


**TASK BASED LEARNING APPLYING MIND MAPS TO IMPROVE  
LEXICAL COMPETENCE OF 8<sup>TH</sup> GRADE STUDENTS IN  
LICEO FEMENINO MERCEDES NARIÑO**

**William Eduardo Rendón Lara**

**A dissertation submitted in partial fulfillment of the requirements for  
the Bachelor's degree in Spanish and foreign languages**

**Directed by: Nelson Mellizo Guaquetá**

**UNIVERSIDAD PEDAGÓGICA NACIONAL  
FACULTAD DE HUMANIDADES  
DEPARTAMENTO DE LENGUAS  
LICENCIATURA EN ESPAÑOL Y LENGUAS EXTRANJERAS  
TRABAJO DE GRADO  
BOGOTÁ, D.C.  
2015**

 UNIVERSIDAD PEDAGÓGICA NACIONAL <small>CONSEJO NACIONAL DE LA EDUCACIÓN SUPERIOR</small>	<b>FORMATO</b>	
	<b>RESUMEN ANALÍTICO EN EDUCACIÓN – RAE</b>	
<b>Código:</b>	<b>Versión: 01</b>	
<b>Fecha de Aprobación:</b>	<b>Página 2 de 3</b>	
<b>1. Información General</b>		
<b>Tipo de documento</b>	Trabajo de Grado	
<b>Acceso al documento</b>	Universidad Pedagógica Nacional. Biblioteca Central	
<b>Título del documento</b>	Task Based Learning applying Mind Maps to improve EFL lexical competence of 8 <sup>th</sup> grade students in LIFEMENA. (El aprendizaje basado en tareas aplicando Mapas Mentales para mejorar la competencia léxica en EFL de estudiantes de grado 8° del Liceo Femenino Mercedes Nariño)	
<b>Autor(es)</b>	Rendón Lara, William Eduardo	
<b>Director</b>	Nelson Mellizo Guaqueta	
<b>Publicación</b>	Bogotá, Universidad Pedagógica Nacional, 2015. 101 p.	
<b>Unidad Patrocinante</b>	Universidad Pedagógica Nacional	
<b>Palabras Claves</b>	COMPETENCIA LÉXICA EN EFL, MAPA MENTAL, APRENDIZAJE SIGNIFICATIVO, APRENDIZAJE BASADO EN TAREAS, ADQUISICIÓN DE VOCABULARIO, DELETREO, USO DE ADJETIVO Y FUNCIÓN DE PALABRAS EN INGLÉS.	
<b>2. Descripción</b>		
<p>La competencia léxica es esencial para el desarrollo de las cuatro habilidades lingüísticas de los estudiantes de inglés como lengua extranjera. Por tal motivo, debe ser desarrollada en los primeros niveles de enseñanza del idioma, pues de su solidez depende que los educandos puedan desempeñarse eficazmente en diversidad de contextos e intenciones comunicativas. Tales razones motivaron el diseño y la aplicación de la presente propuesta, dirigida a verificar la efectividad del Mapa Mental como una estrategia cognitiva para mejorar la competencia léxica de las estudiantes de grado 8 del Liceo Femenino Mercedes Nariño, en Bogotá D.C.</p> <p>Dos enfoques pedagógicas fueron aplicados en la implementación de este proyecto. El primero de ellos, el aprendizaje significativo, permitió que las estudiantes aprendieran vocabulario a través de un juego de memoria usando el Mapa Mental como herramienta didáctica. En segundo lugar, el aprendizaje basado en tareas proveyó un esquema para verificar el impacto del mapeo en aspectos como errores de deletreo y problemas gramaticales, tales como la colocación del adjetivo en inglés o la omisión de uno de los elementos de la estructura de la frase simple, sujeto – verbo-complemento.</p> <p>Los resultados del estudio validaron las propiedades cognitivas del Mapa Mental como herramienta eficaz para mejorar la competencia léxica en dos aspectos: la adquisición de vocabulario en las fases</p>		

logográfica y alfabética y el mejoramiento en el uso del adjetivo y el uso de los tres elementos de la frase simple. Sin embargo, los resultados de su aplicación en problemas de deletreo no demostraron una mejora significativa.

### 3. Fuentes

- Ausubel, D. (1978). *The Psychology of Meaningful Verbal Learning*. New York: Grune & Stratton.
- Buzan, Tony. (1974). *Mind Mapping*. Retrieved from <http://www.tonybuzan.com/about/mind-mapping/>
- Burns, A. (2010) *Doing Action Research in English Language Teaching*. New York: Routledge.
- Creswell, John. (2003). *Research Design. Qualitative, Quantitative and Mixed Approaches*. Nebraska: University of Nebraska.
- Duppenthaler Peter. *Vocabulary acquisition: the research and its pedagogical implications*.
- Meara, Paul. (1996). *The dimensions of lexical competence*. Retrieved from <http://www.lognostics.co.uk/vlibrary/meara1996a.pdf>
- Nunan, David. (2004). *Task Based Language Teaching*. Oxford: Cambridge.
- O'brien, Elizabeth. (2009). *Sentence fragments*. Retrieved from <http://www.english-grammar-rev.com/sentence-fragments.html>
- Pua, Carol. (2011). *Using Mind Mapping as a tool to teach English Vocabulary for Elementary Students*. Hong Kong.
- Sagor, Richard. (2010). *Guiding School Improvement with Action Research*. U.S.A. Harvard.

### 4. Contenidos

Este documento se encuentra dividido en siete capítulos, a saber:

Capítulo 1. Contexto de investigación: En este apartado se presenta una descripción general del contexto en el que se desarrolló la investigación y la población intervenida. Luego se definen aspectos esenciales de una investigación de este tipo, tales como la formulación del problema, la justificación del estudio, la pregunta de investigación y los objetivos, general y específicos.

Capítulo 2. Marco teórico: Este capítulo hace un recuento de los resultados de investigaciones previas llevadas a cabo en el campo de la competencia léxica, en contextos académicos locales e internacionales. De la misma manera, se presentan los conceptos teóricos y las teorías de los autores en los que se enmarca el desarrollo de este proyecto.

Capítulo 3. Diseño de investigación: Aspectos relevantes para el desarrollo de esta investigación son detallados en este capítulo, tales como el tipo de investigación, las variables de estudio, la muestra seleccionada y el proceso de recolección de datos, entre otros.

Capítulo 4. Propuesta pedagógica: Este capítulo describe el enfoque pedagógico aplicado, definiendo aspectos prácticos para su implementación como las etapas, el syllabus, tiempos y procedimientos en general.

Capítulo 5. Análisis de datos: en este capítulo, se registran los resultados obtenidos a partir de la implementación del plan aplicado. Estos son analizados de acuerdo a las categorías de análisis y los indicadores definidos en el capítulo 3.

Capítulo 6. Conclusiones: considerando cada objetivo de investigación y una reflexión sobre los resultados obtenidos, se presenta en este capítulo una síntesis a manera de conclusión del estudio.

Capítulo 7. Sugerencias y recomendaciones: El desarrollo de este proyecto dio origen a interrogantes de carácter académico e investigativo y a sugerencias y propuestas a ser tenidas en cuenta por la el Liceo Femenino y la Universidad Pedagógica Nacional, manifiestas en este ítem.

## 5. Metodología

La investigación acción comprende siete etapas, desarrolladas en este proyecto como se explica a continuación:

- Selección de tema: El diagnóstico aplicado en el grupo de estudiantes permitió identificar la necesidad de mejorar su competencia léxica en aspectos como la adquisición de vocabulario, el deletreo y algunos usos gramaticales de las palabras.
- Identificar la pregunta problema: En este estudio, la pregunta problema establece relación entre tres elementos a saber: el *Mapa Mental*, como una herramienta para mejorar la *competencia léxica* en el marco pedagógico del *aprendizaje basado en tareas*.
- Establecer el marco teórico: Este apartado define conceptos claves para el presente estudio. Entre ellos están la competencia léxica, el Mapa Mental y sus propiedades cognitivas como representación externa.
- Recolección de información: De acuerdo al syllabus, durante seis meses, los estudiantes desarrollaron actividades y produjeron evidencias escritas en material específicamente diseñado para recolectar información pertinente a cada uno de los indicadores previamente establecidos.
- Análisis de Datos: Cada uno de los indicadores de las tres categorías es analizado para determinar el impacto del Mapa Mental en la consecución de los logros esperados.
- Reporte de resultados y desarrollo de nuevas actividades: Los hallazgos pueden ser tomados en cuenta para diseñar nuevos planes en la escuela, usando el mapa Mental como una herramienta para mejorar la competencia léxica en inglés como lengua extranjera. Esta última fase es el punto de inicio de nuevas investigaciones sobre el proceso de enseñanza aprendizaje de este idioma.

## 6. Conclusiones

- El diagnóstico en competencia léxica de las estudiantes permitió determinar sus dificultades en tres aspectos: adquisición de vocabulario, ortografía o deletreo, uso del adjetivo en inglés y frases carentes de uno de los elementos básicos, sujeto – verbo – complemento.
- La aplicación del mapa mental generó impactos positivos en las fases logográfica, alfabética y colocacional, pero no en la fase ortográfica.

<ul style="list-style-type: none"> <li>Las herramientas diseñadas para este fin fueron pertinentes, pues permitieron recolectar y analizar la información requerida, en aras de evaluar el impacto del mapa mental en las categorías y los indicadores pre establecidos</li> </ul>			
<b>Elaborado por:</b>	William Eduardo Rendón Lara		
<b>Revisado por:</b>	Nelson Mellizo Guaqueta		
<b>Fecha de elaboración del Resumen:</b>	24	11	2015

**Note of acceptance**

---

---

---

---

---

---

---

---

---

Signature

---

Signature

---

Signature

Bogotá D.C., November 2015

**Dedicated to**

**My mother,  
who was suffering a hard disease  
by the time I wrote this paper,  
which has painfully changed  
my perspective on life**

**Crisis can be a unique opportunity to change your path.**

**To explore new opportunities, to help you become the person you were meant to be.**

**But sometimes the price is too high...**

## Acknowledgments

This dissertation would not have been possible without the help of so many people in so many ways. Their contributions are sincerely appreciated and gratefully acknowledged. However, I would like to express my deep appreciation and indebtedness particularly to the following:

Prima facie, I am grateful to the Great Almighty, the creator of knowledge and wisdom, for his immeasurable love and his silent but real presence along my life.

Secondly, I place on record, my sense of gratitude to my advisor, teacher Nelson Mellizo, for his support, guidance and commitment with this project. Along these terms, this paper has improved thanks to his careful readings and comments; the final result is the document you have in your hands in this moment.

Besides my advisor, I would like to thank teacher Melany Rodriguez for her insightful comments and encouragement, but also for the hard question which incited me to widen my research from a new perspective.

My sincere thanks also goes to my teachers at Universidad Pedagógica Nacional, as they guided me to achieve my dream and, frequently, inspired me to love teaching.

Special mention deserves the Liceo Femenino Mercedes Nariño, its teachers and students, as they allowed me to develop this project, sharing times and places in this adventure of learning.

Last but not the least; I would like to thank my family, my relatives, friends and others who in one way or another shared their support, morally, financially and physically. Thanks a lot.



## Contents

	<b>Page</b>
Introduction .....	12
Chapter 1: Context research .....	13
Introducing LIFEMENA: Liceo Femenino Mercedes Nariño .....	13
Statement of the problem .....	20
Diagnosis .....	20
Justification .....	25
Research question .....	27
General objective .....	27
Specific objectives .....	27
Chapter 2: Theoretical framework .....	28
Review literature .....	28
Theoretical framework on lexical competence .....	34
Mind Map as a cognitive tool to improve learning .....	38
Innovative and didactic uses of Mind Map in teaching .....	42
Chapter 3: Research methodology .....	44
Action Research Method .....	44
Study design .....	46
Study variables .....	48
Sample design .....	48
Data collection .....	49
Chapter 4: Pedagogical proposal.....	51
Pedagogical framework .....	51

	10
Meaningful learning: A better option than learning by hearth .....	52
Task based language teaching (TBLT) .....	55
Stages .....	58
Planning Model .....	60
Syllabus .....	60
Chapter 5: Data analysis .....	62
Data management .....	62
Data analysis .....	65
First category: Vocabulary acquisition .....	66
<i>Indicator n° 1: Students associate correctly a word and an image .....</i>	<i>66</i>
<i>Indicator n° 2: The student remembers the word associated to an image .....</i>	<i>70</i>
Second category: Spelling problems .....	72
<i>Indicator n° 1: The student writes correctly a word associated to an image .....</i>	<i>73</i>
<i>Indicator n° 2: The student writes correctly the words beforehand learned in a text...76</i>	<i>76</i>
Third category: Function of words .....	80
<i>Indicator n° 1: The student writes sentences using a correct noun - adjective order..</i>	<i>80</i>
<i>Indicator n° 2: The student writes sentences including the three elements</i>	
<i>in the structure of a simple sentence: subject – verb – complement .....</i>	<i>84</i>
Chapter 7: Summary Results .....	91
Chapter 8: Conclusions and General suggestions .....	94
References .....	99
Appendix .....	103

### Figures, tables and appendix list

	Page
Figure 1 – 1 Façade of Liceo Femenino Mercedes Nariño main building .....	13
Figure 1 – 2 Results of first diagnostic on vocabulary .....	22
Figure 1 – 3 Graphic organizers drawn by student n° 15 .....	23
Figure 1 – 4 Statistics of spelling evaluation .....	24
Figure 2 – 1 Health Mind Map .....	40
Figure 3 – 1 Action Research cycle .....	45
Figure 3 – 2 Check list to register results of memory games .....	49
Figure 4 – 1 Meaningful Learning process .....	53
Figure 4 – 2 Schematic representation of subsumtion .....	54
Figure 4 – 3 Task Based learning phases .....	56
Figure 4 – 4 Example of a lesson plan .....	61
Figure 5 – 1 Relationship between categories, indicators and phases in this research.....	65
Figure 5 – 2 Mind Map memory game .....	67
Figure 5 – 3 Results of First indicator of vocabulary acquisition category .....	68
Figure 5 – 4 Results of Second indicator of vocabulary acquisition category .....	70
Figure 5 – 5 Writing activity n° 1. Student n° 7 .....	73
Figure 5 – 6 Writing activity n° 2. Student n° 10 .....	74
Figure 5 – 7 Results of First indicator of spelling problems category .....	75
Figure 5 – 8 Writing evaluation n° 3. Student n°3 .....	76
Figure 5 – 9 Writing activity n° 4. Student n°5 .....	77
Figure 5 – 10 Results of Second indicator of spelling problems category .....	77

Figure 5 – 11 Example of using Mind Map to prepare a grammar topic. Student nº 1 .....	80
Figure 5 – 12 Writing activity nº 5. Student nº7 .....	81
Figure 5 - 13 Writing activity nº 6. Student nº12 .....	82
Figure 5 – 14 Writing activity nº 7. Student 2 .....	85
Figure 5 - 15 Use of Mind map to compare grammar structures and use of modals .....	86
Figure 5 - 16 Writing activity nº 7. Student nº 10 .....	87
Table 2 – 1 List of reviewed thesis .....	30
Table 3 – 1 Study variables .....	48
Table 3 – 2 Instruments to recollect information and dates to develop activities .....	50
Table 5 – 1 Vocabulary for the first memory game with Mind Maps .....	67
Table 5 – 2 Vocabulary for the second memory game with Mind Maps .....	67
Appendix 1 Inventory of Centro de Recursos en Ingles .....	103
Appendix 2 Encuesta de actitudes en el proceso de enseñanza/aprendizaje de lengua inglesa .....	104
Appendix 3 Consent form .....	106
Appendix 4 Syllabus .....	107

### **Abstract**

Lexical competence is an essential ability for the attainment of the four language skills in EFL. It requires to be developed in the first levels of learning a foreign language as this competence enables learners to cope with different communicative intentions in particular environments. For this reason, the current study was aimed at exploring the effectiveness of Mind Maps as a cognitive strategy to improve lexical competence in 8<sup>th</sup> grade students from Liceo Femenino Mercedes Nariño, in Bogota D.C.

To implement this project, two learning methodologies were applied. The first one, meaningful learning, allows students to learn about the Mind Map as a didactic tool to be handled in this project. Afterwards, a Task Based learning approach leads the appliance of Mind Maps in classroom tasks to verify its impact in the three aspects of learners' lexical competence: vocabulary acquisition, spelling problems and function of words.

Results validate the benefits of Mind Maps in improving lexical competence. In fact, due to its cognitive properties as an External Representation, Mind Map can be applied as a didactic device to improve learners' vocabulary acquisition as well as the recognition of function of words. However, this tool does not render the same outcomes in spelling problems. To achieve this objective, as some researchers have demonstrate, it is required to regards specific cognitive aspects of the technology of writing to conceive mixed strategies of learning to get better results.

## Introduction

In the context of a globalized world, education is expected to provide students with the tools to achieve their maximum potential in fields as sciences, humanities, arts, among others. For this reason, learning English is mandatory as this language allows enriching the personal growth as English speakers have access to the knowledge background of many cultures around the planet.

In order to achieve such goal, the Colombian government wants to improve the students' communicative competence in EFL. In fact, programs as *Inglés para todos* or *Bogotá Bilingüe* were created to help Colombian people to increase their level in English language. However, because of problems in the educational system, as the less impact of the National Bilingualism Policy or the teacher's low level of competency (Sanchez,2013) there is low possibility to achieve this goal in the short-term.

For the previous reasons, universities have a great responsibility as they can help to improve learning processes through the appliance of theories learned there. This research is conceived in the academic context of training English teachers. Regarding the needs for better teaching strategies in the public school, this study establishes an innovate proposal to support students in their process to improve lexical competence in EFL.

The first chapter introduces the school where this research is developed, defines the problematic situation, the research question and the research aims. The second chapter establishes the theoretical framework that supports this investigation. The third one defines the research methodology following the parameters proposed by an educational research approach. The fourth chapter establishes the pedagogical proposal to apply this project in the classroom. Finally, the data analysis allows generating conclusions about the results in the implementation of this proposal.

## Chapter 1

### Context research

#### Introducing LIFEMENA: Liceo Femenino Mercedes Nariño



**Figure 1 – 1 Façade of Liceo Femenino Mercedes Nariño main building**

The *Liceo Femenino Mercedes Nariño* is an official girls' school located in Bogota D.C. in Av. Caracas No 23 – 24 sur. To the west and to the south, the school limits with residential areas and some commercial shops, coffee shops, restaurants and drugstores. To the north, the school limits with the building of Alcaldía Rafael Uribe Uribe locality. Nowadays, the Liceo offers programs of formal education in day - time and education for adults in the night session. Specifically for pre-school there is Grade 0; for primary school there are Grades 1 to 5, for High School there are Grades 6 to 11. There are three sessions: morning, afternoon and evening. They are developed under *Calendario A* scheme.

The school's internal administrative structure is formed by the following levels: principal, directive board, academic board, teaching staff, administrative staff, parents association, ex-students association, and welfare services.

### **School's history**

According to its web page, the institution was founded on October 5<sup>th</sup>, 1916 by the priest Diego Garzón in Las Cruces neighborhood. At the beginning, the main goal of this institution was to train women for household chores. Some years later, the school was moved to a building located in the downtown of Bogota and changed its name: it was called *Escuela Departamental Superior de Artes y Oficios para señoritas*.

