Using mind maps as a tool to teach English to explorers (children) in order to develop critical thinking

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USING MIND MAPS AS A TOOL TO TEACH ENGLISH TO EXPLORERS (CHILDREN) IN ORDER TO DEVELOP CRITICAL THINKING

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ABSTRACT

Several theories state that the brain works as a neural network, and based on such theories some cognitive theories have been proposed. Also, learning processes can be understood according to Bloom’s taxonomy. In order to achieve the main purpose of education, critical thinking, and representational tools are a very adequate tool. Mind maps are a representational tool that can be applied on lesson planning to enhance learning methods. In language learning, the application of communicative approach and total physical response can develop critical thinking on the student. Mind maps and these language learning methods can be used together in lesson planning in order to achieve the educational goals when teaching English.

Keywords: language learning, mind maps, conceptual pedagogy, cognitive neuropsychology.
INTRODUCTION

How do people learn? Or what happens in the brain when human beings acquire knowledge (names, dates, formulas) or aptitudes (to dance, to read, to talk)? These are questions that have been of great interest to specialists for centuries, one can track them even in ancient Greece. Recently, the discipline that has contributed the more in this way is the cognitive neuroscience. Today, scientists began to understand the development of young brains and the way mature brains learn.

The dialogue between neuroscientists and educators has been effectively mediated by cognitive psychology; witch places it into a very important spot, considering the different languages these two communities speak. As it is known, they (scientists and educators) don’t share a similar professional vocabulary, they work with different methodologies and their logic differs as well.

Cognitive psychology is the scientific study of mental events (Gagne E., 1993, p. 4). The early studies of the human mind began in ancient Greek with the philosophers. For example, Socrates (469-399 B. C.) postulated that one of the most important things to acquire significant experience in life is the formulation of questions, which he considered essential. His contribution has been decisive for the creation of the Socratic Method of Instruction, “in this method, the teacher guides the learner to the solution to a problem rather than simply presenting the solution” (Payne D., 1998, p. 10). The Socratic method of instruction is one of the basis of what is known as conceptual pedagogy, which is a new methodology developed by the International Foundation of Conceptual Pedagogy. In Colombia it is called Fundación Alberto Merani.

In the past two decades, a new interdisciplinary approach to the brain study emerged: the cognitive neuropsychology: this science, studies the cognitive processes by combining behavioral and psychological methods. “Scientists have employed two main
approaches for studying the mind. The behavioral approach relies on detailed measurement of how people perform tasks that require cognitive processes. The biological approach aims to understand how the brain and nervous system carry out cognitive processes. Cognitive neuropsychology uses both of these approaches for studying cognitive processes” (Payne D., 1998, p. 36).

In this work it is essential to take into account the cognitive psychology of school learning, because the goal of the research is to apply mind maps as representation tools in English teaching for children. It can be noticed that teachers have used cognitive psychology tools since there has been students, because they are continuously interested in the mind development of the student.

The important thing about representation is that it gives meaning to the objects and to the ideas. It does not matter if the representation is an external image, or a model or a mental state; they all have an important representational capacity and they always evoke something else. For example, a photograph isn’t just a shining paper with a spot of color, in certain way it contains a memory, it contains the place or the person that was photographed (Perner J., 1994).

*Representation* is understood the same way Joseph Perner does, he uses the definition given by Dretske: “I’ll understand as a representational system every system whose function is to indicate in which way things are related with another object, condition or magnitude”¹ (Dretske, cited by Perner J., 1994, p. 33). As we see, representation can be applied to every relation between a human being (and even an animal) and the environment. We will focus on human representation of knowledge; there are several types of knowledge representation, for example: concept maps, semantic maps, argument maps. In this paragraph concept maps will be reviewed in order to create a reference of differentiation with the Mind Maps.

¹ The definition is a translation from Spanish.
Mind maps and similar concepts of representation have been used for years in learning, visual thinking, memory and problem solving by scholars, psychologists, educators and others. In its graphic representation, they look like a diagram that represents tasks, ideas, concepts, arguments, or other items linked to a main idea or a main concept, that is located right in the middle of the map.

Given the advance of new methodologies that have been developed during the pass decades in learning processes and especially in language teaching, the purpose of this dissertation is to improve English teaching for children. For that matter mind mapping will be used as a tool for English teaching in infants.

This purpose takes importance when taking into account earlier methodologies that were used for children teaching, because the use of mind maps could upgrade creativity, helps to solve problems, facilitates comprehension and they also serve to study in a easier and quicker way and to improve memory capacities (among several other things).

All these advantages are of great importance to develop children’s capacities in order to obtain a significant learning. Let’s remember that teachers used to see kid’s minds as a blank slate (tabula rasa), “on which the record of experience is gradually impressed” (Brandsford J., 2000, p.79). Now is known that teaching strategies are the basis of a good learning, which means, a good mind development. That is why the objective of this research focuses on children, who are the future of the world.

Improvements in educational spaces are needed; and the teaching of a second language can develop special characteristics in the way a person sees and analyses the environment: for example McLaughlin states that “bilingual children become aware
that there are two ways of saying the same thing” (Cummings J., 1992, p. 3). This implies a special brain development in terms of cognitive neuropsychology.

Besides, mind mapping can be applied in educational environments for special purposes, as they are an excellent method to work with the memory and they can help synthesize a book or to take notes. For example, in order to synthesize a book mind maps: allow having a holistic chart of background knowledge; they use a lot less space lineal summaries; they offer a clear structure to organize knowledge; they allow relating the book content with the reader’s own knowledge, ideas and thoughts; they are powerful mnemonic tools to make structures and associated images; and, they reinforce memories and comprehension in a powerful, simple and fun way (Aros, 2006).

And for taking notes, mind maps present and advantage because: they help develop mind powers of classification, categorization and precision; they can free the mind capacities of attention and clarity; they allow joining complex data in an integrated way; they accomplish learning objectives in a quicker way; they create permanent registrations of easy access (Aros C., 2006).

So, in this dissertation mind mapping as a tool that can be either applied for curricular designs (lesson plans) and to create and propose learning exercises for children, is offered to English teachers. This learning exercises have added value because of their attractive presentation (graphics and colors) so children should be motivated into the mind mapping world, which would be very useful during their entire life.

According to the facts previously presented, the principal question which is the thread of this research is: **To what extend mind maps help to develop critical thinking in children aged 6 to 7 at George Washington School?** Along with question, this research is willing to respond these other ones, which are linked to the development and results
of the investigation: Are mind maps adequate to develop second language learning? What is the relation between mind maps and the improvement of English teaching? Is mind mapping a tool to present lesson plans? Is mind mapping a tool that can be applied for children learning? Which is the utility of mind maps in the development of learning exercises for children of six and seven years old? How can mind maps motivate children into learning processes?

The aim, mainly, is to implement mind mapping as a tool for teachers to create lesson plans and to develop learning exercises that can be applied to children of six and seven years old. In that process, mind maps will also be presented as a tool to develop second language learning. Also, it is expected that the relation between mind maps and the improvement of English teaching will be established. And additionally, the use mind mapping as a tool to present lesson plans, develop learning exercises and motivate learning processes in children

In order to present the results of this research, this text will be divided into three chapters: a theoretical framework, the methodology designed and the proposed tool.

