilingual Matters.

Garcia (1997). La importancia de la atención en el aprendizaje. https://neurodoza.com/la-

   importancia-de-la-atencion-en-el-aprendizaje/

Garza, J. (2004). Valores para el ejercicio profesional - Informe Final Práctica. Pedagógica VII.

   https://hondutareas.blogspot.com/2017/09/informe-de-practica-profesional-docente.html

Giráldez, P. (2015). Principios de Enseñanza y Aprendizaje.

https://es.slideshare.net/peremarques/principios-de-aprendizaje

Garcia, I. (2012). Los diferentes roles del profesor y los alumnos en el aula de lenguas

extranjeras. Didacta, 21, (38)

Haimov, I. (2013). Cognitive Training Improves Sleep Quality and Cognitive Function among

Older Adults with Insomnia. https://www.cognifit.com/attention

Haworth, J. (2016). Cognitive processing: What it is and why it's important.

https://braincheck.com/blog/cognitive-processing-what-it-is-why-important

Herd, S. (2013). Strategic Cognitive Sequencing: A Computational Cognitive Neuroscience

Approach. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3722785/

Jiménez, R. (1997). La Memoria y el Aprendizaje del Inglés en el Aula.

https://cvc.cervantes.es/literatura/cauce/pdf/cauce20-21/cauce20-21_37.pdf

Khan (2015). Information processing.

https://lo.unisa.edu.au/mod/book/view.php?id=610988&chapterid=120209

Korczyn, A. (2013). Improving cognitive performance in elderly subjects using computerized

cognitive training. https://www.cognifit.com/cognition

Lúquez, A. (2005). Vivir en valores – Informe Práctica Pedagógica VII.

http://www.educando.edu.do/articulos/estudiante/vivir-en-valores/

Lupón, M. (2016). Procesos Cognitivos Básicos.

https://ocw.upc.edu/sites/all/modules/ocw/estadistiques/download.php?file=370508/2012

/1/54662/tema_4._procesos_cognitivos_basicos-5313.pdf

MEN (2015). La Educación en Colombia. https://www.mineducacion.gov.co/1759/articles-

356787_recurso_1.pdf

MEN (2016). Lengua Extranjera. https://www.mineducacion.gov.co/1759/w3-article-364450.html?_noredirect=1

MEN (2016). Lengua Extranjera. https://www.mineducacion.gov.co/1759/w3-article-364450.html?_noredirect=1

MEN (2006). Estándares Básicos de Competencias en Lenguas Extranjeras: Inglés. https://www.mineducacion.gov.co/1621/articles-115174_archivo_pdf.pdf

MEN (2006). Estándares Básicos de Competencias en Lenguas Extranjeras: Inglés. https://www.mineducacion.gov.co/1621/articles-115174_archivo_pdf.pdf

Merzenich, M. (1998). Plasticity of temporal information processing in the primary auditory cortex. Nat Neurosci, 1(8),727-31

Muñoz, A. (2010). Metodologías para la enseñanza de lenguas extranjeras. Hacia una perspectiva crítica. Revista Universidad EAFIT, 46, (159), 71-85

Neurobiol Learn Mem (2004). Memory systems of the brain: a brief history and current perspective. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4248571/

Neftci, E. (2015). Learning of Chunking Sequences in Cognition and Behavior. https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004592

Núñez, P. (2011). Metodología en la enseñanza de idiomas. Plurilinkgua, 7, (2)

Ortiz, T. (2009). Neurociencia y Educación. Madrid: Alianza.

Ordorica, D. (2010). Motivación de los estudiantes universitarios para estudiar Inglés como lengua extranjera. Leaa. Revista Electrónica. 3, (2)

Piaget, J. (1947). La Psicología de la Inteligencia. https://www.lsf.com.ar/libros/50/PSICOLOGIA-DE-LA-INTELIGENCIA-LA/

Quintero, M. (2012). Characterizing Cognitive Processes: Memory, Language and Thought in

      Students with Low and High Academic Achievement.

      https://revistas.usantotomas.edu.co/index.php/diversitas/article/view/115/156

Rabinovich, M. (2015). Learning of Chunking Sequences in Cognition and Behavior.

      https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004592

Richards, J. (2001). Approaches and Methods in Language Teaching. (2da. Ed.)Reino Unido:

      Cambridge University Press.

Salazar, A. (2019). Cognitive processes: What are they? Can they improve?.

      https://blog.cognifit.com/cognitive-processes/

Shatil, E. (2013). Does combined cognitive training and physical activity training enhance

      cognitive abilities more than either alone?. https://www.cognifit.com/cognition

Savalia, T. (2016). A Unified Theoretical Framework for Cognitive Sequencing.

      https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5114455/

Shukla, A. (2016). A Unified Theoretical Framework for Cognitive Sequencing.

      https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5114455/

Solana, A. (2012). Mejora de la atención y de áreas cerebrales asociadas en niños de edad escolar

      a través de un programa neurocognitivo. Participación Educativa, 47-58.

Serrano, M. (2016). Secuencia de acciones cognitivas.

      https://fido.palermo.edu/servicios_dyc/publicacionesdc/vista/detalle_articulo.php?id_libr

      o=271&id_articulo=6538

Taylor, S. J., & Bogdan, R. (1987). Introducción a los métodos cualitativos de investigación.

      https://uvadoc.uva.es/bitstream/handle/10324/8316/TFG-

      O%20365.pdf;jsessionid=BC4B5AD251112C1B12D74119B86558F3?sequence=1

Tokani, B. (2018). The Benefits of Cognitive Learning. https://gradepowerlearning.com/benefits-of-cognitive-learning/

Tracy, B. (2005). Eat that frog. 21 methods to increase productivity at work and combat the tendency to delay. Warszawa: MT Biznes sp. z o.o

Voss, M. (2010). Plasticity of brain networks in a randomized intervention trial of exercise training. https://www.cognifit.com/cognition

Villegas, C. (2016). Secuencia de acciones cognitivas. https://fido.palermo.edu/servicios_dyc/publicacionesdc/vista/detalle_articulo.php?id_libro=271&id_articulo=6538

William, J. (1890). Principios de Psicología. https://biblioteca.uam.es/psicologia/exposiciones/james/documentos/Cartela%20A4_principios.pdf