By 1941 the Liceo was moved to the place where it is located nowadays. Then, on 18<sup>th</sup> June 1960, the school adopted the name of *Liceo Femenino Mercedes Nariño* in honor of the daughter of one of the most influential men in Colombia's struggle for independence, Antonio Nariño.

Along the years, this school has provided a context that allows the students to be in touch with the women's process of change. This is a meaningful contribution, taking into account that during these two centuries, women have experienced a remarkable liberation process which has transformed dramatically their role in society.

### **LIFEMENA's surroundings**

The latest study carried out by the Chamber of Business of Bogota (2007) provides general information about the socio-economic context of the school. The Liceo is established in Rafael Uribe Uribe locality (social stratum 2 and 3), which has 423,000 inhabitants in average. It is the most densely populated locality of Bogota: 323 inhabitants per hectare.



This population is characterized because young people have an important grade of representation: 47.7% of people are 25 years old or less.

About the educative system, there are some interesting figures in this locality: it has the highest number of people in school age, 87000 people between 5 and 17 years. The level of education in this sector of the city is distributed as follows: 49% finished high school, 23.6% only primary school and just 26% of the people have an academic degree. In contrast, the sector of the city has the second highest unemployment rate of the city: 15.8%. This fact suggests that many people do not find interest to continue with their academic development, probably because it is priority to find a job for assuring economic stability.

### **Physical infrastructure**

LIFEMENA is one of the biggest schools in the locality Rafael Uribe Uribe. Its physical infrastructure is an architectural ensemble which includes two buildings for primary school, two for high school, a chapel, two cafeterias, a big yard, a library and some sports grounds where students use to go to practice sports. Besides, the school has a teachers' office, a principal's office and other offices for each one for the main dependencies of the school.

The design of the classrooms is not modern because these buildings are more than 70 years old. For this reason, they have old wooden floors and wooden windows frames. Each class room is equipped with a whiteboard, a teacher desk, and 40 – 45 student desks. On the walls, there are some academic pictures that have been created by the students. In general, the classrooms and social areas offer the basic conditions (light, space, air circulation, etc.) to develop the academic activities in a suitable way.

## **School Population**

The school's community is very representative among feminine institutes in Bogota: In the Liceo, there are 6130 students: 440 in pre – school; 2,340 in primary school, 2,850 in high school and 500 in night school (adult population). The school staff is composed of a Principal, ten coordinators, eight school counselors, 78 teachers for pre- school and primary school and 98 for high school and 20 for night school (LIFEMENA, 2014).

## **Institutional teaching project (PEI)**

The PEI defines the objective, the mission and the vision of the liceo. According to this document (LIFEMENA, 2014) the main objective of the educative process in the school is to train a sensible and autonomous “liceista”, who transforms her society through scientific and technological perspectives; the institutional mission is to promote the holistic training of women in autonomy, creativity, responsibility and critical analysis of reality to allow them an active participation in every field of life. The school's vision is to be, in 2015, a leading institution in cooperative teaching - learning processes.

## **Languages area**

The languages area is established in a two-floor building, as a unit apart from the other sections of the school. In 20 classrooms, 13 teachers teach English and French. Languages area includes also a languages laboratory, the CRI or *Centro de Recursos de Inglés*. This is a big classroom where the girls can find many resources to interact with the language (See Appendix 1: inventory of CRI).

Since 2014, LIFEMENA has been evaluating and reformulating their academic and administrative procedures in order to obtain the ISO 9000 certification. This process has

implied to reshape its curriculum in every subject. In the case of the languages area, the main objective is to integrate the English learning process from pre-school to grade 11 into one articulated curriculum. It is expected that this change helps to articulate the contents of all the grades in order to increase the effectiveness of the English learning process.

### **Methodology and evaluation in English class**

At the moment, the methodology to teach English is chosen by each teacher, according to his/her experience, because there is not a common agreement about it. Teachers also have total freedom to use the materials they consider appropriate for their lessons. However, the school has designed an Evaluation System called SIEL, (*Sistema Integrado de Evaluacion Liceista*) which rules the evaluation in every subject in the school. In the case of English teaching, the system proposes to evaluate:

- Grammar skills, using building of sentences, interpretation of graphics and words comprehension to evaluate the student performance.
- Reading and writing skills, to be evaluated through elaboration of paragraphs, incomplete paragraphs and reading comprehension activities.
- Coherence of texts: development of a logic enchainment of ideas in writing texts.

One of the most important school activities for promoting the motivation and self – expression in English is the *English song festival*. This activity is held in the campus of the school and other schools from the locality take part on it.

The EFL program for 8<sup>th</sup> graders is an adaptation of Estándares Básicos de Competencias en Lenguas Extranjeras: Inglés. In general, English lessons follow the textbook *New Generation for teenagers* (Editorial Norma) whose units include a vocabulary

practice, a grammar practice, and a section for reading and writing. The book's topics are complemented with classroom activities that reinforce difficult topics: for instance, to learn irregular verbs, students elaborated a bingo. Students also practice listening activities in languages lab.

The evaluation system is made of points assigned according to the development of proposed activities as homework, presentations, etc. However, the teacher's group thinks that this class is also an opportunity to cultivate values in the students as responsibility, self-awareness, respect, etc.

### **Observed population**

For this research, the chosen group is grade 804. This group is composed of 42 girls between 12 and 13 years. These students belong to social strata 2 and 3. Regarding these aspects, this is a homogenous group as there are not great differences in age or economic condition. However, according to the evaluations of knowledge about English, there are bigger differences as this group is integrated by students that came from different groups. This fact suggests that the quality of teaching is not the same for every group.

Usually, the students have a responsible attitude towards the class: they arrive on time to the classroom and work by themselves the whole time. Thanks to the teacher's demands, students are receptive and well-disposed to the activities proposed for her. In fact, they follow their teacher's instructions and they show interest for the proposed topics, asking questions to understand the requests of workshops and trying to solve the most of them.

The attendance to the English class in this group is stable, which favors the continuity in the learning process. Besides, the students' behavior is calm and respectful: there are not aggressive attitudes among the students or towards the teacher. These facts mirrors that

students have developed an accurate level of self-regulation in order to keep a harmonic environment. Those aspects provide a convenient atmosphere to develop the lessons.

Most of the time, students are collaborative with their peers. They enjoy working in groups and sharing their ideas to develop activities in class. This is an evidence of their social competences, as they are able to interact among them, communicate their ideas, collaborate with each other and solve little problems that happened in their academic life.

Moreover, there is another evident feature in the students' group. Regarding their class activities (draw, association of images and text, watch videos, interpretation of images, etc.) there is evident tendency to be visual learners, that means, it is easier for them to learn new concepts or information when they have a visual referent. It is remarkable that the students like to decorate their written works (texts in their notebooks, the letters, their portfolios, the photocopies, etc.) with colors or markers.

The verbal language of the students in their mother tongue is grammatically correct. They tend to construct meaningful sentences, using the correct structures (subject – verb – complement) and right gender and number agreement. Nevertheless, they tend to use wild card words to refer many things. For instance, usually students say “cosa” to name different objects as a marker, an electronic device, etc. This fact suggests that students have not enriched their vocabulary in spite of the previous years of learning process.

The main disciplinary problem in the development of the classes is lack of attention. Some students tend to chat or use their mobile telephones during the lessons. These are the main reasons for the teacher's calls of attention. This situation happens through the end of the class, probably because students are tired or bored by monotonous activities as filling the blanks in photocopies, write texts without a previous contextualization, etc.

Another problem that reduces the rhythm of the classes is originated when students spend much time looking for words in the dictionary or in their mobile phones. In fact, this difficult engenders dispersion and comprehension problems as students have to read and reread texts to understand their meaning.

### **Statement of the problem**

#### **Diagnosis**

The information to elaborate this diagnosis comes from two types of sources applied to the students in the first term of the academic year. The first one, which provides a general view on the learning process, is conformed of the field notes taken by the author and a survey. The second source is integrated by three activities, developed to determine the level of lexical competence of the students.

The survey (see appendix 2) applied to the group reveals some important facts about motivational factors and attitudes of students towards learning English. According to the results, 75% of the students seem to be concerned by learning this language, due to two specific reasons. Firstly, the academic and job opportunities English may give to their speakers. Besides, the students enjoy doing activities in English, as listening to music or watching movies.

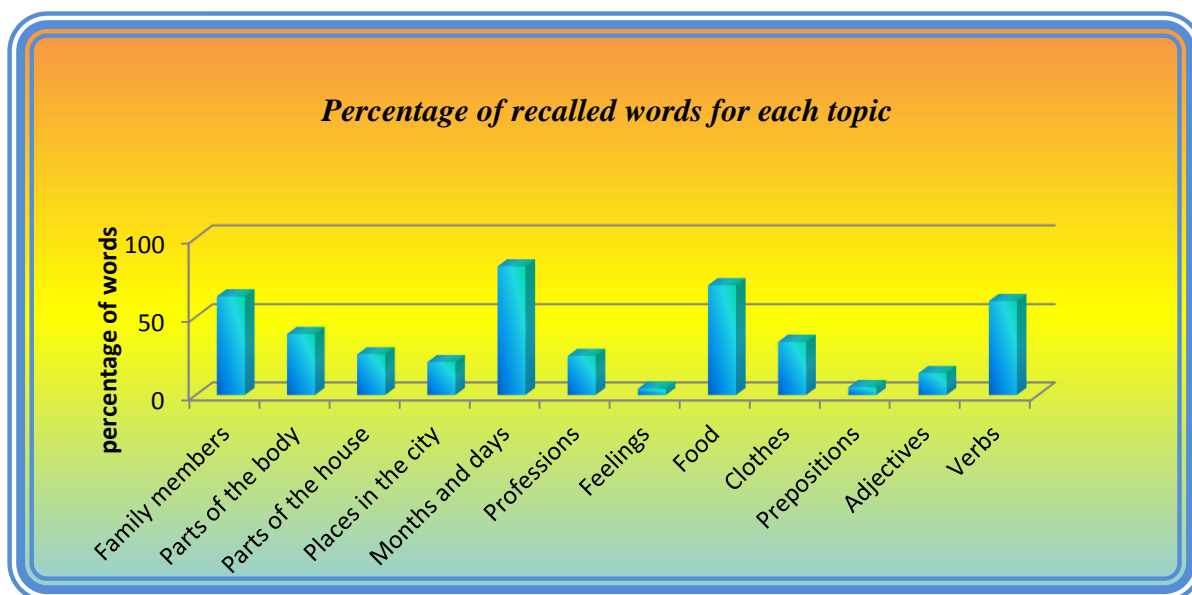
About the lessons, 70% of the students appear to be satisfied. They enjoy activities as training in the English lab or learning new vocabulary. However, 30% of them manifest some kind of non-conformism with the lessons, especially with the methodology that the teacher applies. In fact, 40% of them state not to enjoy writing activities proposed by her as they seem boring for them. Other reasons for this dissatisfaction are manifested in listening

activities because the students do not understand what they listen to. Also, the girls do not like to translate texts as this activity takes for them much time.

During the lessons, the materials used by students are photocopies (provided by the teacher), notebooks, dictionary and colors. They do not use a textbook or a student's book. Besides, once a week, they go to the CRI and there, they can use the resources it has (see appendix) to improve their comprehension skills through watching videos, listening to recorded material or developing on line activities.

Regarding language skills, the students found easiest writing (40%) and reading (30%); but listening (38%) and speaking (35%) are the most difficult activities for them. This group has expectations about creative uses of the language, too. For instance, they would enjoy making different type of texts as posters, postcards, comics, billboards etc. Also, they would take pleasure in singing, acting and listening to music.

In a second moment, students were evaluated in order to determine their lexical competence. The first evaluation allows valorizing two aspects: the number of words they remember about topics they had studied in their previous years (nouns as family members, parts of the body, parts of the house, places in the city, months and days, professions, feelings, food, clothes, prepositions; and adjectives, prepositions and verbs in general) and their knowledge on Mind Maps



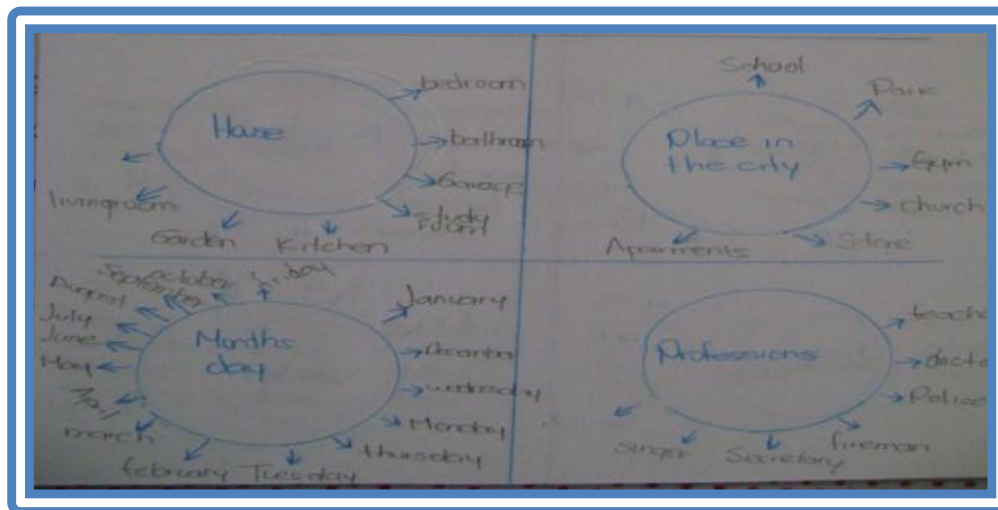
**Figure 1 - 2 Results of first diagnostic on vocabulary**

The previous figure shows that the retrieved vocabulary of the students is mainly composed of words that refer to months and days (82%), food (70%), verbs (60%) and family members (63%). The less familiar words for the students were those related to adjectives (14%), prepositions (5%) and feelings (4%).

The previous results reveal that for students it is easier to remember words when they are used repeatedly (as the months or days) or if they are associated to a visual referent as images (food and family members). In fact, they learned new words using images from books or draws in games as bingo or lotteries made by them. However, they have problems to remember words without a meaningful referent (as prepositions).

Respect to the Mind Map, students did not have a clear idea about it. When they were asked to use it to register their words, they draw a similar scheme known as a Mente facto, whose structure is similar to Mind Map but, in fact, Mente Facto (see figure 1 – 4) differs from Mind Map because of its simplicity and lack of creativity. In general, students did not apply any memory strategy in their learning process of new vocabulary

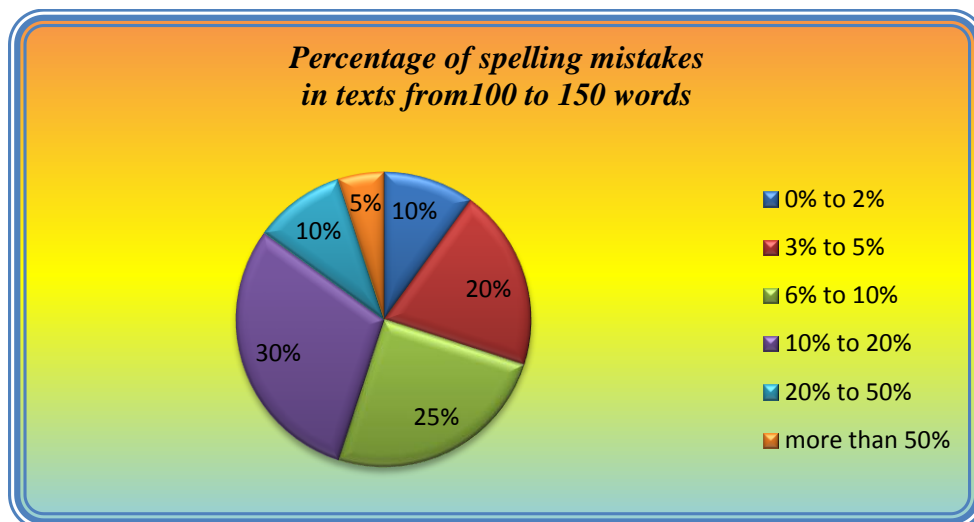




**Figure 1 - 3 Graphic organizers drawn by student n° 15**

The second activity wanted to evaluate other aspects on lexical competence. The students had to write a free text including basic information about themselves, their families, their preferences on food, music, pets, etc. There were two remarkable features in the texts written by the students. First of all, some students do not use any kind of punctuation to separate the sentences in a text. Other students use only commas or dots to separate sentences. Secondly, some students do not use the correct noun – adjective order as they describe people or things. Thirdly, they tend to omit the subject or the verb in the sentences (it is more frequent that students omit the subject than the verb). These facts difficult to understand the sense of what they want to express

Then, this activity allows identifying two features on the writing of these students, associated to their lexical competence: misspelling and some syntactic problems. The percentage of spelling mistakes is represented in the figure 1 – 6.



**Figure 1 - 4 Statistics of spelling evaluation**

Figure 1 – 4 allows seeing that 10% of the students have a satisfactory writing as they commit errors in writing in proportions from 0% to 2 % of the words; meanwhile 45% of the learners make mistakes in bigger proportions, from 3% to 10%. The rest of them produce between 11 to more than 50% of mistakes. The most common misspelling errors are change of the position of a letter (whit for with), missing letters (granmother for grandmother), or doubled letters (possition for position).

Finally, as expected in any group of EFL students, there are other grammar problems originated by the misunderstood of the words function in a sentence in English. In fact, the students frequently tend to copy the grammar structure they use in their mother tongue. For that reason, their texts frequently show the absence of one of the elements in the sentence structure subject – verb – complement or, also, noun – adjective problems.

In conclusion, there are two main features in the learning of vocabulary of 804 grade students: firstly, they seem to learn it easily when it has a visual referent; however, according to the first test, students tend to forget the learned words, probably due to the lack of a specific

strategy to remember new words. Secondly, 804 grade students have spelling problems and other more associated to the function of words in a sentence. This fact suggests the necessity to develop activities that help them to use new words in a meaningful framework, taking into account situations from their academic context.

### **Justification**

The benefits of developing this project can be perceived on the contexts implied in the learning /teaching process of EFL. First of all, this project benefits the students: they discover that Mind Map is a different way to learn new vocabulary in English. In fact, it is very different from the traditional method of “learning by hearth” that seems to be hard and boring for the teenagers today. Also, this technic allows the learners to express their creativity through their drawings and the design of their Mind Maps. In addition, this structure can be applied for them to learn or reinforce their knowledge in many other subjects: biology, chemistry, social sciences, literature, etc.

LIFEMENA can also take advantage of this project because according to the Estándares Básicos de Competencias en Lenguas Extranjeras: Inglés (Mineducacion, 2006), the students of English in the grades 8<sup>th</sup> to 9<sup>th</sup> have to learn to “use represented plans in maps or diagrams to develop their texts”. For this reason, the Mind Map can be applied to fulfill this requirement because, developing to the plan of this study, mind mapping is the first step to prepare the written production of the students. Additionally, the topic to be treated in this study, bullying, is very remarkable in the scholar agenda nowadays. Thus, it can help the school’s community to be aware, deal with and prevent this situation.

In a broader field, this research can be pioneer in the appliance of Mind Maps to the learning of languages: according to the literature review developed by the author, this kind of structure has not been taken into account in our local or national academic productions, in spite of its relevant presence in the foreign academic researches. For this reason, the Languages Department at UPN could lead researches for the appliance of Mind Maps in order to improve the development of communicative skills at the school.