The theoretical framework will focus on four relevant topics surrounding mind mapping as a learning tool. First of all, some facts regarding the brain will be presented in order to establish its relevance in learning processes. The role of neurosciences in learning will be explored according to the aparatos developed by Alexander Luria, a Russian author cited by Portellano, Christensen and Salguero Alcañiz. After presenting the brain theories, topics referring to critical thinking as a tool for learning development will be developed. Thus, Bloom’s taxonomy of learning will be used in order to show the importance of critical thinking when learning. The third topic, mind maps, will show some antecedents to mind mapping and other ways of knowledge representation, mainly the works of Novak and Buzan. Finally, the two proposed
teaching methods: total physical response and the communicative approach for children.

The second chapter will present the methodology designed to test the mind maps as a tool for teaching. Important facts such as the type of research, the target population, the duration, the instruments and the procedure will be exposed. Some data analysis will also be presented, to accompany the facts around the methodology design.

Finally, the third chapter will be the presentation of the proposal, and the most important results of all the process. Along with the lesson plan contents and methodologies some examples will be presented. Thus, the conclusions and advices relevant to this research will be shown along with the materials used in order to achieve the previously stated goals.
CHAPTER I. THEORETICAL FRAMEWORK

The objective of this theoretical framework is to justify the importance of Mind Maps into the learning experience of a second language for children. For this matter it is divided in four main sections: the brain, in which the neurological and linguistic cognitive functions are developed; critical thinking, in which this concept and its core skills are presented; Mind maps, in which their characteristics, steps of creation and uses are developed; and finally the last section refers to the process of learning a language (specially for kids) and it is divided in two sections: Total physical Response and Communicative approach.

1.1 THE BRAIN

As it has been shown along this work, the study of human mind is composed by two main sciences: the neurological ones and the psychological ones.

*The Modern Neuropsychology*

Through history it has been evidenced that the Man's interest in the study of itself has been marked by the duality that implied considering the human reality as a division; this conception has marked the study of the mind. The scientific advances at the end of the XIX century opened the doors to the transformation of the society's thought and the encounter of diverse professions opened the way to the emergence of the neurosciences.

In general terms, the neuro-scientific disciplines can be divided in two: the *behavioral* ones and those *not behavioral* or *biological*. While the non behavioral neurosciences are centered in a specific field of the nervous system, the behavioral neurosciences
propend to the "study of external manifestations of the nervous system operations as sexuality, dreams or memory"\(^2\) (Portellano J.A., 2007, p. 13). Basically the difference resides in that those not behavioral consider the study of the behavior like something unimportant, while the other ones center themselves in the study of the behavior, which they consider a derivation of the nervous functions.

For behavioral neurosciences, the nervous system is the origin of human behavior and therefore they consider that behavior is a result of it. Examples of these sciences can be: neuropsychology, cognitive neuroscience and neurology of the behavior; it is important to mention that the limits among these three branches are quite diffuses; still, Alexander Luria defined neuropsychology as a "kind of a neurophysiology of the superior levels" (Luria A., cited by Portellano J.A., 2007).

On the other hand, the "cognitive neuropsychology's goal is to know how cognitive normal processes work. For that, it studies people who have suffered brain damage but who, until the moment of the accident, were competent in the abilities that are object of study"\(^3\) (Salguero-Alcañíz M. P., et al., 2004, p. 1042).

Even so, historically it is attributed to Osler, in 1913, the use for the first time of the term neuropsychology. But it is not until years later with the contributions of other specialists of the topic (especially to Luria) that this science was consolidated into what is today. In fact, it was necessary to wait until 1962, for the Russian Alexander Luria to formulate the theoretical general basis of neuropsychology and its methodological apparatus. According to Luria:

\[
\text{The elaboration of these methods has transformed the new scientific discipline of neuropsychology into an important help for the diagnosis of the local brain injuries and it has even been taken as a scientific theory for the rehabilitation of the complex functions.}
\]

\(^2\) This is a translation from Spanish.
\(^3\) This is a translation from Spanish.
that have been affected by local brain injuries. For this matter, neuropsychology can be considered as an important complement of classic neurology. (Luria A., cited in: Christensen A.L., 1987, p.13).

The quick advances that neuropsychology had during the second half of the twentieth century, can be explained as a result of Second World War and the vast quantity of wounded it provoked (inside whom neuropsychologists could locate -thanks to bullets and splinters- specific injuries of the brain), thanks to this it was possible to do specific studies of the relationships between functions of cerebral areas and the behaviors that were directly related to them or those who were derived or interconnected with them. This way - and also as a result of the advances of modern neurosurgery – it was more and more affordable the study of the local injuries of the brain; notwithstanding this is a field that continues formulating countless conjectures.

The study of the relationships between local functions of the brain and their derived behavior has as objective the qualification of the possible defects that condition alterations in the normal behavior of patients.

To be able to carry out the qualification of the defect, which is important for neuropsychological research, we should reach a detailed knowledge of the physiological structure of the psychic activity in question (perception or action, speak, reading or writing, solution of problems, etc.) (Christensen A.L., 1987, p.23)

Now, it should be kept in mind that it is of great importance the topic of the qualification of the defect, since it is not only about pointing at it, but rather to be able to study it, in order to analyze it in terms of evaluate and correct or prevent it- as it is the case -, for which the psychological tool is used.

The neuropsychology opens the door to the study of mental and physiologic structures of psychological processes. By means of this relationship, scholars had reached the
conclusion that a local brain injury - that affects an entire functional system - won't be reflected in one psychological function; on the contrary it will affect some of the psychological processes of this system (at the time that will leave intact other ones).

In words of Luria:

Injuries in the parietal regions of the left hemisphere cause dysfunctions in the space orientation, in the arithmetic and in the understanding of complex grammatical structures (including prepositions); meanwhile, there are not affected the music’s perception and the language and it is also conserved the capacity to execute kinetic succesive melodies. It is the opposite in the cases of lesions of the temporary regions in which we discover dysfunctions in the understanding of the language and in the operations that include successive processes, while the simultaneous outlines (space) remain intact (Luria A., mentioned in: Christensen A.L., 1987, p.24).

Current neuropsychology has two basic suppositions: first, the need of the interdisciplinary research and second, the renovated mark of the development concept, the existence of early cognitive competitions in the newly born ones and, their importance in the later cognitive development.

This interdisciplinary research should keep in mind the interaction of the genes, the neuropsychological structure and the social context. In synthesis, the neuropsychological research of development is in charge of the relationships between the development of brain and the cognitive development; for this reason nowadays becomes necessary to leave aside the old separation proposed between learning and development.

*The brain’s linguistic system*

As it is known, the ability of humans to speak and to understand speech requires an enormous amount of brain resources. These resources have to manage information
about many thousands of words and many syntactic constructions and their interconnections, not just to one to another but to meanings and to the structures that allow us to recognize the sounds of speech and to move the muscles of our mouths to produce speech. This complex combination of brain structures can be called the brain's linguistic system. It allows a person not only to talk and to understand speech but also to read and write. It also gives us the power to think as well as the power to acquire new knowledge and abilities and to learn how to speak in the first place.

Understanding that the brain has areas of specialization has brought with it the tendency to teach in ways that reflect these specialized functions. For example, research concerning the specialized functions of the left and right hemispheres has led to left and right hemisphere teaching. Recent research suggests that such an approach does not reflect how the brain learns, or how it functions once learning has occurred. To the contrary, "in higher vertebrates (humans), brain systems interact together as a whole brain with the external world" (Elman J. et al, 1997). Learning by the brain is about making connections within the brain and between the brain and the outside world.

Until recently, the idea that the neural basis for learning resided in connections between neurons remained speculation. Now, there is direct evidence that when learning occurs, neuro-chemical communication between neurons is facilitated, and less input is required to activate established connections over time. New evidence also indicates that learning creates connections between not only adjacent neurons but also between distant neurons, and that connections are made from simple circuits to complex ones and from complex circuits to simple ones.

For example, exposure to unfamiliar speech sounds is initially registered by the brain as undifferentiated neural activity. Neural activity is diffuse, because the brain has not learned the acoustic patterns that distinguish one sound from another. As exposure
continues, the listener (and the brain) learns to differentiate among different sounds and even among short sequences of sounds that correspond to words or parts of words. Neural connections that reflect this learning process are formed in the auditory (temporal) cortex of the left hemisphere for most individuals. With further exposure, both the simple and complex circuits (corresponding to simple sounds and sequences of sounds) are activated at virtually the same time and more easily.

As connections are formed among adjacent neurons to form circuits, connections also begin to form with neurons in other regions of the brain that are associated with visual, tactile, and even olfactory information related to the sound of the word. These connections give the sound of the word meaning. Some of the brain sites for these other neurons are far from the neural circuits that correspond to the component sounds of the words; they include sites in other areas of the left hemisphere and even sites in the right hemisphere. The whole complex of interconnected neurons that are activated by the word is called a neural network.

In early stages of learning, neural circuits are activated piecemeal, incompletely, and weakly. It is like getting a glimpse of a partially exposed and very blurry photo. With more experience, practice, and exposure, the picture becomes clearer and more detailed. As exposure is repeated, less input is needed to activate the entire network. With time, activation and recognition are relatively automatic, and the learner can direct her attention to other parts of the task. This also explains why learning takes time. Time is needed to establish new neural networks and connections between networks. This suggests that the neural mechanism for learning is essentially the same as the products of learning is a process that establishes new connections among networks and the new skills or knowledge that are learned are neural circuits and networks.
According to networks a procedure to speak and understand what people hear is important to take into account the following characteristics:

- To speak a word that is read, information must first get to the primary visual cortex. From the primary visual cortex, information is transmitted to the posterior speech area, including Wernicke's area. From Wernicke's area, information travels to Broca's area, then to the Primary Motor Cortex.

![](image)

- To speak a word that is heard, information must first get to the primary auditory cortex. From the primary auditory cortex, information is transmitted to the posterior speech area, including Wernicke's area. From Wernicke's area, information travels to Broca's area, then to the Primary Motor Cortex.
Taking into account what has been stated in the lines above, it is important to keep in mind that mental processes related to learning are executed mainly by both hemispheres of the brain. Critical thinking, for example, is best developed in the learner when his mental processes respond to both hemispheres. In the next section, the importance of critical thought in learning processes will be presented.

1.2. CRITICAL THINKING

In a basic level, most of the people know that “critical thinking means: good thinking, almost the opposite of illogical, irrational, thinking” (Facione P., 2009, p.2). Yet, many other important facts can be stated on that matter.

One thing all authors agree with is that one of the bases of critical thinking is the questioning. And for that matter we can remount to Socrates and this is where dialogue gains importance. According to Socrates, having an idea was similar to having a baby. He identified himself with a midwife; since his job was to help others give birth to their own ideas. He did so by asking questions, with each question the idea was shaped by his interlocutor. The final product was a precise idea that could be explained by its owner. This method is known as Maieutic or Socratic Method.
Now, it is important to say that critical thinking concept is a main subject inside cognitive instruction. Basically this concept refers to the evaluation a person makes over its own reasoning about what to believe or what to do, and how to apply these judgments into different situations in which the person is in (Lopez Ramirez, 2005, p. 82).

Below, some of the skills of critical thinking are listed (Lopez Ramirez, 2005, p. 82):

- Distinguishing between verifiable facts and value statements
- Distinguishing between, information, statements or relevant and irrelevant reasons
- Determine the factual precision of the statements
- Determine the credibility of the source
- Identify the arguments or ambiguous statements
- Identify unconfirmed inferences
- Detect tendencies or prejudgments
- Identify logical fallacies
- Recognize logical inconsistencies in a line of reasoning
- Determine the strength of an argument or statement

Critical thinking can be also understood under Bloom’s taxonomy. In Benjamin Bloom’s Taxonomy for Educational Objectives: Handbook 1, the cognitive domain (1956), the author lists three domains: cognitive, affective and psychomotor. Though Bloom and his coworkers never wrote about the psychomotor thoroughly it must be mentioned. Each of this domains show how a learner relates to what he is learning. Thus, the cognitive domain is about knowing, that is, what the student knows or will know about what he learns. The affective domain is about attitudes and feelings, that is, the attitude of the student towards what is learned.
Regarding critical thinking, the relevant domain is the cognitive. Bloom’s taxonomy divides the cognitive domain in six levels: knowledge, comprehension, application, analysis, synthesis and evaluation. “What is taxonomic about the taxonomy is that each subsequent level depends upon the student’s ability to perform at the level or levels that precede it” (Eisner E., 2000, p. 3). Thus, critical thinking, strongly associated with evaluation, can only be achieved when the student is competent in the previous levels.

The Evaluation level, according to Bloom’s taxonomy, consists in “judging the value of material based on informed personal values/opinions resulting in an end product without a distinct right or wrong answer” (Bloom B., 1956). This is precisely the aims of critical thinking. Though, it is really important to develop this concept in depth.

In order to do so, Facione P. (2009) poses various questions: “is critical thinking the same as creative thinking, are they different, or is one part of the other? How do critical thinking and native intelligence or scholastic aptitude relate? Does critical thinking focus on the subject matter or content that you know or on the process you use when you reason about that content?” (Facione P., 2009, p. 2).

According to Facione P. (2009), there are six core critical thinking skills: Interpretation, Analysis, Evaluation, Inference, explanation and self-regulation.

**Interpretation** “is to comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria” (Facione P., 2009, p. 5).

**Analysis** “is to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information or opinions” (Facione P., 2009, p. 5).
Evaluation is “to assess the credibility of statements or other representations which are accounts or descriptions of a person’s perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation.” (Facione P., 2009, p. 6).

Inference is “to identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to educe the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation.” (Facione P., 2009, p. 6).

Explanation is to be “able to present in a cogent and coherent way the results of one’s reasoning. This means to be able to give someone a full look at the big picture: both “to state and to justify that reasoning in terms of the evidential, conceptual, methodological, criteriological, and contextual considerations upon which one’s results were based; and to present one’s Critical Thinking: What It is and Why it Counts 2009 update Page 7 reasoning in the form of cogent arguments.” (Facione P., 2009, pp. 6-7).

Self-regulation means to “self-consciously to monitor one’s cognitive activities, the elements used in those activities, and the results educed, particularly by applying skills in analysis, and evaluation to one’s own inferential judgments with a view toward questioning, confirming, validating, or correcting either one’s reasoning or one’s results.” (Facione P., 2009, p. 7).

As it has been shown, these critical thinking skills must be developed in order to achieve the educational goals. The authors previously mentioned, agree in the following: only through questioning and visualization is possible to develop critical
thinking. One of the most accurate tools to perform those tasks (questioning and visualization) is the mind map.

1.3. MIND MAPS

According to cognitive psychology the mind is described as an information process thanks to the transformation of mental representations which form of duration may be specified (Cfr. Perner J., 1994, p. 15). Thus, representations are the contents of the mind, although further explanations on this matter will be withdrawn. For example, a photography of Jane can be understood in two senses: first of all, the photography itself which can be called representational image; the second is Jane as a content of the image which can be called representational content. The image in this example is in a representation relation with the content, and thus, “a representation is something that keeps a representation relation with something else” (Perner J., 1994, p.32). In other words, representations – as contents of the mind – are means by which objects can be recalled. Ideas, concepts, names or images are representations.