In addition, the Universidad Pedagógica Nacional can capitalize studies like this one as a starting point to apply in new projects in other lands: educational, linguistic, sociological, etc. But probably, at a university that educates teachers, the most relevant benefit has to do with the pedagogical approach because this research can offer new perspectives of didactics or methodologies to improve teaching / learning processes in diverse areas of knowledge.

Besides, the EFL community could use this research as a tool that helps to innovate methodologies of teaching English in the frame of the communicative approach or the task-based language learning. This project can even suggest a new way to develop materials to teach a foreign language. In fact, the results of this research can be adapted to develop virtual programs of learning English, taking advantage of the ICT, as today many programs to create a Mind Map (as Mindmeister, XMind, iMiind Map, etc.) are available to elaborate them.

And last but not least, as a teacher, this study helps the author to contrast the theoretical frameworks achieved in the academy with a real situation of teaching English. The aim of this contrast is to analyze this case under a critical vision in order to understand the difficulties the students have to deal with new vocabulary in English, in order to elaborate a new teaching proposal which responds to their particular necessities and wishes.

### **Research question**

How Task Based learning using Mind Maps improves EFL lexical competence in 8<sup>th</sup> grade students in Liceo Femenino Mercedes Nariño?

### **General objective**

To analyze the grade of improvement of Lexical Competence of 8<sup>th</sup> grade students in Liceo Femenino Mercedes Nariño through the application of Mind Maps in a Task Based Learning environment.

### **Specific objectives**

- To establish the initial condition of the lexical competence in EFL of the students of group 804
- To assess the use Mind Maps as an external representation to improve lexical competence in logographic, alphabetic, orthographic and collocational phases, following the principles of Task Based learning,
- To evaluate the EFL lexical competence achievements along the implementation of the project.

## **Chapter 2**

### **Theoretical framework**

The aim of this project is to demonstrate that lexical competence of ESL students can improve through the application of Mind Map as a cognitive tool in the learning process. To support this idea, this chapter initially presents a general overview on previous researches about lexical competence development. Afterward, there is a theoretical development of three central concepts for this research: lexical competence, external representations and long term memory. The first item defines the object of study of this research; the second and third ones refer to the cognitive aspects concerned in this process. Finally, there is an explanation of the tool of learning to implement in the class room in order to achieve the mentioned aim, the Mind Map.

### **Review literature**

The development of lexical competence has been assumed under different perspectives. For this research, it is enriching to take into account the results of strategies applied to improve this competence in EFL learners. This review literature starts with the revision of two documents that validate Graphic Organizers and Mind Maps in education. Then, there is a review of academic research on EFL vocabulary development: three theses from the Universidad Pedagógica Nacional; three from other universities in the national context and, finally, three theses on the same topic, coming from different countries.

Mind maps are a kind of Graphic Organizer. According to Zaini (2010), “a Graphic Organizer (GO) is simply a graphical or spatial representation of text concepts. It is an instructional tool that can help students to organize, structured the information and concepts to relate with the other concepts.” (p. 17). In these academic tools, grounded on Ausubel’s assimilation theory of cognitive learning, the information is organized by mind in a hierarchical fashion, following different schemes as trees, networks, etc.

For Zaini (2010) the main effects of applying GO in learning processes in the school are improving of reading comprehension, enhancing thinking and learning skills, increasing retention, among others. Other authors, as David Boley (2008), have applied mind mapping at John Hopkins University in different subjects of learning. He concluded that pre – made mind maps enhanced simulation learning significantly, positively impacted the learning experience and produce a 12% increase in test scores. These improvements suggest that GO as Mind Maps can be helpful in improving learning processes in school.

Academic production of some universities has proposed other strategies to develop lexical competence in EFL students. The table 2 – 1 (next page) summarizes the examined documents. In the Universidad Pedagógica Nacional, there are three projects which analyze the relationship between vocabulary and images in the development of lexical competence.

Thesis	Year	Context
The visual stimuli association as a facilitator component of the English language learning in second graders from the I.E.D. Liceo Femenino Mercedes Nariño	2006	UPN
Enhancing memory skills in order to retrieve foreign vocabulary in the level B3 at Centro Colombo Americano	2012	UPN
The word games with images as good strategies for learning English vocabulary in the grade 306 of the Liceo Femenino Mercedes Nariño	2012	UPN
Videogames como vehículo para el aprendizaje del vocabulario en ingles	2012	Pontificia Universidad Javeriana
Fortalecimiento de la competencia léxica en inglés como lengua extranjera a través de diferentes técnicas artísticas	2007	Universidad de la Salle
Diseño de material para el mejoramiento de la ortografía de los estudiantes de Segundo C del Colegio Cafam	2012	Pontificia Universidad Javeriana
Increasing 11 <sup>th</sup> graders vocabulary through explicit memory strategies instruction	2014	Universidad de la Sabana
Acquisition of Lexical Competence in English as a Second Language	2008	Chile
El conocimiento lexical del inglés en la competencia comunicativa de los estudiantes del Instituto Charlotte English School durante el año 2013	2014	Ecuador
Using pictures in teaching vocabulary	2010	Czech Republic

**Table 2 - 1 List of reviewed thesis**

Firstly, the thesis *The visual stimuli association as a facilitator component of the English language learning in second graders from the I.E.D. Liceo Femenino Mercedes Nariño* (Barón, 2006) regards the image as a tool that improves the learning process of the students and their retention of information by taking advantage of the associative thought. According to the authors, images can be regarded as an anchor that keeps students motivated to learn English as they found them appealing and funny. Also, images help students to remember learned information as they appeal to the sensorial memory of students to establish



logical associations between words and their referents. Thus, images are highly recommended to design lesson plans in the classroom to learn vocabulary in English.

Other study about improving vocabulary skills is *Enhancing memory skills in order to retrieve foreign vocabulary in the level B3 at Centro Colombo Americano* (Garavito, 2012). The researchers wanted learners to retrieve English vocabulary in productive activities such as writing and speaking. The developed strategy was to apply different memory strategies (direct or indirect) in each lesson in order to verify its impact in the learning process. Once finished, the authors conclude that memory strategies are efficient to retrieve information from the short-term memory but not from long term memory.

The third study, *The word games with images as good strategies for learning English vocabulary in the grade 306 of the Liceo Femenino Mercedes Nariño* (Medellín, 2012) proposes to implement word games with images as a learning strategy to help the students in their vocabulary acquisition. Its main finding was that association between an image and a word game, as a cross word or an alphabet soup, reinforces the learning of words in aspects as retention and better orthography.

The academic production on lexical competence is diverse on proposals in the local context. For instance, the thesis *Videojuegos como vehículo para el aprendizaje del vocabulario en inglés* (Jiménez, 2012), analyses the pedagogical use of video games as a tool to learn new vocabulary in English. According to the authors, videogames as My English Coach are a complement for learning new vocabulary as students find appealing to use ludic activities using technological devices. Besides, this strategy stimulates simultaneously other cognitive skills of the learners, as focusing attention, following directions, ask and answer questions, etc.

Another proposal on lexical competence is found in the thesis *Fortalecimiento de la competencia léxica en inglés como lengua extranjera a través de diferentes técnicas artísticas* (Sarmiento, 2007). In this document, the authors wanted to determine a strategy to improve the learning of vocabulary in children from 5 to 7 years old in Institución Educativa Distrital Francisco de Paula Santander. Implementing a Task Based Learning method, the authors achieved to improve lexical competence through the use of painting, drawing and color. As conclusion, the researches state that this strategy is convenient for teaching new vocabulary, as it takes advantage of the principles of multiple intelligences in the modality of kinesthetic learning.

The last investigation from the local context, *Increasing 11<sup>th</sup> graders vocabulary through explicit memory strategies instruction* (Vidal, 2014), applies the Cognitive Academic Language Learning Approach (CALLA) to improve the process of acquisition of vocabulary. Through creating mental linkages and applying images and sounds, the process of learning vocabulary improved in the quantitative and qualitative dimensions, as the students increase their vocabulary as well as their awareness in their learning development.

Lexical competence has been studied also in the international academic research. From Chile, the thesis *Acquisition of Lexical Competence in English as a Second Language* (Echevarria, 2008) wanted to determine the relationship between depth and breadth of lexical competence of learners and their general proficiency in the target language. In order to elicit data, three kinds of tests were applied to diagnose students: Receptive and Productive, Breadth and Depth tests. As conclusion, this study states the higher level of communicative competence of the learners, the higher depth and breadth of their vocabulary knowledge.

An equatorial study, *El conocimiento lexical del inglés en la competencia comunicativa de los estudiantes del Instituto Charlotte English School durante el año 2013,*

(Estrada, 2014) demonstrates, with statistical tools, the correlation between two variables, lexical knowledge and communicative competence, in the process of learning English. Applying a test, *the Think Aloud Protocol*, and two vocabulary tests, the researchers found a positive correlation between the acquired lexical knowledge and the oral expression of EFL students. According to these findings, writers suggest improving the learning of vocabulary in first grades of school in order to guarantee a better communicative competence of the students.

Finally, from Czech Republic the thesis *Using pictures in teaching vocabulary* (Joklová, 2010), validates the use of big picture flashcards, word flashcards, small picture flashcards, drawing, wall pictures and posters in the classroom as tools to help retaining previous learned vocabulary. The author developed seven lesson plans for each type of image, working with children in a public school. According to his experience, it is necessary to make specific adaptations for each type of image in order to take advantage of this resource for teaching English in specific contexts.

In conclusion, this literature review demonstrates two aspects in the development of lexical competence. First, it has been associated to strategies that establish links between words and another referent to improve their storage in the long term memory of learners. Secondly, to develop this competence it is relevant to create a communicative context to apply the learned words. The same aspects are taken into account in the structure of this project, as it implies the previous learning of vocabulary using the Mind Map as strategy, followed by the implementation of new words in a communicative context.

### **Theoretical framework on lexical competence**

The concept of Communicative Language Competence was developed by Dell Hymes in the seventies. In a broad sense, it was defined as the ensemble of skills and knowledge that allows the speakers from a linguistic community to interact among them. Conforming to the CEFR (Council of Europe, 2001), this concept was sub divided to allow its analysis, into a linguistic, a sociolinguistic and a pragmatic components. The linguistic component include six competences, being one of them lexical competence.

Lexical competence has to do with the ability to use words in real communicative contexts. In its general framework, the CERF (2001) defines the lexical competence as the “knowledge of, and ability to use the vocabulary of a language, consisting of lexical elements and grammatical elements.” (p.110). Therefore, the development of this competence wants to train the speaker to recognize and use the vocabulary of a foreign language and its peculiarities as a native speaker does in a given communicative context.

To define the grade of competence in EFL, the CEFR has established a system of common reference levels which permits evaluating the level of learners. In this research, in agreement with the results of the previous diagnosis, the eighth grader students are classified in the level group *Basic User – A*. For this reason, regarding the academic demands on this population and the parameters of Estándares Básicos para la Enseñanza de Lenguas Extranjeras, it is required a plan to improve lexical competence of these learners to achieve three goals: to increase their vocabulary, to improve spelling of learned words and to use them correctly in the context of a sentence. Each one of these concepts requires to be contextualized in order to create a suitable plan for these learners.

In a first place, lexical competence has to do with vocabulary acquisition. The studies about lexical competence, developed over the last decades, proposed two complementary

dimensions in order to evaluate its degree of attainment. The first one is size. Meara (1996) states:

“The basic dimension of lexical competence is size. All other things being equal, learners with big vocabularies are more proficient in the wide range of skills than other with smaller vocabularies and there is some evidence to support the view that vocabulary skills make significant contribution to almost all aspects of L2 proficiency.” (p. 3)

This is a quantitative dimension to evaluate vocabulary as it takes into account the number of words in L2 that students know. According to the same author, L2 learners have a better performance if they know more words. The importance of increasing the number of words students have, motivated this research to develop a strategy to achieve this aim, with the expectation of its application in any specific lexical field.

The second dimension to consider in evaluating lexical competence is depth: apart from the number of words that a learner have in his / her memory storage, he or she has to recognize another of their features in order to use them more frequently. As Shen states (1999) “the depth dimension should cover such components as pronunciation, spelling, meaning, register, frequency and morphological, syntactical and collocational properties.” (p. 135). These features establish a qualitative framework to evaluate the knowledge of words in a new language. In this research, the qualitative aspect is evident in the purpose to deal with aspects as spelling and the function of words in a sentence.

Once established the qualitative and quantitative dimensions as the main axis to analyze lexical competence, it is required to assume specific directions to develop these aspects in the learners. For Peter Duppenthaler, (2007) vocabulary acquisition can be regarded under different perspectives. The most elemental one is denotation: it “refers to the most basic or specific meaning of a word” understood as “the association or set of associations that a word usually elicits for most speakers of a language, as distinguished from

those elicited for any individual speaker because of a personal experience” (Duppenthaler, 2007, p.13) In this sense, to know a word is to associate it to a given referent from another symbolic system. In a first level of learning vocabulary, denotation can be developed through the use of images, establishing a relationship between it and a written word. Accordingly, the proposed activities in the present study want to develop the ability to associate a word and its visual referent as a first step in learning words. In a concrete sense, there are two expectations in the learner’s performance: her ability to associate a printed word and its image and, in a second moment, the possibility of recalling this word as the student has a visual stimuli to do it.

Once the learner has established a first relationship between a word and its referent, there is a cognitive process to assimilate this term in a more detailed sense. For Frith (1985), the following stages to deal with new words are the alphabetic and the orthographic phases. The alphabetic phase represents a shift from primarily visual cue use to learning a phonological recoding system. In this point, for instance, “words such as “late,” which require knowledge about the final *e* rule to change the sound of the vowel, would not be consistent with the student’s knowledge about how the orthography works to cue the representation of a sound.” (p.20) This project pretends to evaluate the power of meaningful association between image and word to recall the learned terms as an evidence of the improvement in the lexical competence of the students. To assess this possibility, they are expected to remember and say the correct word as it is evoked by an image.

The third stage on learning vocabulary, states Frith (1985), is an orthographic phase. This author suggests that spelling requires a shift from primarily phonological recoding to the integration of phonological and orthographic knowledge. In other words, it is awaited that students achieve to write a learned word having into account details as silent vowels,

double consonants, use of the correct transcription for similar phonemes, etc. In the context of this investigation, the orthographic details in writing new words lead to a question: Will students recall the correct spelling of these words easier as they were learned using a visual support? This question is answered in this research to test the grade of effectiveness of the visual referent strategy applied beforehand to acquire vocabulary.

Finally, as other aspect in lexical competence, is the inquiry about how students use words in creating a sentence. This aspect, highly linked to the grammatical properties of words, is regarded as *function of words*. In this sense, two aspects to be contemplated in this study, according to the results of the diagnosis, are the incorrect collocation of words in a sentence and the omission of one of its elements in the basic structure subject – verb – complement.

The previous issues have been defined in studies about teaching EFL grammar. By one hand, collocation can be described as “how words typically occur with one another” or “the ways in which words regularly occur near each other”. (Lipka, 2002, p. 183). Collocational problems are very frequent in written texts of ESL students as they tend to copy the same order structure of their mother tongue. By the other hand, the tendency to omit one of the elements in English phrases gender not real sentences, but sentence fragments. For O’Brien (2009),

Sentence fragments are groups of words that do not express complete thoughts. They are only fragments of sentences. There are four reasons for why a group of words is a fragment: 1. It is missing a subject; 2. It is missing a verb; 3. It is missing a subject and a verb. 4. It is a subordinate clause. (n.p.)

The reason for this fact is, probably that in Spanish, the conjugation of the verb helps to identify the subject of the sentence (tengo que ir, están hablando, etc.) but it is not the same in English (*I* have to go; *They* are speaking, etc.).

In relation to these aspects of lexical competence, this research points to improve the recognition of function of words by applying a strategy which reinforces the lexical understanding of this aspect. Pointedly, the question to be solved on this aspect is: does a learning tool visual referent help students to improve their understanding of function of words?

### **Mind map as a cognitive tool to improve learning**

The human knowledge is susceptible to be represented in different ways. In agreement with cognitive sciences, these representations can be classified in two groups: external and internal representations. External representations (ER)

...are defined as the knowledge and structure in the environment, as physical symbols, objects, or dimensions (e.g. written symbols, beads of abacuses, dimensions of a graph, etc.), and as external rules, constraints, or relations embedded in physical configurations (e.g. spatial relations of written digits, visual and spatial layouts of diagrams, etc.)” (Zhang, 1997. p 179).

In contrast, an internal representation (IR) has to do “with our ability to internally represent objects, events and more abstract phenomena as mental images, and our ability to infer new information by transforming these images.” (Hegarty, 2004 p.1). Cognitive research states that there is a strong relationship between ERs and IRs in the process of assimilation of information, as evidenced in daily cognitive tasks as multiplication with paper and pencil, grocery shopping with a written list, diagrammatic reasoning, graph understanding, etc.

Graphical ERs have been regarded in cognitive studies as tools to improve learning processes. Frequently, ERs are recognized as inputs and stimuli to the internal mind or as memory aids. But, according to Kirsh (2009) this artifacts can enhance cognitive power in other aspects:



“(ERs) change the cost structure of the inferential landscape; they provide a structure that can serve as a shareable object of thought; they create persistent referents; they facilitate re representation; they are often a more natural representation of structure than mental representations; they enable the construction of arbitrarily complex structure; and they lower the cost of controlling thought—they help coordinate thought. Jointly, these functions allow people to think more powerfully with external representations than without.” (p. 441)

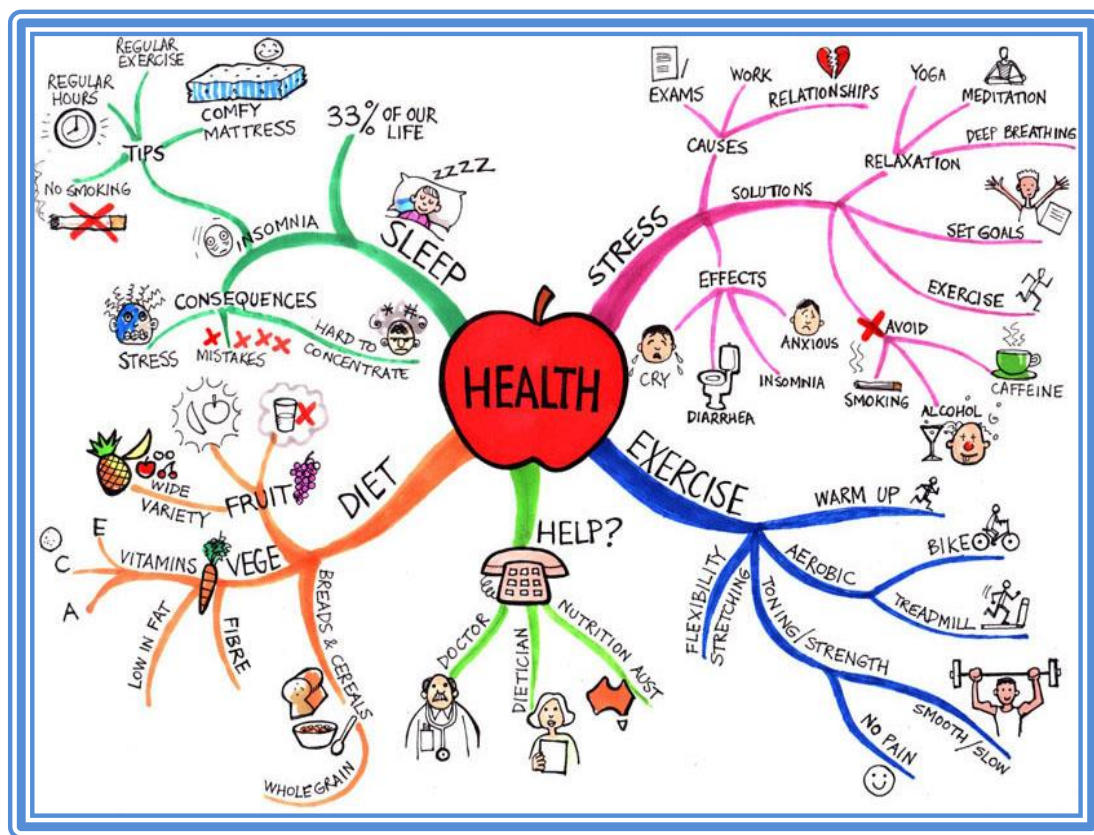
In spite of all these advantages for the cognitive improvement, we can found that there is a high tendency to prefer IR instead of ER in our traditional teaching practices. Precisely, regarding all the possibilities that ERs offer to improve learning in many fields, they are suitable to be applied in teaching languages, too. In that sense, this research wants to validate the use ERs in improving lexical competence of learners, determining what cognitive properties can be stimulated through its use in the students learning process.