In that case, and following cognitive psychology, all of what is learned is learned as a representation. According to Piaget “representation begins when sense data is assimilated not towards really perceptible elements, but merely evoked” (Piaget J., quoted by Perner J., 1994, p. 58). Thus, all mind contents that are called knowledge are then understood as representations, since that which is known is most generally evoked rather than directly perceived.

Furthermore, according to some theories of the mind, thought can be represented as a network, a neural network; such is the view of connectionists. However, connectionist theories only relate to relations between neurons. Nonetheless, the idea of mental structures is close to them, since some state that “the mind is a neural net; but it is also

4 Translated from Spanish.
a symbolic processor at a higher and more abstract level of description" (Garson J., 2008).

Thus, the mapping of concepts and thoughts through drawings and connectors can be seen as analogous to the way the brain works. This are the principles that support the idea that this tool is the most appropriate for learning or teaching. Such approach to the relation between the brain and the learning processes is generally associated to mental structures or models of thought.

Taking some of these facts into account, Joseph Novak created the concept map as a technique which shares some elements with the mind map. According to Novak, concept maps are a strategy, a method and a schematic resource. Ontoria exposes these three aspects and refers to the concept map as a cognitive technique:

**First. Strategy:** “We will try to give examples of simple strategies, but potentially powerful, to help students learn and to help teachers organize the materials that are object of learning.”

**Second. Method:** “The construction of concept maps (...), which is a method to assist students and teachers in grasping the meaning of the materials to be learned”

**Third. Resource:** “A concept map is a schematic resource to represent a set of conceptual meanings included in a structure of propositions”. (Novak J., quoted by Ontoria A., 1997, p. 31)

The resemblance between concept maps and mind maps is undeniable, and thus this characterization can also be translated to mind maps.

Nevertheless, concepts maps and mind maps are not the same, even though they share very similar characteristics. The main difference between concept maps and

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5 Translated from Spanish.
mind maps is related to the structure. Concept maps attend a hierarchy defined by the importance of concepts. Thus, for example, the concept <pedagogy> will always be placed on top of the concept <teaching techniques>, since teaching techniques are included in the field of pedagogy. In a mind map, however, such hierarchy is not necessary and placing the central idea of the mind map over a more general concept is not a problem. Back with the previously mentioned example, in a mind map about <teaching techniques> a relation to <pedagogy> can be established in any direction; thus, the emphasis of <teaching techniques> wouldn’t be lost and the mind map can still include the relevance of the concept <pedagogy>.

In the present case, mind mapping while taking into account the functions of the brain, as they have been exposed above, is nothing less than maximizing the use of a tool. If a mind map is analogous to the function of the brain, then it is the most accurate way to represent our thoughts, and develop them to whatever the result we expect is.

**Definition and Characterization**

According to Buzan’s definition (2004), a mind map is an analysis method that allows to organize easily the thoughts and to use the maximum mental capabilities. Mind maps are the easiest way of manage the information flow between the human brain and the environment, because it is the most creative instrument for taking notes and for planning your thoughts (Buzan T., 2004, p. 28).

All mind maps have something in common: their natural structure that it is composed by branches that radiates from a central image, and the use of colors, symbols, drawings and words, all of them joint by a similar set of ideas (Buzan T., 2004, p. 29).

A mind map is similar to a city map. The center of the mind map corresponds to the center of the city and it represents the main idea, the principal streets represent the
principal thoughts and the secondary streets represent the secondary thoughts and so on. The drawings and special forms that in urban cartography represent attractions, in mental cartography represent particularly interesting ideas (Buzan T., 2004, p. 29).

In Tessa Woodward’s words (1991):

You start with a central concept in the middle of the page. You don’t need to box it in, though I find I often do. The major ideas relating to the central title are written in capital letters on branches radiating from the center. Smaller ideas relating to these main branches go on sub-branches or twigs. When you’ve made a mind map, you’ll start to see connections between branches that perhaps you hadn’t thought of before. Then you can reorganize, draw arrows or use color to highlight the links (Woodward T., 1991, p. 21).

Mind maps stimulate the thought and the creative nature of actions; they allow having a general vision of problems, they facilitate the discovery of the best solution; in short, they allow those who use them to be no longer mere recipients of information and to change that passive attitude (Montes Z., 2002, p. 49).

That is why mind maps design allows creative mind to expand itself through an organized structure of interconnected thoughts. By using them we can simultaneously work with the two modes of thought: lineal and spatial and we can get the maximum benefit of our brain potential (Montes Z., 2002, p. 49).

Now, the creation of a mind map is very simple, all you need is: a blank sheet of paper, colored markers or crayons, your brain and creativity (Buzan T., 2004, p. 33). Listed below there are some of the things that mind maps can help you with (Buzan T., 2004, p. 34):

- Enhance creativity
- Save time
♦ Solve problems
♦ Concentrate
♦ To organize in a better way the thoughts
♦ To clarify ideas
♦ Approve tests with better results
♦ To study in a quicker way
♦ To recall
♦ To have a global vision of things
♦ To plan
♦ To communicate

Here is an example of a mind map, about mind maps:


Even though the map seems to be messy and simple, it is not so. A mind map is not merely a collage of ideas and lines. In order to get the full uses of mind maps in learning, some steps must be followed. Next such steps are explained in detail.

*Steps To Create a Mind Map*

Tony Buzan presents seven steps on order to create a mind map (Buzan, 2004, pp. 50-53):

1. Begin in the center of the blank sheet. Because it gives the brain the freedom to express in any direction and in a more natural way.
2. Draw in the center of the sheet an image that represents your main idea. Because an image can talk for a thousand words and it maximize your imagination. A central image is the focus of interest, the focus of attention, and besides it facilitates the concentration and wakes up the brain.

3. You should use lots of colors. Because they stimulate the brain. Like images, colors provide vitality, freshness and fun to your mind maps. Besides they provide positive energy to your creative thought.

4. Beginning on the central image radiate to the outside the key words and the most important ideas related to the subject. Connect all the ideas through lines or branches, because the brain works through associations; if you link all your ideas through lines or branches increasingly thinner as you go away, they would be easier to recall.

5. Trace curved lines instead of straight. Because straight lines get your brain bored. Asymmetric and curved lines are more attractive and they caught the attention of your eyes with ease.

6. Use only one key word by line. Because only one keyword provides the map with more flexibility and strength. Each word or image has a multiplier effect and has itself a wide range of associations and connections. When you use keywords separately you give each one of them more freedom to radiate new ideas and thoughts. Sentences shut down this multiplier effect.

7. Use lots of images. Because every image is worth a thousand words.

When these steps are thoroughly followed, the mind map will be an excellent learning tool. They will prove useful in many areas and to diverse objectives; some of them are listed next.
Uses of Mind Maps

As a result of their versatility, mind maps can be used in an almost unlimited range of functions. Mind mapping enhances the most important aspects of information throughout a personal style that uses various tools on order to activate the brain.

One of their principal uses is directly related to the teaching-learning process, as the main objective of the educational system. Because they present comparative advantages among other ways of studying, mind maps allow developing creativity and avoiding stress, by facilitating the comprehension of the studying material (Montes Z., 2002, p. 69).

Mind maps face learners with both easy and difficult stuff, in order to explode at maximum natural capabilities as they expand the complex brain net of intelligences. And teachers, can use them as a valuable resource for lesson plans both in the design and the exposition to students (Montes Z., 2002, p. 69).

Now, it is presented an example of a mind map used to the design of a lesson plan, that is, as a tool for teachers:
With a mind map like this, the objective is to create a lesson plan that the teacher can use to teach his students. In this case, English as a foreign language is that which the teacher aims to teach. In order to see in depth how this tool can be used for that purpose, it is relevant to review some facts about learning languages.

1.4. LEARNING LANGUAGE

A child's brain can't be interpreted in the same way an adult brain is. Children cognition appears in a brain that is still in development and as a consequence of this single difference their thinking and learning methods differs significantly from the adults. Cognitive sciences have turn their faces into learning issues and in the past decades there have been several researches that propose new methods and theories and the application of these advances must be examined for each brain stages.

For example, in past decades, learning children were expected to “listen what was being taught, to note what has been said, to comprehend, to retain, to recall, and finally to represent in the form of examinations, essays, class response and so on. Throughout this schooling, it has been assumed that the various processes –recognition, understanding, memory, articulation- are somehow “natural” and that the child simply needed to have the information presented in a reasonable manner to be able to absorb and use it” (Buzan T., 1978, p. 39).

At the present time, it is known that learning process is something quite complex and the only way to improve yesterday’s problems is “to approach education in a new manner” (Buzan T., 1978, p. 40).
Advances in the neurological sciences have provided a whole new overview of human cognition and for that matter; today the teacher focus must be on giving the student the right tools and directions to acquire a significant learning. This means (among other things), that the student is been guided to obtain for himself the answers instead of just memorize it. The application of these theories has proved that children are in fact capable of develop and comprehend complex ideas.

Armed with new methodologies, psychologists began to accumulate a substantial body of data about the remarkable abilities that young children possess that stands in stark contrast to the older emphases on what they lacked. It is now known that very young children are competent, active agents of their own conceptual development. In short, the mind of the young child has come to life. (Brandsford J., 2000, pp. 79-80).

One of the major inputs on this subject was made by the Swiss psychologist Jean Piaget. He stated that human mind can be described in terms of complex cognitive structures and he focused his work in infants. “He concluded that the world of young infants is an egocentric fusion of the internal and external worlds and that the development of an accurate representation of physical reality depends on the gradual coordination of schemes of looking, listening, and touching” (Brandsford J., 2000, 80).

English teaching for children means to develop bilingual skills. In the literature there is a controversy about the relationship between bilingualism and cognitive functioning. For example, McLaughlin states that “It seems clear that the child who has mastered two languages has a linguistic advantage over the monolingual child. Bilingual children become aware that there are two ways of saying the same thing” (McLaughlin, cited by Cummins J., 1986, p. 3).

First of all, young learners will be defined as “those who are learning a foreign or second language and who are doing so during the first six or seven years of formal schooling. In the education systems of most countries, young learners are between the ages of
approximately five and twelve. Many young language learners can be called bilingual. Bilingual learners are those learners who learn two (or more) languages to some level of proficiency” (McKay P., 2005, p. 1).

Now, it is really important to keep in mind that “there is a big difference between what children of five can do and what children of ten can do. Some children develop early, some later” (Scott W. and Ytreberg L., 2004, p. 1).

There is no way of telling what a child should or should not do in certain ages, but here are presented some general characteristics of what five to seven years old can do at their own level (Scott W. and Ytreberg L., 2004, pp. 1-2):

♦ They can talk about what they are doing
♦ They can tell you about what they have done or heard
♦ They can plan activities
♦ They can argue for something and tell you why they think what they think
♦ They can use logical reasoning
♦ They can use their vivid imaginations
♦ They can use a wide range of intonation patterns in their mother tongue
♦ They can understand direct human interaction

There are several other characteristics that are not listed here, but in general these are the most important. Now, referred to the language learning,

There are many similarities between learning one’s mother tongue and learning a foreign language in spite of the differences in age and the time available. So far nobody has found a universal pattern of language learning which everyone agrees with. Much seems to depend on which mother tongue the pupils speak and on social and emotional factors in the child’s background […] the period from five to ten sees dramatic changes in children, but we cannot say exactly when this happens because it
is different for all individuals. The magic age seems to be around seven or eight. At around seven or eight, things seem to fall into place for most children and they begin to make sense of the adult world as we see it (Scott W. and Ytreberg L., 2004, p. 4)

By keeping this in mind, it takes importance to develop adequate tools for English teaching to children. Taking into account proposes for knowledge representation derived from cognitive psychology, mind maps could be an excellent tool for this purpose. And that it is why this research focuses on the application of mind maps in the English teaching for children.

In this paper, two main approaches to learning language will be taken into account: Asher’s total physical response and Krysen’s communicative approach. According to the theories previously exposed, these two are the most appropriate for learning, since each will focus on one of the hemispheres of the brain, improving the achievement of educational goals. On the other hand, the use of mind maps will give relevant results in their application.

1.4.1. TOTAL PHYSICAL RESPONSE

The Total Physical Response (TPR) is a language teaching method that searches for the coordination between the speech and the action; “it attempts to teach language through physical (motor) activity” (Rodgers T. y Richards J., 1986, p. 87).

The TPR was developed by James Asher, a professor of psychology of the San Jose State University of California. He states that “most of the grammatical structure of the target language and hundreds of vocabulary items can be learned from the skillful use of the imperative by the instructor” (Asher J. cited by Rodgers T. y Richards J., 1986, p. 88). Asher focuses on the imperative because he considers that the verb in imperative is the central
linguistic motif “around which language use and learning is organized” (Rodgers T. y Richards J., 1986, p. 88).

The core structure of Asher’s proposition is that language is composed by abstractions and nonabstractions, and he believed that learners could construct a detailed cognitive map without recourse to abstractions:

Abstractions should be delayed until students have internalized a detailed cognitive map of the target language. Abstractions are not necessary for people to decode the grammatical structure of a language. Once students have internalized the code, abstractions can be introduced and explained in the target language (Asher J. cited by Rodgers T. y Richards J., 1986, p. 88).

But this statement conduces to its questioning, because “for example, are tense, aspect, articles, and so forth, abstractions, and if so, what sort of “detailed cognitive map” could be constructed without them?” (Rodgers T. y Richards J., 1986, p. 88).

Now, the main objective of the Total Physical Response is to acquire proficiency in oral skills at the beginning level. In Rodgers and Richards’s words:

Comprehension is a means to an end, and the ultimate aim is to teach basic speaking skills. A TPR course aims to produce learners who are capable of an uninhibited communication that is intelligible to a native speaker. Specific instructional objectives are not elaborated, for these will depend on the particular needs of the learners (Rodgers T. y Richards J., 1986, p. 91).

Nowadays, among with the ultimate advances in education theories and language acquisition, TPR is not considered a good learning of a second language method by itself. However, it has been supported by those who make emphasis in the role of comprehension for this matter. “Krashen (1981), for example, regards provision of comprehensive input and reduction of stress as keys to successful language acquisition,
and he sees performing physical actions in the target language as a means of making input comprehensible and minimizing stress” (Rodgers T. y Richards J., 1986, p. 97).

Despite which Asher himself stated that Total Physical Response should be used in association with other educational methods and techniques (Rodgers T. y Richards J., 1986, p. 97). And thus, the second technique suggested is the communicative approach.