There are many models of ERs to facilitate the comprehension of a topic and the relationship among their key concepts. Some of them are very common in teaching practices as the Network Tree, the Spider Map or the Cycle Map. Each one of them has particular features that allow different applications in education, to satisfy different purposes. However, there is another ER, less applied in our academic environment, the *Mind Map*. Rediscovered by Tony Buzan in the sixties, a Mind Map is a graphic structure inspired in real notes taken by great thinkers:

“The first traces of mind mapping go as far back as the 3<sup>rd</sup> century BC. A philosopher by the name of Porphyry of Tyros is thought to be the first to use mind mapping to form his ideas and thus making learning easier for the others. Historians found later that Leonardo da Vinci used mind mapping as well, mostly for note taking. He is sometimes considered as the historical person who popularized mind mapping the most.” (SCS, 2014).

As seen before, Mind Maps are linked to intellectual people that used them to schematically organize their ideas. Nowadays, the original concept of Mind Map has changed in a systematic way. In a first sense, Mind mapping has been defined as ‘visual, non-linear

representations of ideas and their relationships' (Davis, 2010. p.2). In fact, Mind Maps involve a network of connected and related concepts, according to some principles: "in a Mind Map, the hierarchies and associations flow out from a central image in a free-flowing, yet organized and coherent, manner. Major topics or categories associated with the central topic are captured by branches flowing from the central image. Lesser items within each category stem from the relevant branches." (Davis, 2010. p.3) In the next figure, there is an example of a Mind Map:



**Figure 2 - 1 Health Mind Map (Genovesse, n.d.)**

This Mind Map has been created using the systematized techniques developed by Buzan in 1974, following the next steps:

1. Place an image or topic in the center using at least 3 colors: in this case, there is an apple in the center of the Mind Map as people said that eating an apple a day improves “health”
2. Use images, symbols, codes, and dimensions throughout the Mind Map: they are represented in draws of people, things, letters, chemical symbols, etc.
3. Select key words and print using upper or lower case letters: all the keywords in the Mind Map follow this principle.
4. Each word/image is alone and sitting on its own line.
5. Connect the lines starting from the central image. The central lines are thicker, organic and flowing, becoming thinner as they radiate out from the center. This is a way to develop subcategories of each category. For instance, the category STRESS is divided into three subcategories, CAUSES, SOLUTIONS and EFACTS. Then, each one of them is developed according to the designer propose.
6. Make the lines the same length as the word/image.
7. Use colors—your own code—throughout the Mind Map: in this case, each branch represents a topic and it is differentiated by using different colors. Thus, DIET is orange, HELP is green, EXERCISE is blue, SLEEP is dark green and STRESS is pink
8. Develop your own personal style of Mind Mapping. It is a creative exercise.
9. Use emphasis and show associations in your Mind Map, following a logical order.
10. Keep the Mind Map clear by using radial hierarchy, numerical order or outlines to embrace your branches.

One of the most remarkable advantages of using Mind Map is its “free-form” and unconstrained structure. Because of these features, there are no limits on the ideas and links

that can be made, and there is no necessity to remember a structure has happened with other graphic organizers. For this reason, Mind Map is appealing to kids and teenagers who find it less “rigid” than other structures to organize information. By the way, mind mapping promotes creative thinking in students and encourages them to brainstorm at the same time.

Another use of it is to improve memory retention: “It is generally easier to remember a diagram than to remember a description.” (Pressley et al.1998). For this reason, Mind Map has been applied in teaching processes in many disciplines, including Finance, Economics, Marketing, Executive Education, Optometry and Medicine. It is also widely used in professions such as Fine Art and Design, Advertising and Public Relations. (Buzan, 1974).

### **Innovative and didactic uses of Mind Map in teaching**

Usually, Mind Maps have been applied in learning processes due to their previous mentioned features. However, it is possible to take advantage of this versatile ER in other ways. Apart from being a tool to organize information, Mind Map can be changed into a memory game to establish a mental meaningful network to learn and categorize vocabulary. Additionally, Mind Maps can help students to set relationships word – image to improve their lexicon. Following the principles of look – say –cover –write - check method, developed by Peters (Ott, 2007) this game includes these stages:

- Look at the word (note its visual features in the mind’s eye)
- Pronounce it while at the same time looking at the letters.
- Say the letter names aloud while looking at them.
- Cover the word.
- Write the word.

- Check by looking at the original version.

This didactic can be adapted to the Mind Map: Drawing it only with images, in a first game, students have to associate the keywords written in little cards to the image that it represents. Once the students have mastered this game, in the second one, they try to recall the keyword associated to an image in the Mind Map. After it, it is expected than students have assimilated this vocabulary to use it by writing in a communicative context.

Another use of Mind Maps to improve lexical competence has to do with function of words: regarding grammar structures as networks, it is possible to apply mind mapping to reinforce learner's knowledge of English grammar. In fact, students can take advantage of it to assimilate grammar structures in a meaningful way, for instance, to establish relationships between topics, to contrast concepts, to give examples, to prepare texts, etc.

The learning possibilities that offer Mind Map can enrich EFL teaching practices in a significant way. In fact, according to the literature review to develop this research, the two proposed activities, have not been documented before as applications of Mind Maps. For this reason, this is an innovative proposal as it suggests using this ER in a different way, that is, not only to organize information in a meaningful mode but to adapt it as a didactic tool to be applied in improvement of lexical competence.

## Chapter 3

### Research methodology

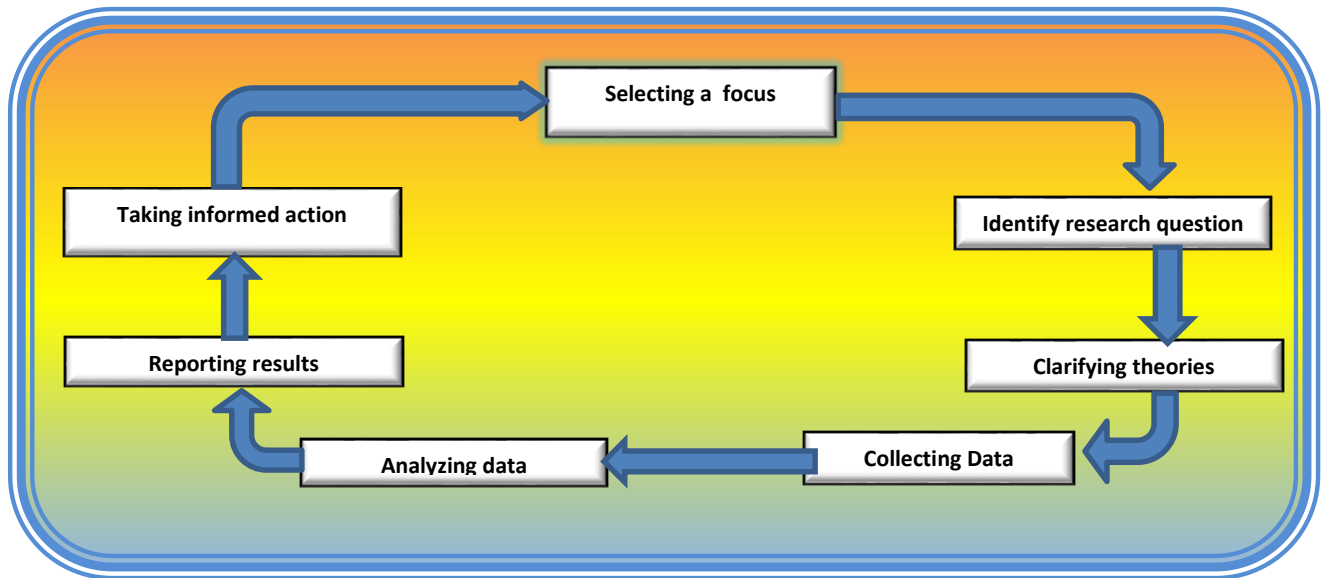
Educational research assumes different paradigms in function of its object of study, being positivism, anti – positivism and critical theory three options to inquire a problematic situation. From these options, the most appropriate for this study is critical theory because it allows acting on a concrete problem in order to generate positive changes the previous condition as in this case, to improve some aspects of lexical competence of students. To achieve this goal, this paradigm establishes the Action Research method (AR), an approach that provides a framework to define the tools to inquire and analyze a situation so as to propose solutions to problematic conditions.

#### Action Research Method

Action research is a practical approach of inquiry “conducted *by* and *for* those taking the action, in a particular social situation.” In the educational field, AR implies taking a self-reflective, critical and systematic attitude to explore the teaching context (Burns, 2010). This fact implies “a teacher who becomes an investigator of his or her personal teaching context, while at the same time being one of the participants in it.” (p. 2). Hence, the researcher assumes the role as a teacher to interact with the students in order to apply the theory he/she regards pertinent to help them in their learning process as in this case, the Mind Map as a strategy to improve their lexical competence in specific aspects.

For Sagor (2000) AR comprehends seven phases: selecting a focus, identifying research question, clarifying theories, collecting data, analyzing data, reporting results and

taking informed action. AR can lead an endless inquiring process in any field of research (see figure 3 – 1).



**Figure 3 – 1 Action Research cycle**

The first phase is selecting a focus. Sagor states that “The action research process begins with a reflection directed towards identifying a topic or topics worthy of a busy teacher’s time.” (p.4) In this case, the diagnosis made on the group of students allows identifying that improve lexical competence is relevant to progress in the process of learning in EFL.

The next phase is to generate a meaningful research question to guide the inquiry. This research question, in this case, establishes a relationship among three elements: the *Mind Map* used as a tool to improve *Lexical competence* in the pedagogical framework of *Task based learning*.

Thirdly, clarifying theories allows “identifying the values, beliefs, and theoretical perspectives the researchers hold relating to their focus.” (ibid, p.5) In this study, *Mind Map* is expected to improve lexical competence because of its particular features. As an ER, *Mind Map* facilitates to acquire new words, improving their storage in the long term memory, but

also, it is expected to improve the spelling of them and comprehension of their grammar properties.

Once the theory defines the way to follow, in the fourth phase the researcher recollects data in order to give a support to their instructional decisions. To ensure reasonable validity and reliability in their findings, “action researchers should avoid relying on any single source of data” (Sagor, 2000. p.5). Therefore, this project includes quantitative and qualitative tools to obtain information. They are explained in the next point.

In the fifth phase of AR method, the collected data requires to be systematically analyzed: having qualitative and quantitative results, their analysis demands a technique as triangulation, which allows integrate different points of view on a phenomenon to arrive to conclusions. In this case, the three perspectives to be integrated come from the collected data, the pertinent theories on the analyzed topics and the reflections of the researcher.

Afterwards, the results of the research are reported in a document as this monograph. These findings can be taken into account to design new plans on the school, using the Mind Map as tool to improve the process in learning EFL. This last phase, known as taking informed action, is the start point to new researches about teaching learning process in EFL.

### **Study design**

AR is regarded as a pragmatic method to focus a problematic situation. Being a problem – centered approach, it is oriented to the practice in the real world and is not committed to any philosophical system. For this reason, this paradigm allows researchers having freedom of choice in methods, procedures and techniques. In this study, features as the type of students and the field to be studied, the lexical competence, lead the selection of particular tools to diagnose and interact on the problematic situation. But also, there is



freedom of choice in AR in the information gathered for this study as the data comes from qualitative sources (field observations, the survey, the texts written by the students) and quantitative sources (number of words correctly associated to an image or correctly written).

To analyze both forms of data requires a strategy associated to mixed methods approach. According to Cresswell (2003), this analysis is known as concurrent procedure. For him, in concurrent procedures, “the researcher converges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. (...) Then (he) integrates the information in the interpretation of the overall results.” (p. 16). This research takes into account three sources. The first one, which comes from quantitative paradigm, consists on the statistics of students’ performance in activities, evaluations or artifacts. The other two sources, from a qualitative paradigm, are the contextualized analysis of this results and the theoretical approach that supports and lights the understanding of this outcomes.

Having different kind sources to be analyzed, triangulation is required to analyze results. For Briman (2011) triangulation “entails gathering data through several sampling strategies so that slices of data at different times and in different social situations, as well as on a variety of people, are gathered” (p. 1142). This analysis allows understanding the interaction of different factors in the progress of this project, pointing to verify their impact in the development of lexical competence. In other words, the results of applying Mind Maps are confronted to the perception of its execution by the researcher and the theory about the specific items dealt with.

## Study variables

Unit of analysis	Category	Indicators
Lexical competence	Vocabulary acquisition	<ul style="list-style-type: none"> <li>The student associates correctly a word and an image.</li> <li>The student remembers the word associated to an image.</li> </ul>
	Spelling problems	<ul style="list-style-type: none"> <li>The student writes correctly a word associated to an image.</li> <li>The student writes correctly the words beforehand learned.</li> </ul>
	Function of words	<ul style="list-style-type: none"> <li>The student writes sentences using a correct noun - adjective order.</li> <li>The student writes sentences including the three elements in the structure of a simple sentence: subject – verb – complement.</li> </ul>

**Table 3 – 1 Study variables**

## Sample design

Following the principles of Task Based Learning, students do activities in groups; in this case, four students for each group, as there are 40 students in the classroom. Then, there are ten groups. From each group, two students are randomly chosen to take part of the sample for the analysis, considering that the vocabulary of the topic to be learned is totally new for the whole group of students, as was demonstrate in the phase of introduction to bullying. Obviously, it is expected that the final analysis will take into account students that participate in all of the activities. According to the previous ideas, the sample to be analyzed is integrated by 20 students.

## Data collection

There are three tools available to collect data for this study:

- Check sheets. These forms are structured for collecting and analyzing data. In this study, this tool is used to evaluate the vocabulary acquisition of the students, in the first two phases of the project. For instance:

Student	Number of tries to correctly associate a word and an image	Number of words correctly identified in the Mind Map
Student n° 1		
Student n° 2		
...		

**Figure 3 – 2 Check list to register results of memory games**

In the first column, there is the student to be evaluated. The second one refers to the quantity of words that the student correctly has associated to the images in the Mind Map. The last column indicates the number of words correctly identified in the memory game.

- Written evaluations: some indicators require a set of evaluations, designed according to the studied topics, to assess the learners' achievements. These formats include images carefully chosen to facilitate the identification of words, according to learned referents.
- Student artifacts: once the student has played the memory game with the Mind Map, she has to apply the learned words in specific tasks. This step requires two artifacts: first, a Mind Map that students draw by hand, to evaluate their writing of words learned beforehand. The second one is a little comic created by the students, where they have the opportunity to deal with the new vocabulary.
- Printable schemes: along the advance of this research, there are some writing activities which are developed in specific formats in order to produce texts, graphics, answer questions, etc. This set of schemes is previously conceived to generate a sequential

learning process in the student, according to their level in EFL and the topics to be dealt with in lexical competence

The next table illustrates the process of data collection in a chronological order.

Category	Indicators	Instrument	Dates	
Vocabulary acquisition	The student associates correctly a word and an image	Cheek list with the number of words correctly associated.	April 15 <sup>th</sup>	June 24 <sup>th</sup>
	The student remembers the word associated to an image.	Cheek list with the number of words correctly identified by the students.	April 22 <sup>nd</sup>	July 1 <sup>st</sup>
Spelling problems	The student writes correctly a word associated to an image.	Two Mind maps with keywords, drawn by the students.	April 29 <sup>t</sup>	July 8 <sup>th</sup>
	The student writes correctly the words beforehand learned without a referent.	<ul style="list-style-type: none"> <li>• Evaluation format with images to fill with associated words.</li> <li>• A scene about bullying designed by the students.</li> </ul>	May 6 <sup>th</sup>	July 15 <sup>th</sup>
Function of words	The student writes sentences using a correct noun - adjective order.	<ul style="list-style-type: none"> <li>• Description of roles in the bullying spectrum.</li> <li>• Description of a product for a bullying campaign.</li> </ul>	May 13 <sup>th</sup>	July 22 <sup>nd</sup>
	The student writes sentences including the three elements in the structure of a simple sentence: subject – verb – complement.	<ul style="list-style-type: none"> <li>• A news text about a bullying case.</li> <li>• A message to give advice to a bullying victim.</li> </ul>	May 27 <sup>th</sup>	August 5 <sup>th</sup>

**Table 3 – 2 Instruments to recollect information and dates to develop activities**

## Chapter 4

### Pedagogical proposal

#### Pedagogical framework

To execute the plan explained in the previous chapters, this project requires the sequential development in two areas: firstly, to train the cognitive skill of the students in order to help them to learn and acquire new vocabulary (vocabulary acquisition); secondly, to apply this vocabulary in specific tasks to deal with the specific written features (spelling problems and function of words).

The first step in this learning process implies a pedagogic strategy which leads learners to build their own models. This fact has a cognitive relevance as, according to theories on ERs, learners have a better performance as they can interact with material created by themselves instead of use pre designed images. In addition, as explained in the theoretical framework, the elaboration of Mind Maps is pedagogically justified as it follows a constructivist approach in the context of Meaningful learning.

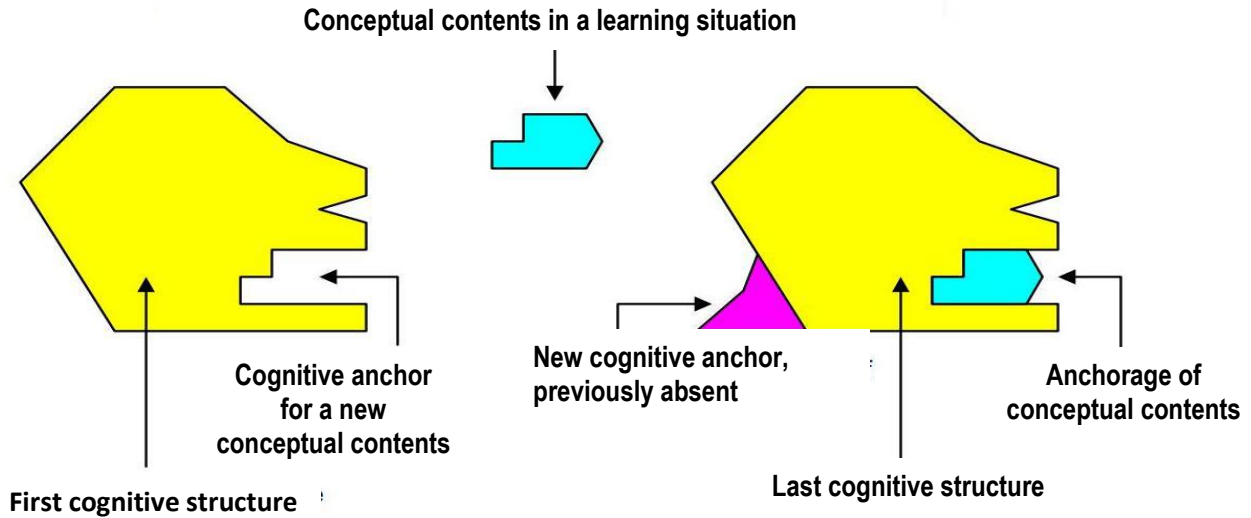
Once the student has assimilated the new lexical information, she is expected to use it in a communicative context. According to the learners' profile, teenagers in a basic EFL level, it is convenient to implement didactics which permit them to apply their lexical in meaningful activities. For this reason, the Task Based Learning Teaching (TLBT), which follows the parameters of constructivism also, is suitable as give the learner a context to establish new relationships between concepts to increase its comprehension of new topics in a deductive thinking way. In the next lines, there is deeper sight of these learning models.

### **Meaningful learning: A better option than learning by hearth**

Meaningful learning is one of the most known models in the psychological school of constructivism. David Ausubel (1918 – 2008) is recognized as the pioneer in the development of this theory. This psychologist focused on two fields to develop it, the learning process of school students and the previous information they already know. For Ausubel, learning is an active process, not a simple response to the environment, because learners seek to make sense of it by integrating new knowledge with the previous information they have already learned. Because of this reason, the storage of the student's knowledge is the primary determiner of whether and what he or she will learn.

The key concept in Ausubel's theory is *cognitive structure*: for him, this is a sum of all the knowledge that a person has acquired as well as the relationships among the facts, concepts and principles included in that knowledge. Starting from there, "Learning for Ausubel is bringing something new into our cognitive structure and attaching it to our existing knowledge that is located there. This is how we make meaning, and this was the focus of his work." (Hannum, 2005, n.p.)

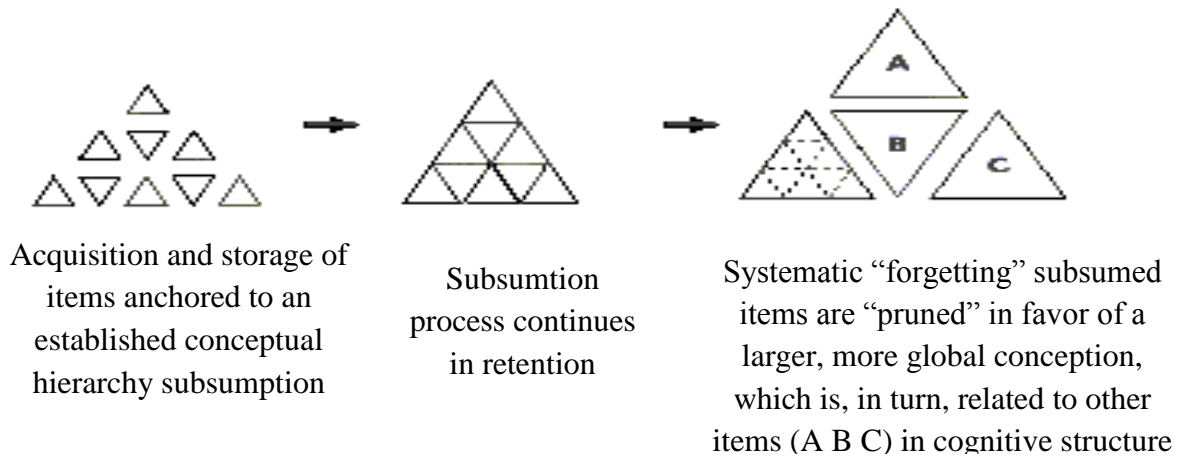
The process of learning, according to Ausubel (ibid, 2005), is represented in two moments (see figure 4 – 1): It starts with the ensemble of knowledge a learner has in his mind, identified as the first cognitive structure, which is able to incorporate new contents as it includes a cognitive anchor available for them. In a second moment, during a learning situation, there is an anchorage process in which the new contents are assembled with the previous structure, creating a new cognitive structure, bigger than the first one. This last ensemble generates new cognitive anchors to add new concepts afterwards.



**Figure 4 – 1 Meaningful Learning process (Hannum, 2005)**

The previous scheme can be applied to explain the role of meaningful learning through the use of Mind Maps. The first cognitive structure of the students includes their previous knowledge about the world and the topic to be dealt with, that is, in this case, bullying. It does not have to do anything with their linguistic knowledge of vocabulary in English. The conceptual contents in a learning situation are represented by the images to be used in teaching vocabulary and its meaningful function in the mind of the student. These images come to fit in the cognitive anchors of students, as they are universally meaningful for anyone, independent of any lexical knowledge. Additionally, they have a meaningful charge for each one for the students, as they are created by them. Once that fact happened, a second cognitive structure has born as the student has assimilated these new concepts in their cognitive structure.

As the previous process is developed under a logical and meaningful network, as Mind Map allows, it creates new relationships with other preexistent networks in a process known as subsumption. When the new information is subsumed into the learner's cognitive structure, it is organized hierarchically. (See fig. 4 – 2)



**Figure 4 – 2 Schematic representation of subsumption (Brown, 2012)**

Considering the cognitive structure as a system of building blocks, subsumption is the process whereby blocks become an integral part of already established categories or systematic clusters of blocks (Brown, 2012). This constructivism feature leads the learner to build its own conceptual framework in a logical mode. In this case, taking advantage of the didactic properties of Mind Maps, these networks are reinforced by the cognitive properties of ERs, mentioned in the theoretical framework. In this sense, mind mapping allows to improve lexical competence of the students as they can build a consistent ensemble of knowledge about any lexical land which can be assimilated and establish in their previous scheme of conceptions of the real world.

For Ausubel (1978), three conditions to take into account in order to achieve this aim are:

1. The material to be learned must be conceptually clear and presented with language and examples relatable to the learner’s prior knowledge.
2. The learner must possess relevant prior knowledge.
3. The learner must choose to learn meaningfully.



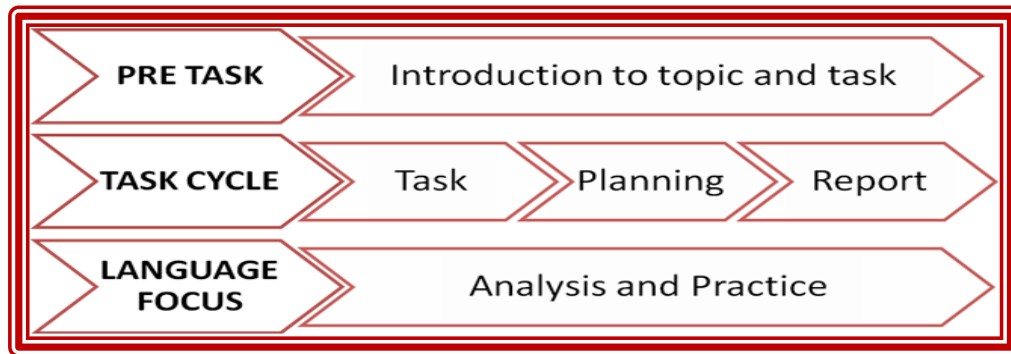
The mentioned conditions are implied in the application of the present project as firstly, the material the students use to learn vocabulary is based in images which are easily related to the prior knowledge of the students about the topic to be learned. In second place, as demonstrate in the diagnosis, these schoolgirls had a general overview on the problematic of bullying, so as to associate the new vocabulary with their daily scholar life. Finally, when the Mind Map was introduced to the students, they discovered it was a different and interesting way to learn new concepts, so they were really motivated to use the new tool in learning new vocabulary in English and, by the same way, to learn in a meaningful way.

### **Task based language teaching (TBLT)**

As mentioned in the introduction of this chapter, once the students have assimilated new vocabulary, they are expected to use it in a communicative context, following the parameters of Task Based language teaching.

The core concept in this theory is task. According to Nunan (2004), a pedagogical task is a part of classroom work that “involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge to express meaning, in which the intention is to convey meaning rather than to manipulate form” (p. 4). In this stage, students use the acquired vocabulary learned through mind mapping to express meaning in some tasks, conceived to improve their lexical competence in other aspects. For instance, these tasks have to do with writing a news report about a bullying case, designing objects for a bullying campaign and writing a message to a bullying victim.

Once defined the tasks, it is necessary to select a model to develop them in the classroom. There are many models to implement TBLT in the classroom. One of the most known was developed by Willis (1996) (see figure 4 – 3). It includes three phases: pre – task, task cycle and language focus.



**Figure 4 – 3 Task Based learning phases**

For Willis (1996) “At the pre-task phase, the teacher highlights useful words and phrases, helps students understand directions for the task, and prepares them for the task.” (p.21) Thus, in the pre task phase, students get a cognitive input that prepare them to develop the activities into the task cycle. These activities are carefully chosen to increase the comprehension of the studied topic. For instance, some pre tasks planned for this project are analyzing schemes to discover people features, watching videos about bullying, solve questionnaires to write a text, etc.

About the second stage, the task cycle, Willis states:

The task cycle includes three components: (a) *task*: students work in pairs or small groups and the teacher monitors from a distance; (b) *planning*: students prepare to report to the whole class orally or in writing how they did the task and what they decided or discovered; and (c) *report*: some groups present their reports to the class or exchange written reports, and then they compare results. (p.22)

The task cycle is relevant in learning of new concepts. In this case, students have the opportunity to deal with a task, bringing into play all their previous knowledge, meanwhile

share it with their partners to achieve an aim. In other words, they follow a constructivism paradigm which leads them to question, check and modify their previous knowledge. Some activities for this cycle are describe characters of the bullying spectrum, design and create objects for a bullying campaign, establish differences between the behaviour of a bully and a victim, etc.

The final phase is language focused. Willys (ibid.) divide it into two components. (a) *Analysis*, where students examine and discuss specific features of the text; and (b) *Practice*, where teacher conducts practice of new words, and phrases occurring in the data either during or after the analysis. Following this scheme, in this case, the grammatical features of words are analyzed based on the sentences the students wrote in their texts, in order to verify the comprehension of the function of words in them, as established before, the noun – adjective order and the use of a structure subject – verb – complement without omissions of one of these elements.

The roles of teachers and students in TBLT is determined by the process of language learning and skill-development through collaborative knowledge-building. In this sense, Ellis (2003) proposes that the teacher has to ensure an appropriate level of task difficulty. In this case, according to the English level of the students of 8<sup>th</sup> grade, it is regarded that students have a basic level on grammar, reading comprehension and writing to elaborate the instructions and material to work in their activities.

Also, teachers need guarantee that students adopt an active role in task-based lessons. In this project, this aim is achieved through the assignment of micro tasks for each student in the production of their texts. This fact guarantees a gradual and involving performance of the students in the activities as a better comprehension of the topics to learn.

Finally, it is recommended that students were primarily focused on meaning when they perform a task, highlighting the communicative intention they have when they are designing their written products. In agreement with this idea, the students are previously contextualized on different aspects of bullying (causes, types, prevention, etc.) each time they are going to work.

### **Stages**

As explained before, this project is divided into two phases. The first one has to do with vocabulary acquisition, where students are expected to learn new vocabulary using the Mind Map as strategy. This phase includes three stages:

#### ***Stage 1: The world of Mind Maps***

In agreement with the diagnosis, students did not know anything about Mind Maps. For this reason, in this phase, students have their first contact with these structures. To introduce this topic, in a first moment, by groups, they observe and analyze some examples of Mind Maps to identify their main features. Then, the trainee teacher socializes the experience and unifies the criteria, making examples of Mind Map in the board, emphasizing on the advantages that this strategy can gender in their learning process on any subject. Finally, students are expected to mind map by themselves.

#### ***Stage 2: Let's make our Mind Map***

When the students are asked about the topic of bullying, they recognized not having so many ideas about this topic. Then, they are introduced to this theme to elaborate their Mind Maps, through an activity with comics about it: they had to organize the story in a

logical sequence. Once they are more aware about this problematic, the trainee teacher socializes the experience and ask questions about main features of bullying, causes, consequences, etc. Then, the students are organized by groups of four students and draw their Mind maps using the given vocabulary (related to bullying), arranged by categories.

***Stage 3: Learning new vocabulary with Mind maps is so funny!***

By groups, the students play two memory games with their Mind Maps to learn the vocabulary represented there. In the first game, as each Mind Map is drawn without the keywords, the students have to assign them to the correct image. In the second game, the students are requested to say the word that corresponds to a drawn image in the mind map. These games allow verifying the grade of vocabulary acquisition in the denotation level.

To check the writing of the learned words, students are asked to write words associated to images seen in a screen or printed in a scheme. Finally, to integrate the previous processes, they have to draw the Mind Map as they remember it, with the keywords learned.

The second moment of this project has to do with the written word to deal with misspelling and collocation problems. They are stages nº 4 and 5.

***Stage 4: Hey, my friend! What do you know about bullying?***

This stage includes two moments: firstly, the students used the vocabulary of bullying to identify the people involved in a case of bullying in the school. For this activity, students handle a word bank with adjectives that allow them to describe people according with the traits they regarded more convenient. After this exercise, students put the described characters in a scene of a bullying in the school, which includes some pieces of speech and

an additional description of what happened there. In a second activity, students write a paragraph in a news format to tell about a real or imaginary situation of bullying.

### ***Stage 5: Let's prevent bullying***

This stage includes two activities. To prepare the first one, students watched three videos about bullying campaigns which, once analyzed, allows introducing the main task, that is, to describe and draw creative objects that can be part of a campaign to prevent bullying. In the second activity, students become sensitive about real cases of bullying, as they previously watched three videos on this topic. From that point on, they were ready to write a letter to a bully victim, giving her advices to help her to overcome this problem.

## **Syllabus**

See appendix 4 for sessions, objectives, stages, activities, dates and resources.

## **Planning Model**

The Lesson plan is a guide to prepare and develop activities in the classroom. This format allows defining formal aspects for each lesson. To direct the activity in the same line of the research objectives, the lesson plan starts identifying the indicator and a specific objective to achieve on this topic. In second place, there is a list of the resources to be used in this lesson. Afterwards, there is a sequential arrangement of the activities to be developed in the lesson, with its correspondent time. The first moment is an opening that introduces the topic to be deal with that session. Afterwards, there is an ensemble of pre activities, while activities and post activities organized according to a gradual level of exigency to facilitate the comprehension of the topic. Finally, there is a closure referred to the conclusion of the lesson. As an example, see figure 10.

## Lesson Plan N°

<b>TOPIC:</b> Use of adjectives in sentences to make descriptions.	<b>Group:</b> 8 <sup>th</sup>	<b>Time:</b> 90 min.
<b>Indicator</b>		
Function of words		
<b>Objective</b>		
To learn the correct noun –adjective order in a sentence to describe of objects.		
<b>Resources</b>		
Television, Lap top, tracks on videos about bullying, photocopied formats, whiteboard, markers		
<b>Opening</b>		
Students are asked about campaigns against bullying in their school. have they taken part in one of this campaigns? Yes? No? Why? What were they like? etc.		5 min.
<b>Pre-activities</b>		
Students watched three videos about campaigns against bullying to identify objects designed for this proposal. The videos were watched two times.		20 min.
<b>While-activities</b>		
Students design and describe different kind of objects (t- shirts, pins, laces, etc.) to be used in a campaign to prevent bullying.		50 min.
<b>Post-activities</b>		
There is a socialization of the description of the objects, writing some sentences written by the students in the whiteboard to recall the correct use of adjectives in a sentence to describe things.		10 min.
<b>Closure</b>		
Students took some notes in their notebooks on the explanation and handled their activities to the trainee teacher.		5 min.

Figure 4 – 4 Example of a lesson plan

## Chapter 5

### Data analysis

#### Data management

As seen in the previous chapters, the development of this research implied a plan that ruled the activities to achieve its main objective, to evaluate the impact of applying Mind Map to improve lexical competence, regarding its cognitive properties as an ER. In the execution of the mentioned plan, some aspects are worth to be commented in relation to the degree of compliance attained through the five stages of the project, regarding aspects as gathering, organizing and analyzing data, available time and implied resources.

In the first stage, *The world of Mind Maps*, students were introduced to this ER. This stage can be regarded as a preparative step where, thanks to the interaction with some models, learners identified the main features of Mind Maps. The importance of this stage to start the project was fundamental, as students did not know anything about it, although there was no production of concrete data to take into account in the final analysis.

The second stage, *Let's make our Mind Map*, demonstrated that students had assimilated the process of mind mapping. In this case, students got clear instructions and, for this reason, it was easy for them to elaborate their Mind Maps. However, mind mapping was not a fluent activity in the group. In fact, it took more time than the expected one because some groups of students wanted to draw their images with precision, including many details. In other groups, the work was done by two students and this fact implied more time to finish the Mind Map. In spite of these difficulties, every group arrived to elaborate their own



scheme to start the next activity. These schemes, the first students' artifacts, were easy to evaluate by checking of the presence of the main features of Mind Maps, explained in the first stage.

Once students had drawn their Mind Maps, they were evaluated on vocabulary acquisition through two memory games in the third stage of this project, *Learning new vocabulary with Mind maps is so funny!*. In order to register their performance, the check lists designed to this aim was an appropriate tool as it was simple to register the successful or unsuccessful attempts of learners to identify or say the correct word for each image in the Mind Map. These results were the input to elaborate the statistics that allowed checking the evolution of the students on different indicators.

For the next stages, wanting to estimate the impact of mind mapping in grammar aspects of lexical competence, students had to deal with different writing formats, carefully designed in order to contextualize learners on a topic or to develop a specific item on it. In this sense, the photocopiable material was designed following the sequential process of learning under the TBLT steps, that is, pre task - task. Accordingly, the pre task formats looked for introduce students to the topic to be developed. For instance, in activity nº 7, there were a set of questions which leded students to define the data of a case of bullying to elaborate a news report as a task. Other times, carefully selected videos were watched by students to introduce them into the topic for the pre task activities.

Once finished the activities, students' artifacts of the task cycle were analyzed to extract pertinent information according to each specific indicator. For instance, if it was necessary to evaluate the use of noun adjective order in sentences, this feature was identified and extracted from the texts, checking the frequency of use of this structure and comparing it with previous texts as the diagnosis activity or the texts from other tasks. This process

allowed verifies the evolution of an specific indicator along the time, regarding the effect produced by the strategy previously applied.

The information collected from students' artifacts was contrasted with the theory on that specific topic and the perception of the trainee teacher in order to establish a complete panorama on the performance of the students in the development of the activities and its impact on lexical competence. These three inputs integrated a triangulation whose synthesis helped to evaluate the results on each indicator of the research.

In other aspects, there were some difficulties with students. For instance, as expected, their different attitude towards writing was not similar among them. Some learners delight in writing and showed an interesting performance through their texts. Other ones, worried for grades, made their best efforts and used dictionaries or asked questions all the time to do the tasks.