1.4.2. COMMUNICATIVE APPROACH FOR KIDS

The communicative approach in language teaching starts from the statement that language is communication. The goal of language teaching is to develop what Hymes (1972) referred to as “communicative competence”. (Richards J. and Rodgers T., 1986, p. 69)

A linguistic theory needs to be seen as a general theory that incorporates communication and culture. “Hymes’ theory of communicative competence was a definition of what a speaker needs to know in order to be communicatively competent in a speech community. In Hymes’ view, a person who acquires communicative competence acquires both knowledge and ability for language use for respect to:

1. Whether (and to what degree) something is formally possible
2. Whether (and to what degree) something is feasible in virtue of the means of implementation available
3. Whether (and to what degree) something is appropriate (adequate, happy, successful) in relation to a context in which it is used and evaluated
4. Whether (and to what degree) something is in fact done, actually performed, and what its doing entails” (Richards J. and Rodgers T., 1986, p. 70)
Now, there are seven basic functions that language performs for children learning their first language:

1. The instrumental function: using language to get things
2. The regulatory function: using language to control the behavior of others
3. The interactional function: using language to create interaction with others
4. The personal function: using language to express personal feelings and meanings
5. The heuristic function: using language to learn and to discover
6. The imaginative function: using language to create a world of the imagination
7. The representational function: using language to communicate information
   (Richards J. and Rodgers T., 1986, pp. 70-71)

And here, it is very important to state that “learning a second language was similarly viewed by proponents of Communicative Language Teaching as acquiring the linguistic means to perform different kinds of functions” (Richards J. and Rodgers T., 1986, p. 71).

The theoretical base of Communicative Language Teaching has the following characteristics:

1. “Language is a system for the expression of meaning
2. The primary function of language is for interaction and communication
3. The structure of language reflects its functional and communicative uses
4. The primary units of language are not merely its grammatical and structural features, but categories of functional and communicative meaning as exemplified in discourse” (Richards J. and Rodgers T., 1986, p. 71)

According to William Littlewood (1981), the communicative approach should be divided in pre-communicative activities and communicative activities. Such distinction can be explained as follows:
Pre communicative activities are divided in structural and quasi-communicative activities. Structural activities aim towards the knowledge of the linguistic system not as a whole but through parts (i.e. grammar, vocabulary). Many of these activities can be found on textbooks. The quasi-communicative activities are called so since “take account of communicative as well as structural facts about language” (Littlewood W., 1981, p. 86).

In communicative activities the learner has to use his pre-communicative knowledge and skills. There are also two kinds: Functional communicative activities and social interaction activities. For the first, the learner “is placed in a situation where he must perform a task by communicating as best as he can” (Littlewood W., 1981, p 86). For the second, “the learner is also encouraged to take account of the social context in which communication takes place” (Littlewood W., 1981, p. 86).

Now, these activities are not totally separated, they must be sequenced in order to fulfill a successful communicative approach. When the first activities occur their function is to prepare the learner for the second activities. Yet, in some cases, when the communicative activities are taking place, they can serve as motivation for subsequent pre-communicative activities. In other words, both activities – pre-communicative and communicative – are part of the learning process; they must serve each other on the final goal: the learner ability to communicate using the language he is learning.

Another distinction between the two moments of the communicative approach is the focus on both. For the pre-communicative activities, the focus is on the linguistic forms. In communicative activities “the production of linguistic forms becomes subordinate to higher-level decisions, related to the communication of meanings” (Littlewood W., 1981, p. 89).
According to what has been exposed, the role of the teacher would also change when using the communicative approach. “The concept of teacher as ‘instructor’ is thus inadequate to describe his overall function. In a broad sense, he is a ‘facilitator of learning’...” (Littlewood W., 1981, p. 92). His duties must be executed while keeping some general objectives in mind.

**General objectives of the communicative approach:**

1. An integrative and content level (language as a means of expression)
2. A linguistic and instrumental level (language as a semiotic system and an object of learning)
3. An affective level of interpersonal relationships and conduct (language as a means of expressing values and judgments about oneself and others)
4. A level of individual learning needs (remedial learning based on error analysis)
5. A general education level of extra-linguistic goals (language learning within the school curriculum) (Richards J. and Rodgers T., 1986, p. 73).

The specific objectives cannot be clearly defined because this communicative approach assumes that the teaching process will reflect the specific needs of each learner, these needs could be in writing, reading, talking or listening.

As a general conclusion, the communicative approach can be considered as an approach rather than a method.

According to the theories presented in this theoretical framework, a conclusion can be stated. The learning processes must be oriented to develop critical thinking on the learner. In order to achieve such goal, it is important to take into account that the brain is the conjunction of two hemispheres, and each attends processes the other doesn’t. However, those two hemispheres don’t do their processes separately; they work as a unit, even if
they deal with different contents. For this reason, it is not enough to use learning methods focused on one or the other hemisphere, they must aim both and their different contents, but work as a unit.

The two language learning approaches reviewed here are sufficient to keep both hemispheres working, attending the facts stated above. Yet, the way to guide such approaches can be a hard task for the teacher. The mind maps prove useful for the teacher who expects to keep both approaches, never losing the main goal in learning: critical thinking developed on the learner.

The following images can illustrate these facts:
CHAPTER II. METHODOLOGICAL DESIGN

2.1. TYPE OF RESEARCH

The present research is of exploratory – descriptive type, with a qualitative focus. It is descriptive because it is not a statistical measurement; and that is why its purpose is to improve English teaching through mind maps.

It is important to notice that the same object under investigation is the investigation tool; this special situation is what gives meaning to the research, because we can apply this tool to obtain results: this tool (Mind Maps) is what helps reviewing children’s learning advances.

This is a preliminary study, which is why its results can’t be extrapolated to the universe under study. On the contrary the purpose is to set the bases for the realization of future studies about the topic.

2.2. TARGET POPULATION

The population at which this investigation will focus is: English teachers and children of the George Washington School of Bogotá, specifically kids between six and seven years old. We have chosen this range of kids because one of the aims of the investigation is to provide the community with a service, and these kids needed English classes on Saturday.

George Washington’s School is located in Bogotá city in a Locality called: Usaquén.
Usaquén is one of the twenty localities into which Bogotá is divided. Its population represents 6.7% of Bogotá’s inhabitants. According to the last census\(^6\) (2005), the 97.3% of 5 year-old population's and more knows how to read and write.

The next two graphics are: one with School attendance and the second related to the educational level, according to the data provided by the same census (2005):

\[\text{SCHOOL ATTENDANCE}\]

\[\text{Per cent age}\]

<table>
<thead>
<tr>
<th>Age</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 to 5 years</td>
<td>79.4%</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>93.8%</td>
</tr>
<tr>
<td>11 to 17 years</td>
<td>88.8%</td>
</tr>
<tr>
<td>18 to 26 years</td>
<td>44.0%</td>
</tr>
</tbody>
</table>

\(^6\) Performed by DANE
In this research the objective is to apply mind mapping as a tool for children of six and seven years old of Usaquen’s Locality, who are taking English courses through the Community Extension Program that is developed in the George Washington School. This program is being conducted by students from La Salle University; and it is important to state that the choice of the children’s age corresponded to the community needs.

It is also important to state that the George Washington School is located in a neighborhood called San Antonio which corresponds to a socio economic stratum of 2 and 3.

2.3. DURATION

The project is inscribed within the framework of pedagogical practices of the Licenciatura en Lengua Castellana, inglés y francés from La Salle University in the year of 2008. During this period several observation diagnosis were held, from where a proposal of some lesson plans with the objective of developing critical thinking through mind maps came out.
2.4. INSTRUMENTS

With the use of some diagnosis instruments described ahead it was seen that the population did not have enough English reading and writing skills. Such situation lead to restructuring the method in which such language was taught and setting out the mind maps alternative as a organization strategy of English teaching aimed for teaches and children from the George Washington education institution.

2.5. PROCEDURE

This research began in November, 2008. Regarding the pedagogical practices, following the requirements demanded by the program of Licenciatura en lengua castellana, ingles y francés from La Salle University, the need for a different approach to teaching English was foreseen. Such practice took place at George Washington School, on some community services where the objective is providing some education to the population that surrounds the school’s neighborhood.