Another problem had to do with dealing with a big group, 42 students, and the obvious implications of this situation: discipline problems, differences in the level of language of the students, group management, etc. In fact, to verify the advance in the activities, it was necessary for the trainee teacher to be all the time walking around the classroom, asking students about their performance, demanding to low the noise or to stop chatting with their classmates.

In spite of these situations, there were no problems to accomplish the plan according to the expected times in the chronogram. Sometimes, there were some unexpected extra-curricular activities which implied to move the date to the next day, but there was no problem as, in these cases, the teacher of the group was very comprehensive to provide another day to continue with the normal progress of the syllabus.

In conclusion, the process of gathering and analysis of data was satisfactorily developed as the check lists, the students' artifacts and the qualitative appreciations along the project allowed to evaluate the process in a systematic way, generated accurate information to verify the impact of mind mapping in three specific aspects of lexical competence.

### Data analysis

Lexical competence, as the unit of analysis in this study, has been analyzed in three categories: vocabulary acquisition, spelling problems and function of words. The relationship between these categories and its unit of analysis is shown in figure 5 - 1.

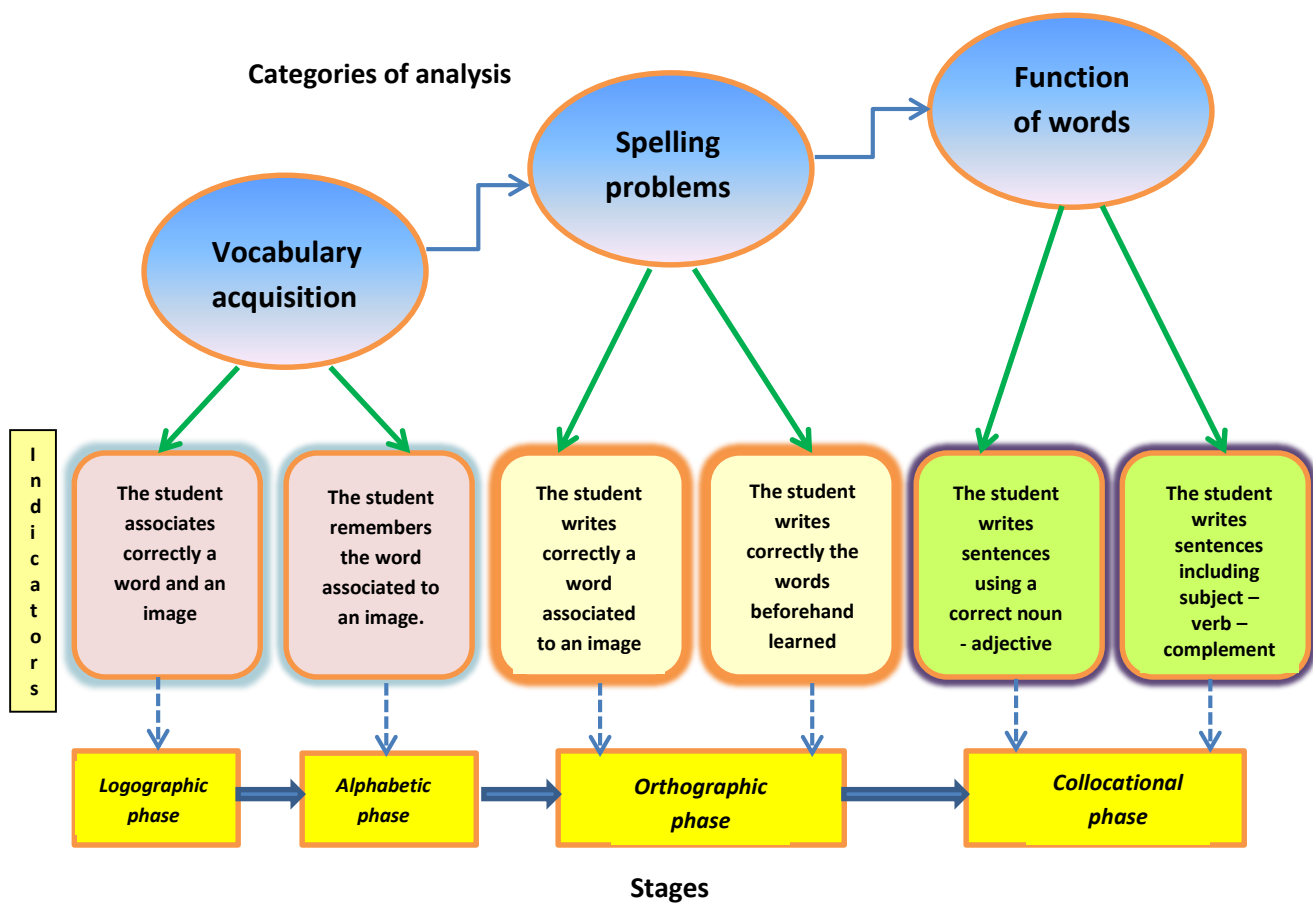


Figure 5 – 1 Relationship between categories, indicators and phases in this research

One of the basic levels in developing lexical competence has to do with vocabulary acquisition. In this sense, firstly, it is expected that the learner get to identify a word with a visual referent. This stage includes a logographic phase and an alphabetic phase, where the student demonstrates the grade of assimilation of the new words. Once she has identified the word with its referent, the EFL student has to deal with the spelling problems originated by her poor familiarity with these words. In that sense, this project pretends to check the impact of previous work with Mind Maps in the level of spelling of the students. These achievements take part of an orthographic stage. Finally, the grammar use of the learned vocabulary is lexically analyzed under function of words category, where the student handles with these words in a context, with a specific communicative intention. These findings take part of the last stage of this project, the collocational phase.

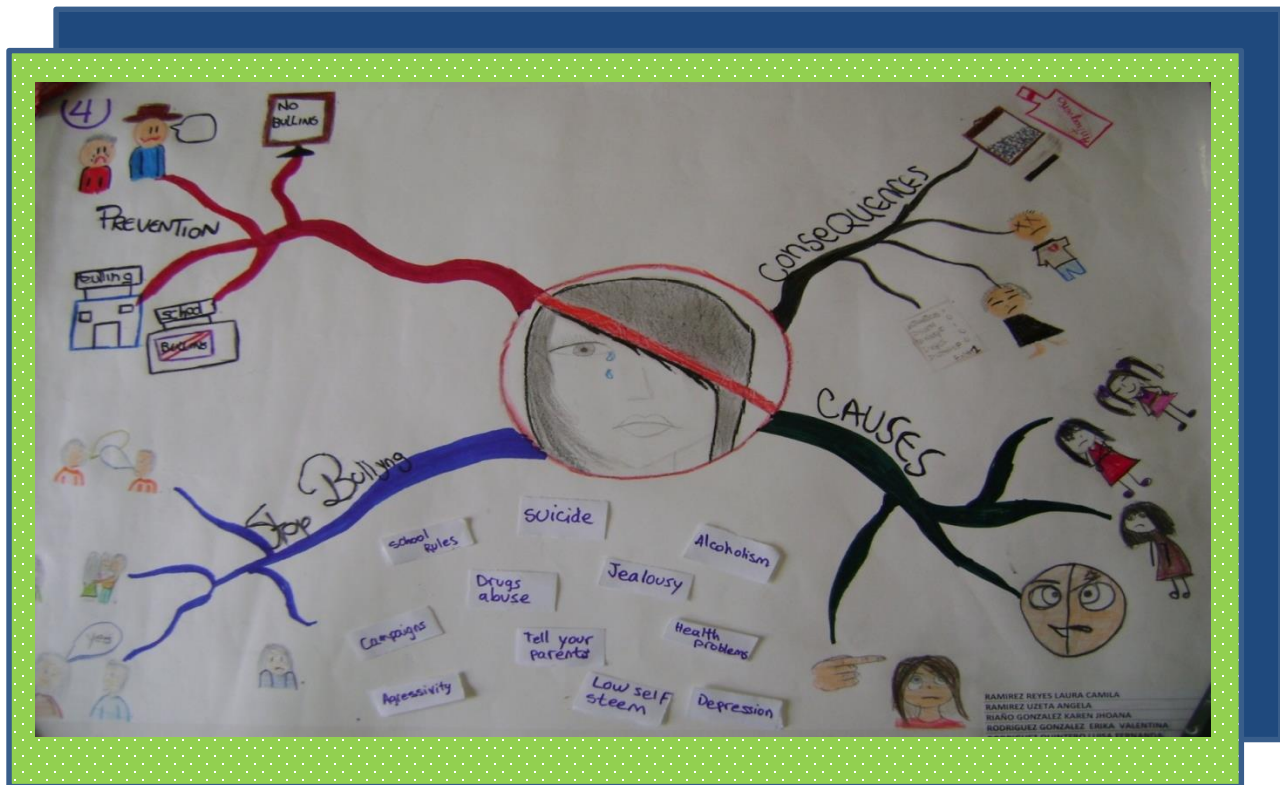
As the graphic reveals, there is a gradual evolvement in the grade of complexity of the topics along the time. Each category developed two indicators, which implied the use of specific instruments that allowed gendering results to evaluate the effectiveness of the applied strategies. The findings of this work are exposed and analyzed in the next paragraphs.

#### **First category: Vocabulary acquisition**

In this category, the main aim was to evaluate the effectiveness of Mind Maps in the first stage of learning vocabulary. Taking into account that Mind Maps are ER which can improve the cognitive assimilation of information through the use of images in them, the indicators for this category are *The Student associate correctly a word and an image* and *The student remembers the word associated to an image*.

***Indicator n° 1: Students associate correctly a word and an image.***

During the first three weeks of the project's development, students were introduced to Mind Map. In this stage, they identified its main features, observing some examples of them (pre task) to understand the meaning of its structure, colors, icons, etc. When the topic was clear for the group, students mind mapped for a first time. To make their draws, they got a list of words on bullying, organized by categories, to create a memory game.



**Figure 5 – 2 Mind Map memory game.**

The first time, they worked in groups of four students with a set of twenty words classified in four bullying categories (see next page):

<b>ROLES</b>	<b>SIGNS</b>	<b>TYPES</b>	<b>PREVENTION</b>
<ul style="list-style-type: none"> <li>• <i>Bully</i></li> <li>• <i>Victim</i></li> <li>• <i>Silent bystander</i></li> <li>• <i>Defender</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Injuries</i></li> <li>• <i>Destroyed things</i></li> <li>• <i>Nightmares</i></li> <li>• <i>No desires to go to school</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Physical bullying</i></li> <li>• <i>Verbal bullying</i></li> <li>• <i>Gay bullying</i></li> <li>• <i>Cyber bullying</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Assessments of bullying</i></li> <li>• <i>Engage parents and youth</i></li> <li>• <i>Rules and prevention programs</i></li> <li>• <i>Campaigns and focus days</i></li> <li>• <i>Positive school environment</i></li> </ul>

**Table 5 – 1 Vocabulary for the first memory game with Mind Maps**

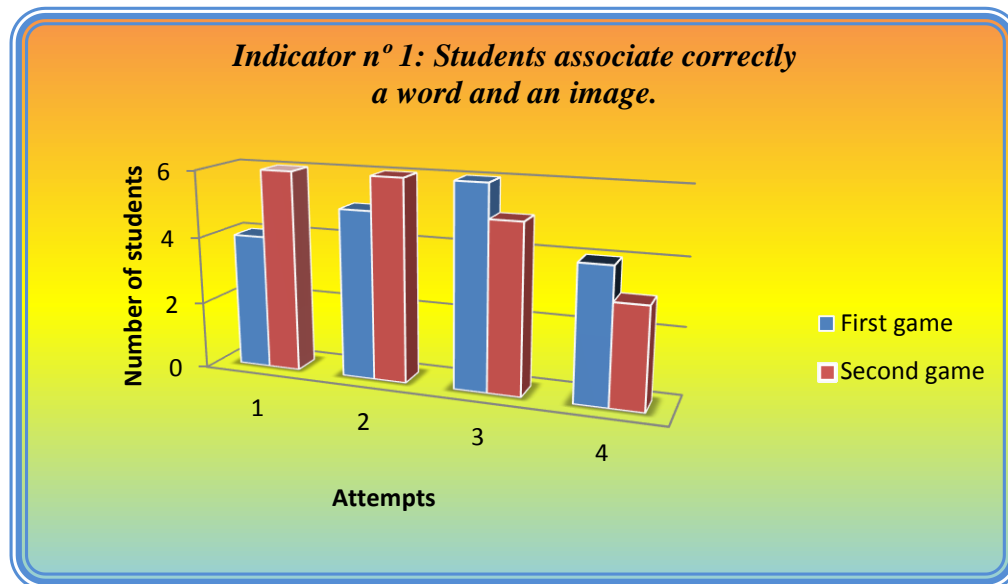
For the second game, students worked in pairs, with a different set of categories and words.

<b>CAUSES</b>	<b>CONSEQUENCES</b>	<b>BEHAVIORS</b>	<b>STOP BULLYING</b>
<ul style="list-style-type: none"> <li>• <i>Problems at home</i></li> <li>• <i>Aggressive personality</i></li> <li>• <i>Jealousy</i></li> <li>• <i>Low self esteem</i></li> <li>• <i>No human values</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Depression</i></li> <li>• <i>Alcohol or substance abuse</i></li> <li>• <i>Health complaints</i></li> <li>• <i>Low academic performance</i></li> <li>• <i>Suicide</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Hitting</i></li> <li>• <i>Name calling</i></li> <li>• <i>Spreading rumors</i></li> <li>• <i>Ignore</i></li> <li>• <i>Mimicking unkindly</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Tell your parents or teachers</i></li> <li>• <i>Walk away</i></li> <li>• <i>Pretend to agree</i></li> <li>• <i>Act unimpressed</i></li> <li>• <i>Look for other friends</i></li> </ul>

**Table 5 – 2 Vocabulary for the second memory game with Mind Maps**

Once students drawn their Mind Maps, students played the memory games by groups.

The results of these activities are represented in the next figure:



**Figure 5 – 3 Results of First indicator of vocabulary acquisition category**

As the graphic shows, comparing the results in the first and the second memory games, there was a change in the number of attempts students did to associate correctly the words. In fact, the number of students that associate the words in one attempt was 4 in the first game, but it increased to 6 in the second game. The same tendency kept along and finally, the number of students decreased in the range of four attempts: from 4 to 3.

These results pretend to be in the same way of other researches of application of Mind Map in teaching vocabulary. For instance Pua (2011) states, “we found that helping elementary students to create personalized, colorful and interesting Mind Maps could ease their difficulties to acquire and recall the vocabulary for a longer period of time.” (p.80). In other words, the use of Mind Maps helps to learn vocabulary as students take advantage of the cognitive features of an ER, which usually is recognized for its benefits in improving long term memory. In addition, it is remarkable that Mind Maps lead students to classify

these new words by categories. This property is valuable as this is the basic principle to create a concept, to subordinate new items to previous knowledge.

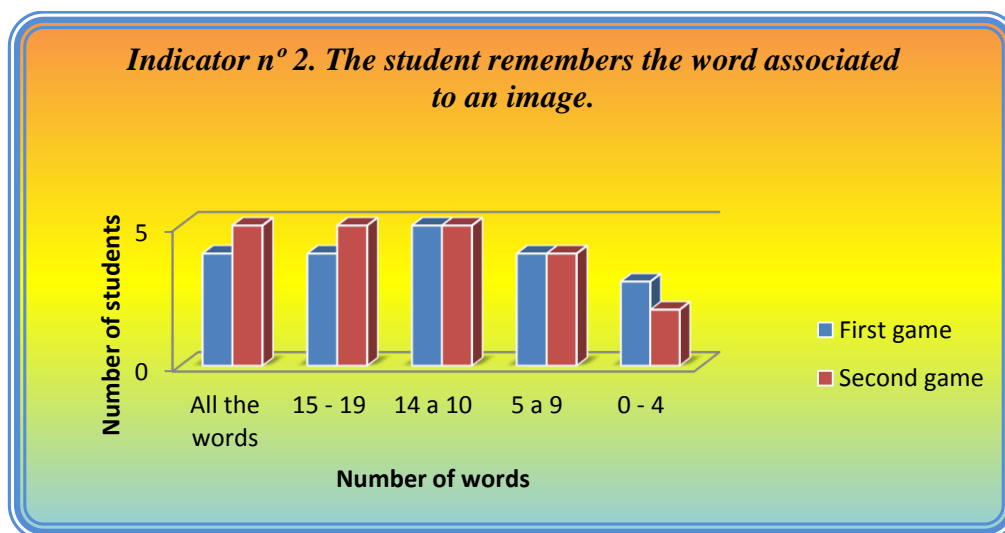
In academic literature, the use of Mind Maps has been documented following the same parameters, that is, teaching how to mind map to students improve their memorization of items. In this project, however, there is another proposal to use it as a didactic tool: this can be transformed into a game to increase its potential in learning. In fact, this activity has enriched the learning experience of students as they had two cognitive inputs to assimilate new information: a visual and a kinetic channel.

At the end, this game allows learning in a funny way. The experience of play the first memory game was appealing for the students. They enjoy and feel in a challenge all the time and, when they achieved to associate the words, feel confident and satisfied with their performance.

***Indicator n° 2: The student remembers the word associated to an image.***

Once students finished their first memory game, the next two weeks they were tested to evaluate their recalling of the vocabulary, using the Mind Map they draw for the previous activity. At this time students did not have the printed words, just the images in the Mind Map. Students had to remember and say the keywords as they were pointed by the trainee teacher. The results of this activity are shown in figure 5 – 4.





**Figure 5 – 4 Results of the second indicator of vocabulary acquisition category**

In agreement with the graphic, there was an advance in the number of new words that students remembered each time. There was a little increase in the number of students that remember all the words: 4 to 5. The same situation happened with the quantity of students that recalled from 15 to 19 words. In the last range, there was a decrease which means an improvement as this was the less number of words to remember.

The outcomes of the two indicators demonstrate that Mind Map can gender an improvement in recalling vocabulary which positively impacts the lexical competence of the students. This device has been tested in other language environments, too. As a group of teachers realized, “The use of Mind Maps to aid vocabulary building is an effective way to help students learn vocabulary. It gives them an alternative way to memorize new words instead of rote memorization. Students have gained more confidence in using English after the introduction of mind maps.” (Pau, 2011, p. 79). Nevertheless, an essential reason for this achievement is the cognitive stimuli that this ER provides in learning processes. In fact, three reasons support these findings.

First of all, according to theories on ERs, the elaboration process of any of these representations has a cognitive impact in the learner:

“The idea is that by operating with external material, pen, paper, ruler, and then working to meet one’s goals and sub goals using that external material (...) subjects benefit from physical constraint and visual hints that help cognition. This plays out in a few ways. For instance, the constructive process helps drive interpretation. Because action is primarily serial, it is incremental; a structure emerges step-by-step and a subject must resolve specific problems.” (Kirsh, 2009 p. 1104)

In this case, the first contact of students with the concepts was during the process of elaboration their Mind Maps. As seen in the development of this task, learners had to reflect on the disposition of the branches by categories, their size, the selection of colors, the kind of image to represent a keyword, etc. According to the positive results on both indicators, all these previous sensorial stimuli seem to prepare the mind of the learner to get the new information in a meaningful way. As saw here, there is a clear incidence of this previous income on vocabulary acquisition and, by the way, in the improvement of lexical competence.

Secondly, the elaboration of images in groups implied the students to come to an agreement about the way to draw the referent to represent each keyword. For ER’s theory, this fact has to do with the possibility to create an identifiable object of thought:

To say that something is or could be an object of thought implies the thinker can mentally refer to it – in some sense the thinker can *grasp the referent*. A shared object of thought means that different thinkers share mechanisms for agreeing on attributes of the referent. (Kirsh, 2009 p 1106)

In fact, all the images students draw in their Mind Maps were designed starting from the deliberations they had about how to differentiate, for instance, a bully from a victim, or to select a referent for depression different of sadness, etc. In this sense, students defined their referents according to their previous particular experiences. This fact suggests that vocabulary acquisition is more effective as the learner have the opportunity to reflect on the

referent to assign to each term. In other words, vocabulary acquisition improves as learners contextualize their knowledge in the cultural framework they have built beforehand.

In third place, it is relevant that Mind Maps, as ERs, allows learning as it stimulates other cognitive properties.

Graphical representations probably make use of the visual – spatial –scratch pad component of working memory. Exploiting this modality of working memory does not consume resources from phonological encoding via auditory channels although there is an attentional overhead. The spatial component of visually processed information is probably encoded automatically and independently of attention. In contrast, the encoding of visual information is thought to involve attentional switching by the central executive. (Cox, 1995 p.5)

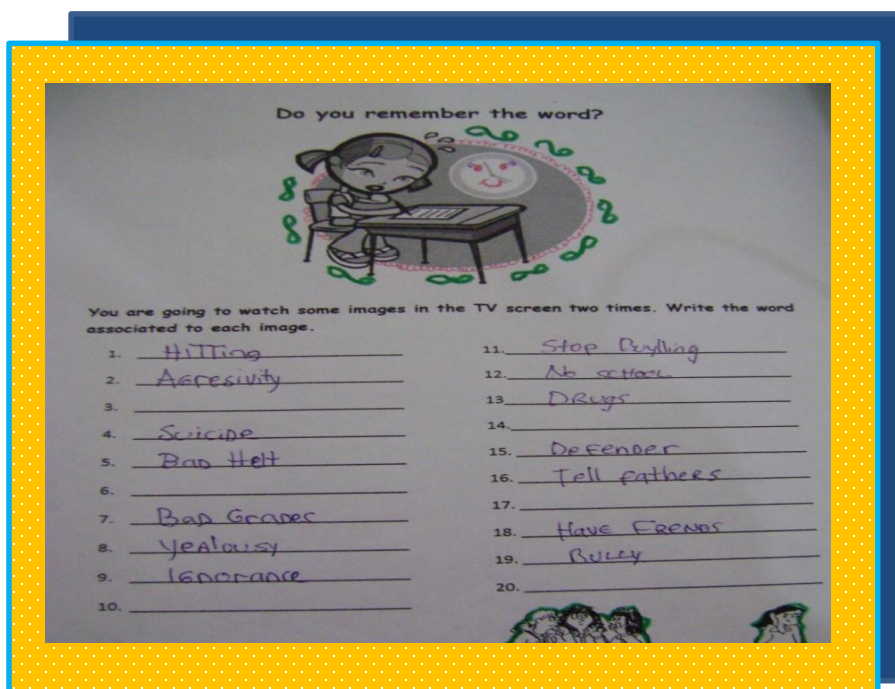
For this reason, as students learned vocabulary using Mind Maps, it was easy for them to play the memory game. These outcomes suggest that to improve the lexical competence of the students, it is desirable to enrich their learning process stimulating other cognitive channels, different of the traditional ones. In this case, taking advantage of spatial intelligence could reinforce the relationships between words, categories and concepts which, finally, improve the learners' lexical performance.

### **Second category: Spelling problems**

In this category, the expectation was to verify if there are less spelling problems when students have learned a word through the use of Mind Maps. The first indicator has to do with the ability to write correctly a word previously learned according to its referent, in this case, an image from a Mind Map. The second one evaluates the writing of this word without the presence of a visual referent.

**Indicator n° 1: The student writes correctly a word associated to an image.**

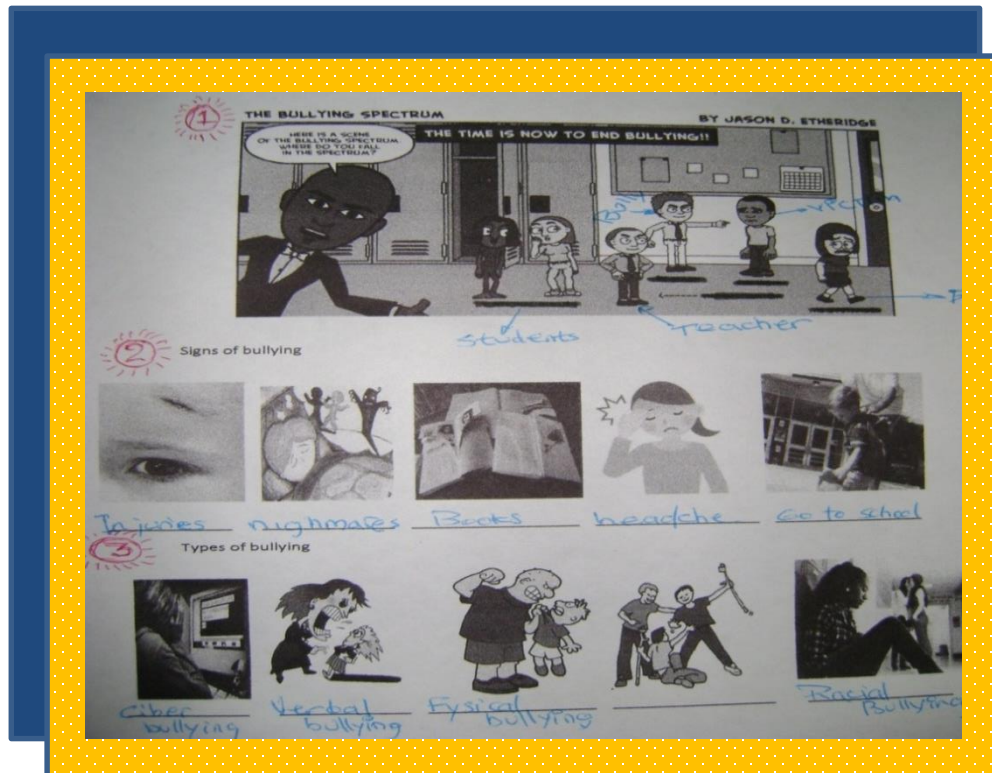
Once the students had learned new vocabulary on bullying, playing the memory game with Mind Maps, they were asked to write the words they have learned before. Along the next three weeks, there were three activities that allow verifying the potential of images to retrieve a word previously associated with it. In the first activity, students wrote words about the topics learned with the Mind Map memory game. To provide the visual stimuli, they saw 20 images in a TV screen and then they had to write the associated word in a format designed to do this task. (See figure 5 – 5)



**Figure 5 – 5 Writing activity n° 1. Student n° 7**

The results in the first activity were not really satisfactory: some the students did not recall words, other ones write them with several orthography mistakes and, in other cases, they invented terms. For these reasons, to develop the second activity, students were prepared previously in an extra session to reinforce the spelling of words with a competition: by teams, students had to go to the whiteboard to write the asked word and, if they were correctly

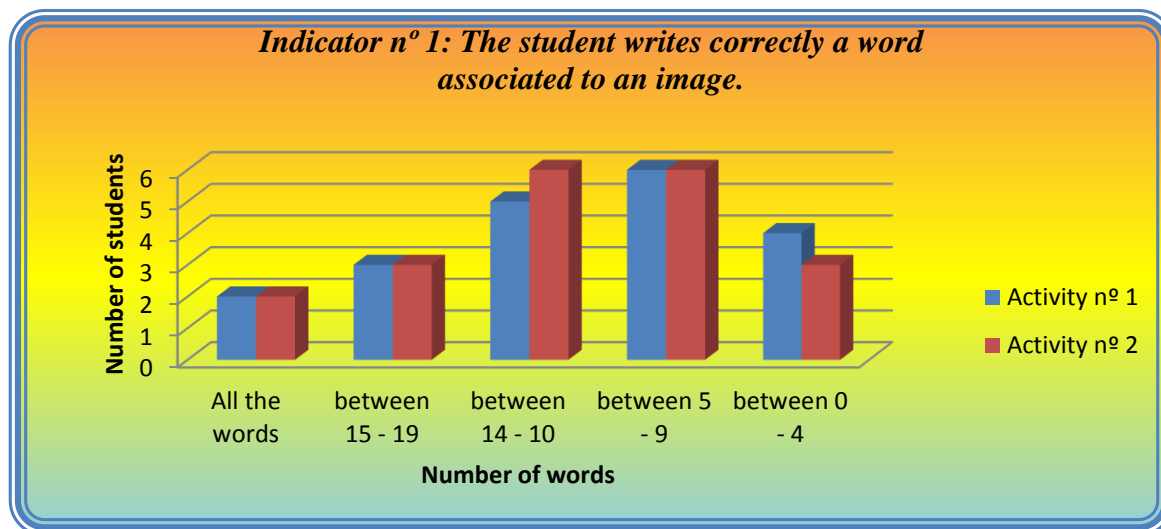
written, the group obtained a point. After this game, students were evaluated for a second time by writing the word associated to a printed image about the topic learned with Mind Maps (see figure 5 – 6).



**Figure 5 – 6 Writing activity n° 2. Student n° 10**

As seen in the figure, in the first point there is a scene of bullying where students had to write the names of each one of the roles in the bullying spectrum. The second and third point, ask for identify the words associated to five signs of bullying and five types of bullying.

The results of both activities are presented in the next graphic:



**Figure 5 – 7 Results of First indicator of spelling problems category**

The statistics shows that there are no great differences in the results of these activities: in the first, second and fourth sets of results, there are no changes in the number of correct words. The only changes are evidenced in the second and fifth ranges. Regarding this graphic, there is not a clear tendency to improvement spelling after applied the planned activities.

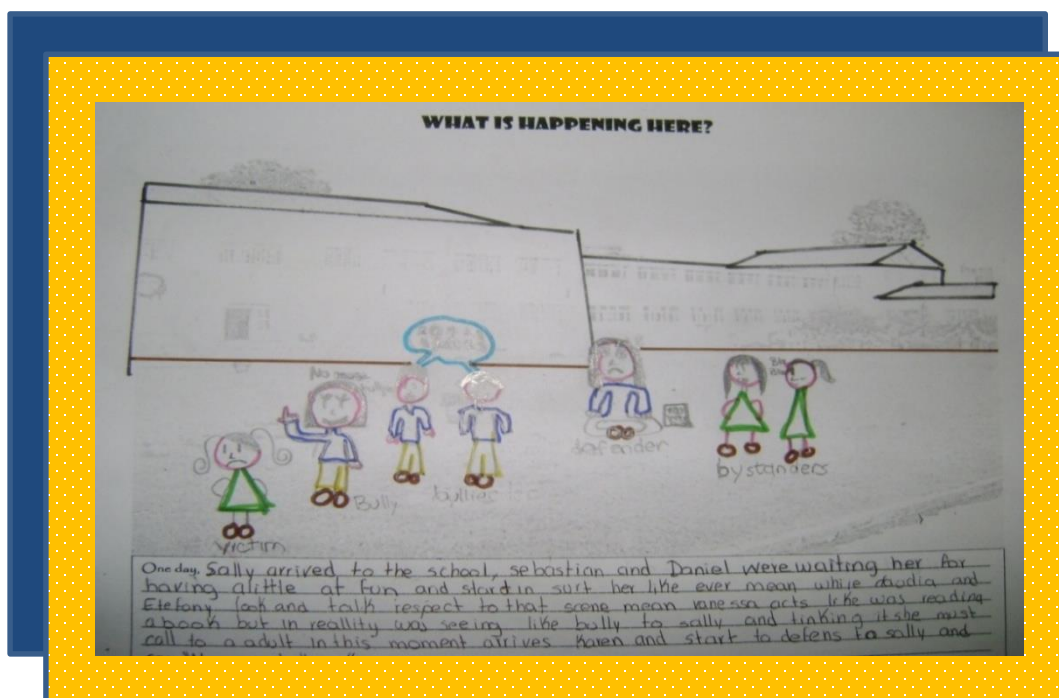
Probably, these results confirm the debate about what is the correct focus to improve spelling in a learning process. Ott (2007) provides an example of such discussion:

Peter and Smith (1993) stated that the most important factor in learning to spell is the visual element. Spelling depends on looking with interest, intent and intention to reproduce a word. Critics such as Thompson (2003) argue that many would dispute this, “arguing that it is primarily phonological encoding with all the processes of phoneme awareness, segmentation, onset / rime” (p.22)

Having this dilemma into account and the preceding results, then, is not possible to take advantage of an ER to improve lexical competence on spelling in learning processes? Does this group of learners require another approach to improve their orthography? These questions are solved in the next indicator’s analysis, whose results complement the panorama of the category in this research.

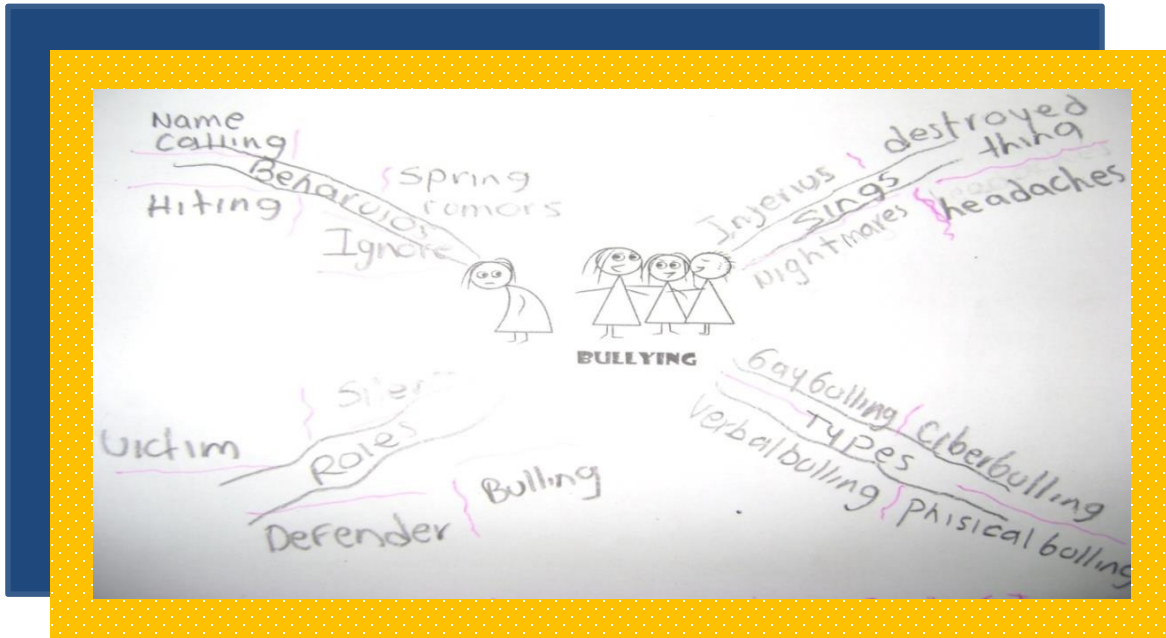
**Indicator n° 2: The student writes correctly the words beforehand learned in a text**

To assess this indicator, students had to write some words without any visual support. This time, the results were measured in percentages of mistakes in the developed activities. In the first activity, students created a scene of bullying in their school, including the people involved, and then explained it, giving more details.



**Figure 5 – 8 Writing evaluation n° 3. Student n°3**

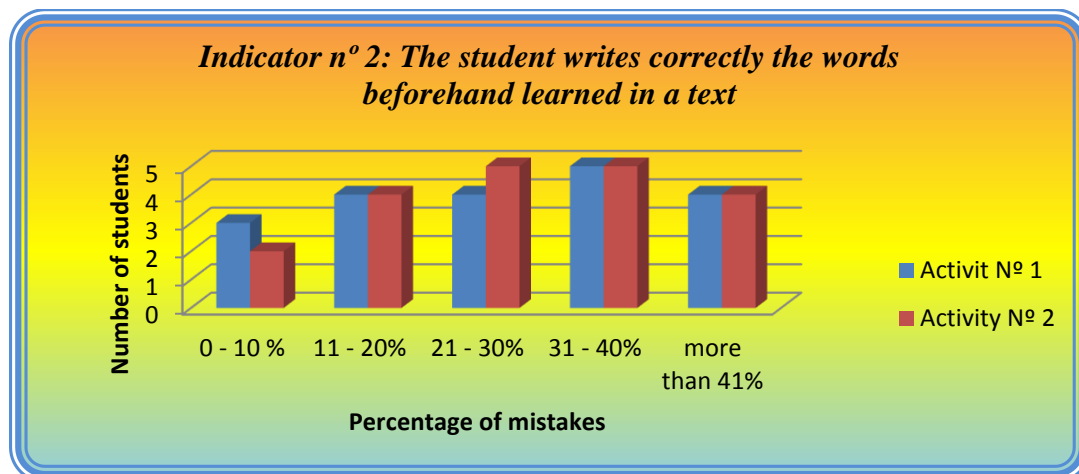
In this format, it is evident that student identifies the people involved in this scene of bullying and write correctly the words to identify them. However, this example was not the usual performance of the biggest part of the texts analyzed as is shown in the statistics. For the second activity, the students were asked to draw the Mind Map they had made before by groups.



**Figure 5 – 9 Writing activity n° 4. Student n°5**

As seen in figure 5 – 8, student n° 5 remembered all the scheme of the Mind Map and the vocabulary used there. However, her writing shows spelling problems as absence of a letter (for instance she wrote *bulling* instead of *bullying*, *thing* for *things*), change of letters (*phisical* for *physical*, *injerius* for *injuries*) or a mix of them in the word string (*beharvios* for *behavior*).

The results are represented in the next graphic:



**Figure 5 – 10 Results of Second indicator of spelling problems category**



As in the results from the previous indicator, there is no a clear tendency in this statistics. In fact, three ranges do not show any improvement and the other two ones do not allow concluding anything.

Regarding the results on the two indicators, why the activities developed did not produce a positive impact in the writing of words learned by using an ER as Mind Map? The obtained outcomes suggest that to deal with written words implies a deeper understanding of this technology. In fact, for the last theories on literacy, written words originally are a sort of representations. For instance, Olson (1996), quoted by Zangh (1997), “has made a convincing argument that writing does not merely transcribe but rather brings structural properties of speech into consciousness, that is, the development of writing was also the discovery of the representable structures of speech.” (p.183). Additionally, in a general sense, writing, “is the most important representational system responsible for much of the virtually unlimited cognitive capacity of the modern mind.” (ibid) For these reasons, if writing can be considered as an ER, it is susceptible to be deal with the same parameters of any other ER.