The lack of alternative methods for teaching English, that is one which could take into account the distance between the population and the English language due to the socioeconomic condition, and the results obtained from the diagnosis instruments already mentioned served as the cradle where the idea was born. Following such idea, and after some research, the idea of developing a tool to assist English teaching through critical thinking was embraced.

Since the goal of this study is to develop a tool for English teaching for children and to help teachers present their lesson plans, the investigation is based on secondary sources and their interpretation and analysis.
The sources recollection was made in the libraries of the Javeriana University, National University and in the library: Luis Angel Arango.

2.6. DATA ANALYSIS

There are a total of 18 children receiving these classes. Nine of them are six years old and the other nine are seven.

All of them attend elementary school, half of them first grade, the other half second grade.

All children are still learning how to read and write in Spanish, older ones can do so with some difficulties.
All children in First grade have very similar English knowledge, they can use simple commands. The children in second grade can handle vocabulary referred to colors. However, they lack family management and other bases according to their age and schooling.
CHAPTER III. PROPOSAL

3.1. GENERAL DESCRIPTION

The proposal focuses in the learning of English through critical thinking, rather than using repetitive exercises or similar methods. It is intended as an alternative to traditional methods of teaching English. Teachers can trust the mind map method to build lesson plans, since it will keep the essential topics ordered and it will help him check in which instance of his class he needs to reinforce or how to do so.

According to the authors mentioned in the theoretical framework, critical thinking is the most important ability to reach self-learning. Languages are better learned when self learning techniques are applied. Taking these two facts into account, there was a chance to try this different focus during the pedagogy practices.

Furthermore, the school did not have an educational program aimed for the surrounding population. With the development of the practices aimed towards the children of such community a two faced task was executed. First of all, the neighbors of the school had a chance to get close to English – this population has limited access to quality English teaching – and thus a social task is executed; on the other hand, the application of this new techniques in children with a very low English level became the perfect scenery to test the effectiveness of the method.

3.2. COMPOSITION

This proposal, called Using mind maps as a tool to teach English to explorers (children) in order to develop critical thinking, focuses on the most recent approaches to learning and mind functions. Mind maps can be used to enhance the representations – the content of
the mind – and use them correctly to serve specific purposes. Thus, teachers are able to use mind maps in order to keep his teachings organized and the goals constantly tracked for further enhancement.

The main goal expected through the use of mind maps as a teaching tool is the development of critical thinking in the student. Thus, his learning of the language will be enhanced by himself and the processes related to critical thinking. Self-learning is the most important feature of critical thinking when it comes to learning languages. Thinking about the foreign language using tools from the native language is one of the most important tools when learning.

This proposal is well supported by the theories presented in the theoretical framework. The recent studies regarding the brain and its two hemispheres show that for a more complete use of the brain both hemispheres should be stimulated, and the use of both graphical and conceptual representations is a good way to do so. Critical thinking is then possible if both hemispheres work together; it is also the final step of learning processes according to Bloom’s taxonomy. Critical thinking is the most accurate way to teach self-learning, and thus, the goal of the lessons.

The tool suggested in order to achieve those two goals are mind maps, since they are graphical and full of conceptual content, making them a good tool for both hemispheres. Mind maps are a very efficient way to organize lesson plans and keep track of the learning process. Finally, through mind maps focused on language learning, and critical thinking as the goal, the lessons should work around total physical response and developing a communicative approach with children. These two emphases should be enough to develop critical thinking through mind maps.

3.3. OBJECTIVES
The aim is to implement mind mapping as a tool for teachers to create lesson plans and to develop learning exercises that can be applied to children of six and seven years old.

3.4. LESSON PLAN CONTENTS

Lesson Plans are designed as mind maps, since they are tools that will assist the teacher keep track of the lesson and its execution. Each has a central topic which is close to the students’ daily activities, for example, what he would find in the house or the neighborhood, among others.

Next, there is a list with the contents of each lesson plan, a scan of the related mind map will be shown.

LESSON: My body

OBJECTIVE: To identify body parts

ACTIVITIES:
- Use movement
- Drawings
- Distinguish different parts of the body

MIND MAP:
LESSON: My Family

OBJECTIVE: To describe his/her family members

ACTIVITIES:
- Sing imagery
- Associating
- Filling out some family trees

MIND MAP:
LESSON: My House

OBJECTIVE: To identify the parts of their own house

ACTIVITIES:
- Develop a guide to distinguish the parts of the house
- Draw the house to classify things in the house

MIND MAP:
LESSON: Toys

OBJECTIVE: To identify toys

ACTIVITIES:
- Naming their toys
- Naming their partners toys
- Create their own toy store with their toys

MIND MAP:
LESSON: Clothing

OBJECTIVE: To learn the names of clothes

ACTIVITIES:
- Distinguishing
- Visualizing
- Check vocabulary

MIND MAP:
LESSON: School

OBJECTIVE: To identify the elements inside the classroom

ACTIVITIES:
- Play lottery in order to recognize elements
- Playing with a puzzle and naming each part that they find

MIND MAP:
LESSON: Shapes and Colors

OBJECTIVE: Describe shapes and reinforce the concept of colors

ACTIVITIES:
- Painting
- Fill in the color chart
- Recognize shapes

MIND MAP:
COLORS AND SHAPES
LESSON: The Neighborhood

OBJECTIVE: The student names neighborhood places.

ACTIVITIES:
- Asosiations: to point neighborhood places.
- To make a brainstorm about places in a neighborhood.

MIND MAP:
All these lesson plans attend the methodology that will be explained next.

3.5. METHODOLOGY

The lesson plans cover the following elements: Overview, Objectives, Methodology and Activities/Procedures. Each of these elements plays a significant role in the learning process. The overview sets the main purpose of the lesson, and thus the thread to be followed. The objectives allow the teacher to keep track of the goals expected from the student. Methodology should generally aim either critical thinking through a communicative approach or through a total physical response. Activities should always be
created and executed taking the overview, the objectives and the methodology into account.

Classes should start with some introductions on behalf of the teacher, setting the overview and sharing it with the students. Once a common ground has been set up the communicative approach can begin, and thus, each activity should be developed with constant communication regarding the activity. The main focus should be the children’s approach to the language and its elements.

3.6. EVALUATION SYSTEM

Evaluation must follow Bloom’s taxonomy as criteria, that is: knowledge, comprehension, application, analysis, synthesis and evaluation. Thus, the final result of evaluating should be part of the critical thinking process. Self-evaluation should be constant and definitive in the learning processes.

3.7. EXAMPLES

**TOPIC: My Family**

The class began with an introduction to the constituent members of the family, teaching material was used in the form of photocopies and billboards with pictures alluding to the conventional structure of the family.

The focus of the activity was to describe and identify family members using basic vocabulary in English.

During the activity the students put into practice important cognitive skills such as observation, classification and synthesis ability and speech, drawing and painting the family tree. During the exercise, illustrations of animal families were shown to the children, all of which led them to greatly relate it to their personal life.
Students were very comfortable doing the exercises, since they were concentrated, with encouragement to participate and a spirit of responsibility that led them to conclude the whole exercise as they are proposed.

The product of the activity was recorded into their notebook of activities. Although, at first, the volume of work assigned to them seemed high, it was found that the time period was not long enough. This is asserted because the drawings of students referred to all their family, devoting much time to the development of this activity exhibiting the obvious affection towards their families.

In Annex 2 is some of the material used during the activity.

**TOPIC:** Colors and Shapes

The activity began delivering material to children in working copies where figures such as these appeared:

1. Triangles
2. Squares
3. Rectangles
4. Circles

Children were presented with different colors to be used in order to fill in the figures.

In the exercise it was identified that the children were very motivated, because the figures corresponded to elements that they recognized, the same happened for the different colors. It was perceived that the children loved to work independently in this type of exercise but they take a long time.

In Annex 7 is some of the material used during the activity.
As it has been already stated, in order to develop critical thinking on the learner goal, it is important to take into account that the brain is the conjunction of two hemispheres, and each attends processes the other doesn’t. However, those two hemispheres don’t do their processes separately; they work as a unit, even if they deal with different contents. For this reason, it is not enough to use learning methods focused on one or the other hemisphere, they must aim both and their different contents, but work as a unit.

Mind maps are representational tools that take into account the consideration that the brain is a neural network. Thus, mind maps can represent easily a cognitive process and the method to guide such process. Lesson planning and execution can be enhanced with the use of mind maps, since they represent the brain cognitive processes.

Furthermore, the language learning approaches presented here are sufficient to keep both hemispheres working, attending the facts stated above. And thus, mind maps prove useful for the teacher who expects to keep both approaches, never losing the main goal in learning: critical thinking developed on the learner.

Mind maps work as guides and assist planning or even improvisation in some circumstances. But what is relevant about the use of mind maps is that it keeps the reason of each activity clear for the teacher, allowing him to keep full attention on the learners work and progress.

Activities listed in the lesson plans are aimed either to a communicative approach or a total physical response method of teaching/learning. Thus, taking into account the importance of critical thinking, the student will emulate for himself an atmosphere related
to English, making it easier for him to learn the language with the guidance of the teacher and later by himself.

3.9. PEDAGOGICAL SUGGESTIONS

It is very important to note the various steps in the lesson plan and the importance of each step by itself. The overview sets the guideline that the lesson will follow, and thus, it must be presented to the student in relation with his context. The closer the student is to the overview the easier the objectives will be reached.

Remember that the objectives must answer the overview and encourage critical thinking in the student. When the objective is accomplished by the student the result should end in the construction of knowledge on behalf of the student, rather than simply answering questions correctly. Thus, the revision of objectives should be accompanied with self evaluations and constant communication between the teacher and the student.

The methodology should take into account either a total physical response method or the communicative approach, since it is through them that critical thinking is best developed. The creation of the mind map is a good clue to what the methodology should follow. Thus, it is important to widen the mind regarding the topic or the lesson, in order to have a more complete panorama of the activities to be developed and the corresponding methodology. Also, methodology should be thought of attending the overview and the objectives, in order to keep the lessons focused and not confuse the students.

Activities should answer to the main questions that motivate the lesson itself. After the development of each activity is important to socialize the results and keep attention on how the students are responding to the lesson, regarding the objectives. Socialization is very important since it is in this step where the communicative approach takes place and critical thinking is best developed.
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Cambridge University Press


APPENDIX

ANNEX 1. MY BODY: ACTIVITIES AND LESSON PLAN.
<table>
<thead>
<tr>
<th></th>
<th>Body Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hair</td>
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<tr>
<td>2</td>
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</tr>
<tr>
<td>3</td>
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</tr>
<tr>
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<td>5</td>
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<tr>
<td>17</td>
<td>Knees</td>
</tr>
<tr>
<td>18</td>
<td>Toes</td>
</tr>
</tbody>
</table>
BODY PARTS

- Head
- Eyes
- Mouth
- Shoulder
- Arm
- Hand
- Knee
- Foot
ANNEX 2. MY FAMILY: ACTIVITIES AND LESSON PLAN.
MY LESSON PLAN

OBJECTIVES
Activity about family members
by using pictures and photographs

OBJECTIVE
To describe family members

METHODOLOGY
1. Students will practice
2. Colorful thinking
3. Sticks to develop
4. Learning changing
5. Presenting presentation

ACTIVITY AND PROCEDURE
- Draw some persons names
- To find out brother
different lines

MY FAMILY

MOTHER
FATHER
MOTHER
SISTER
SLIDER
BROTHER
This is my home

1. Cut out page 55 and paste.
2. Write the name of each room and say it.

bedroom
Objective: Develop a guide in order to distinguish the parts of the house.

Activities:
- To draw their house and classify the different parts.

Methodology:
- Students will practice and apply critical thinking skills to develop distinguishing and visualizing.
# Annex 4. My Toys: Activities and Lesson Plan

## Clothes and Toys

1. Ask and check ✓.

<table>
<thead>
<tr>
<th></th>
<th>Bathing suit</th>
<th>T-shirt</th>
<th>Bike</th>
<th>Doll</th>
<th>Skates</th>
<th>Books</th>
<th>Board Games</th>
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<tbody>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Father</td>
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<tr>
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</tbody>
</table>
1. Match and color.

- airplane
- bear
- train
- doll
- ball

2. Answer.

- How many dolls do you see? ________________.
- How many bears do you see? ________________.
3. Sing.

I want a car
and a train,
an airplane, some music
and skates.
And I want dolls, bears,
puppets and clowns,
a bathing suit and a new T-shirt.

4. Play. Roll the die and say.

Example:
Name toys.

Say the words.

Doll, train,...
Activity: Create their own toy store with their toys.

Activities: Name their toys and also their partners' toys.

Procedure:
- Develop critical thinking through activities: Recalling
### Where Do You Wear It?

Write the word that tells where you wear each thing.

<table>
<thead>
<tr>
<th>head</th>
<th>feet</th>
<th>hands</th>
<th>body</th>
</tr>
</thead>
<tbody>
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</table>

#### Try This!

**One More** Think of one more thing to wear on each part of your body.
4   Just for fun!

Play the up and down game

1. Throw the disk.   2. Answer where is.../are...?
1. Complete the words and color.

- pencil case
- sharpener
- door
- glue
- eraser
- wall
- ruler
- desk
- window
- notebook
- school bag
- board
3 School days

1. Color and write.

   School days
   I go to school on Monday.
   On Tuesday I take my books.
   On Wednesday I have art class.
   On Thursday I use my pen.
   On Friday I erase the board.
   Don’t forget to close the door.

2. Read and say the rhyme.
Walk This Way

Justina walked from her home to the library. She walked 6 blocks to get there. She rested when she was halfway there. Where do you think she rested?

How do you know?

Try This! Find Another Way Trace another way that Justina can go from her home to the library.
Production:
Play with a puzzle and name each part that they will find in the process.

Objective:
To identify the elements inside the classroom.

Activities
The students will play lottery and also they are going to recognize the elements.

Materials
Use different pictures around the classroom in order to identify them and also named.
Find all the triangles and color them green.
Find the squares below and color them blue.
Find all the rectangles and color them orange.
Trace the circles on the left. Draw a line to connect the ones that are the same size.
Paint a Rainbow

You can mix red, blue, and yellow to make other colors. Mix paints to find out what colors you need to make purple, green, and orange. Then fill in the color chart. Use the colors you made to complete the rainbow.

COLOR CHART:
- purple = _____ + _____
- green = _____ + _____
- orange = _____ + _____

Try This! Learn More Read a book to find out more about rainbows.
My Lesson Plan

Methodology
- Have students draw and color amongate shapes
- Discuss shape and refresh

Activities
- Paint
- Fill out shapes

Objectives
- Identify shapes and colors
- Describe shapes and refresh the concept of colors
ANNEX 8. MY NEIGHBORHOOD: ACTIVITIES AND LESSON PLAN.