The nature of writing as a representation is very particular and has been studied under different approaches. According to neuroscience theories, the human brain encodes words as lexical representations. One of the models of this processing, the localist structural model, has been built regarding the relationship between internal and external representations. This theory is a cognitive explanation about the relationship between a word and its writing form:

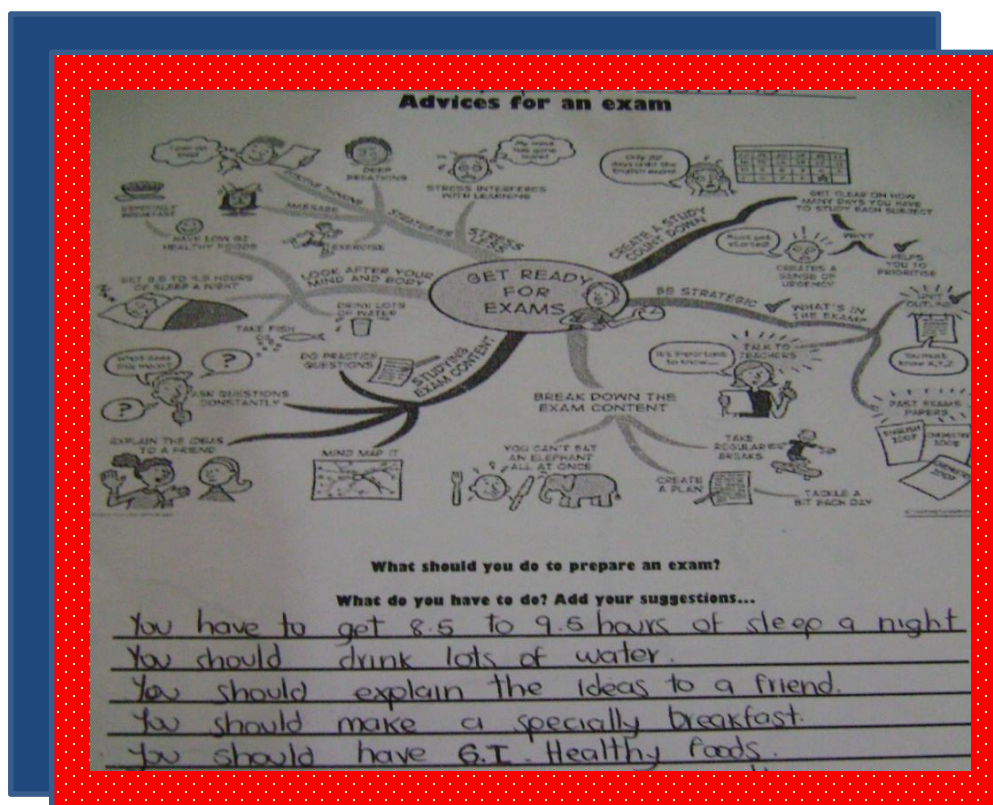
“The written form of each known word is represented by a unit, which can hold activation for an entry generated by presentation of a letter string, with a higher level of activation the closer the match between the internal and external representation of that string. The resting level of a particular word is higher the greater our familiarity with that word, and recognition occurs when activation of a particular word exceeds threshold, which explains the advantage for high over low-frequency words.” (Woollams, 2015, n.p.)

Regarding these ideas, it is evident that the use of ERs to deal with spelling or orthographic problems requires a complex strategy, as have been studied for many researches in the land of applied linguistics in neurosciences. (Woollams (2025), provides a deeper explanation on the development of models to deal with writing problems under an ER approach). For instance, having into account the relevance of visual familiarity with words to recall them later, “The Seidenberg and McClelland model represented a major shift in thinking about reading, and its ability to perform lexical decision was scrutinized closely (...). Lexical decision is rapidly and accurately achieved by skilled readers and considered to be a basic function that any model of visual word recognition must be able to capture.” (ibid) At the end, as is recognized by integrative cognitive approaches as the gestalt theory, it seems that the brain integrates all sorts of inputs on a word to recreate, in another moment, an accurate image of it.

In conclusion, it is necessary to integrate didactics from different cognitive sources to increase the acquaintance with words in order to improve spelling. Some of them used to be applied in teaching for children, reinforcing the visual aspect of the written word with all their features (use of colorful images, words games, etc.); another strategies stimulate the audio channel as they want to teach students to identify the phonemes and its pronunciation in a words, or, as suggested in the previous paragraph, reading activities are included as they provide an essential cognitive input to get more accustomed with words. This integrated approach suggests that, to develop some skills in lexical competence, as spelling, it is mandatory to integrate different approaches in the EFL learning plan.

### **Third category: Function of words**

The expectations for the third moment of this research were to evaluate the potential of Mind Maps in another aspect of lexical competence, function of words. To attain this goal, students were trained during a week to use Mind Maps to reinforce grammar topics they were learning by that time. In the figure nº 5 – 10 there is an example of this preparation, where students established grammar differences between *should* and *have to* as modal verbs.



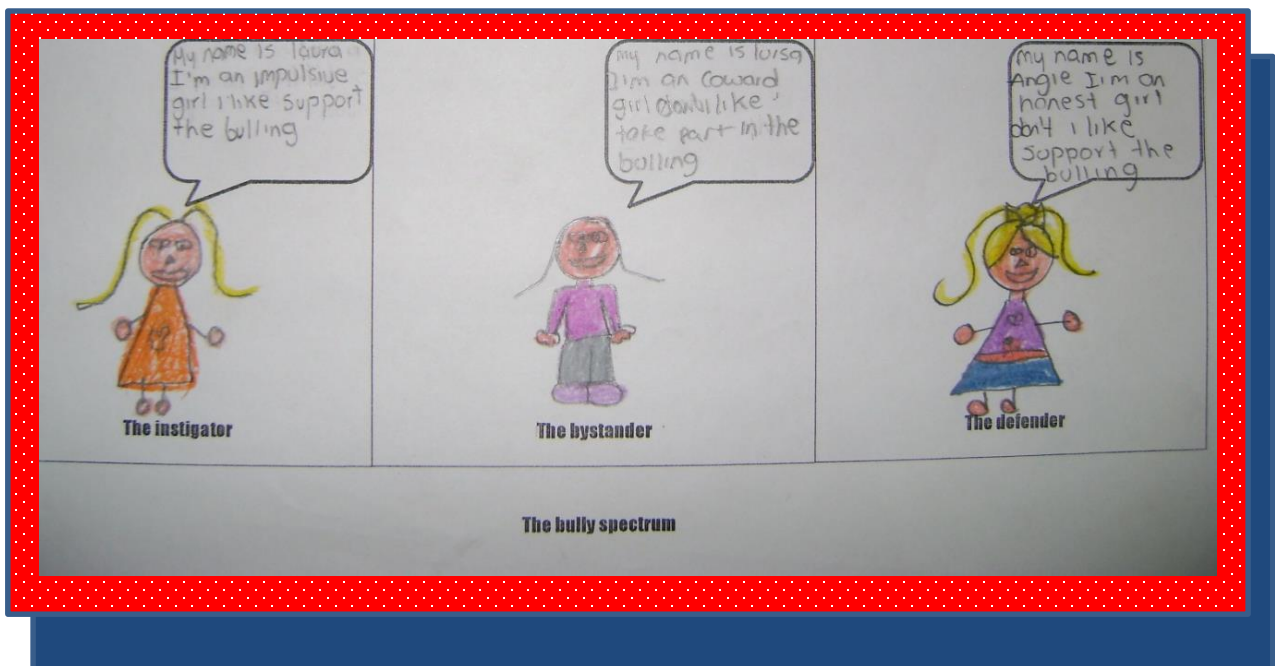
**Figure 5 – 11 Example of using Mind Map to prepare a grammar topic. Student nº 1**

In this example, students analyzed a Mind Map about general activities to prepare an exam. Their work consisted on classify these activities, according to their criteria, to give advices on what a student have to do or should do to get success in his evaluation. Then, students wrote sentences using these modal verbs and the information from the map. In the same way, students prepared their grammar topics to develop their tasks on function of words

along the next sessions. When students understood how to apply Mind Maps in grammar topics, they were ready to start the planned tasks.

**Indicator n° 1: The student writes sentences using a correct noun - adjective order**

In the case of noun – adjective order, there were three sessions to develop the planned activities ruled by the Task Based learning approach. In the first one, students observed a scheme where the main characters of a bullying situation were described using sentences as *Sandra, the victim, is a shy girl; Alexandra is an aggressive student who bullies many classmates*; etc (pre task). Then, they were asked to create some characters, drawing them in a simple Mind Map to assign them some features, according to their experience on bullying in the school; finally, they transcript the description of their characters in a given scheme, using the previously learned structures (task) ( figure 5 – 11 ).



**Figure 5 – 12 Writing activity n° 5. Student n°7**

As seen in the previous image, student n° 7 described her characters using sentences as *I'm a chatty girl, I'm an impulsive girl, I'm a coward girl*, etc. following the taught patron.

To finish this lesson, when students read their descriptions, there was a socialization to reinforce the grammar topic in the classroom.

For the second activity of this indicator, students were expected to use noun adjective order to describe objects. In order to achieve this goal, firstly, students watched three videos about campaigns against bullying in order to identify objects designed to create awareness of this problematic in the school's population; in the next session, students analyzed an example of an object's description (pre task) and, following this scheme, they create and describe their own product for an anti-bullying campaign (task) (figure 5 - 12) .


**CREATING AN OBJECT FOR AN ANTI BULLYING CAMPAIGN!!!**

Object	Cap	Glasses
Function or use	To protect your face of rays of sunlight	Help you to see better
Characteristics: • Material • Dimensions or size • Colors • Style	Cotton and acrylic One size for all Red, blue and green Rap style	Futurex, plastic One size for all Purple, black, Dark Blue Classical Style
Price	\$ 5000	\$6 000
How to buy when where	Paying by cash Next weekend In the school exhibition	Paying by cash Tomorrow In the school

**Description:**

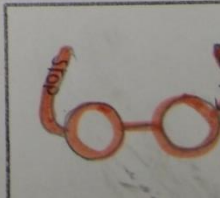
This is an anti-bullying cap. You can use it to protect your face of rays of sunlight. It is rap style. It is made of cotton and acrylic. There is one size for all people. There are red, blue and green caps.

You can buy it for \$5000 in our school exhibition, next week. Only pay by cash.



**Your product**

This is an anti-bullying Glasses you can use it to help you to see better. It is a classical style it is made of futurex and plastic, there is one size for all people. There are purple, black and dark blue glass, you can buy it for \$6.000 in



**Figure 5 - 13 Writing activity nº 6. Student nº12**

In the preceding image, the student described her object, an anti-bullying glasses, with sentences as “*classical style or dark blue glasses*” using the grammar structure learned beforehand. At the end of this session, there was a socialization to clear some doubts about the grammar topic.

Once these activities were finished, there were three changes respecting to the use of the structure noun -adjective: firstly, students established a comparison between their style to describe people or things and the structure reinforced through the use of Mind Maps. In fact, this is a remarkable change. Regarding the texts they wrote in their diagnosis, it was very usual to find expressions as “*my friend is funny, my father is angry, etc.*” recurring to the verb to be to describe people or things. However, as they concluded, these ideas can be expressed in English using the noun – adjective order as “*my funny friend, my angry father, etc.*” In a second place, students felt more confidence in using this structure as demonstrate that, in general, the trainee teacher got a reduced number of questions about the topic in the second activity. For this reason, it was used more frequently this time. Finally, some students admitted to have dealt with noun adjective topic in previous lessons, but they did not remember the topic until it was explained to prepare this activity. Why were not they familiarized with this structure?

The theory that studies grammar problems as noun - adjective order is called Error Analysis, “a type of linguistic analysis that focuses on errors committed by learners.” (Hassan 2013. p.4). In agreement with this theory, there is a source of errors for foreign learners due to the influence of their mother tongue: “Interlingual Errors are those errors traceable to first language interference. These errors are attributable to negative interlingual transfer, which is unjustified because the structure of the two languages is different.” (ibid, p.4) Some causes

of interlingual errors are overgeneralization, ignorance of rule restrictions, incomplete application of rules or false concepts hypothesized (Hassan, 2013).

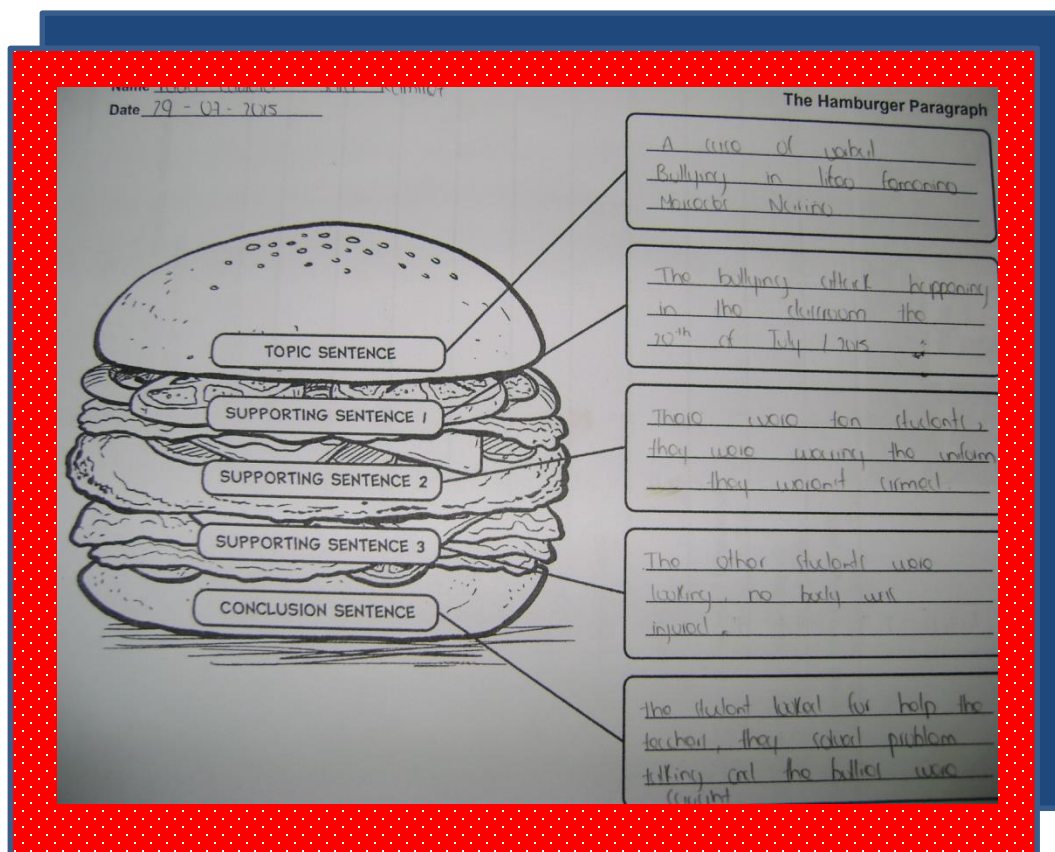
According to the results of the analyzed indicator, which demonstrate an increment in the use of noun order structures, it is evident that the negative interlingual transfer was due to overgeneralization (because students thought they could write using the same noun – adjective order as Spanish) and the ignorance of the rules (as probably they did not remember the topic learned years before). However, in this opportunity, previous work with Mind Maps seemed to help students recognize this grammar structure in a meaningful way. This was expected as, according to the former explanation on ERs' cognitive properties, this tool increase the possibility of rearrangement of knowledge previously established in learners' mind schemes. This explanation is complemented jointly the results of the next indicator.

***Indicator n° 2: The student writes sentences including the three elements in the structure of a simple sentence: subject – verb – complement.***

The second appliance of Mind Map on Function of words, wanted to verify its impact in reinforcing structures of simple sentences. To deal with this item, during the last four weeks of the project, there were two activities developed under the lineaments of Task Based learning to lead students to write little texts to assess this indicator. As happened in indicator n° 1, students were previously trained on the grammar topic using Mind Maps to remember them about the importance of using three elements in sentences in English, that is, subject – verb – complement. (For an example of this kind of training, see figure 5 – 10).

Once the students were more attentive on this linguistic trait, they were ready to develop the first activity, to write a paragraph on a case of bullying. To prepare it, they answered 10 questions about a bullying attack they had known before (pre- task)

The question list was a tool to help learners to identify the main aspects of the chosen case of bullying: places, time, people involved, facts and ending. When they had defined these details, students learn to use a hamburger scheme to write a paragraph with the answers they had written before to elaborate a little news report (task) (Figure 5 – 13).

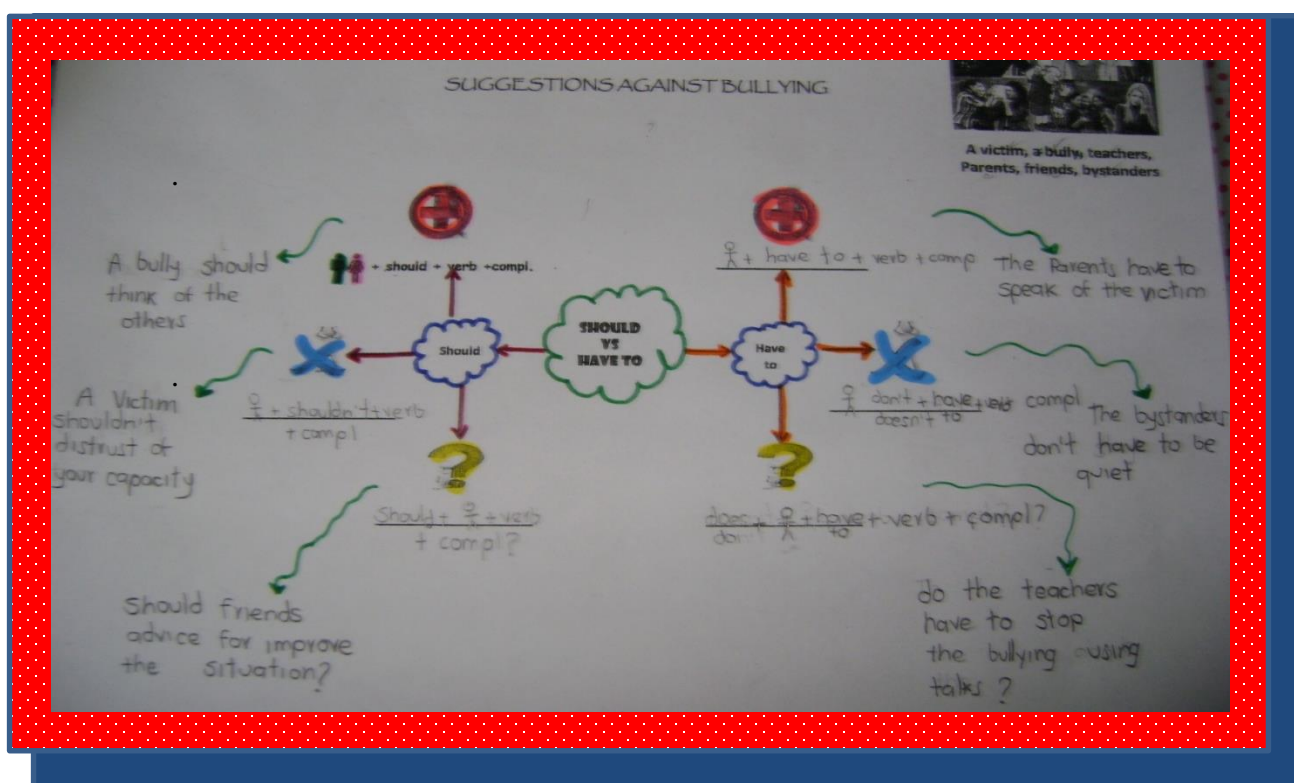


**Figure 5 – 14 Writing activity nº 7. Student 2**

The hamburger scheme facilitates students to organize the information, which came from the answers of the preceding question list, into a paragraph that includes a topic sentence, three supporting sentences and a conclusion. Finally, some texts were commented in the classroom and there was a reflection on the importance of defining a noun, a verb and a sentence in English sentences in order to produce a meaningful message, remarking newly that this grammar requires being more accurate than Spanish grammar.



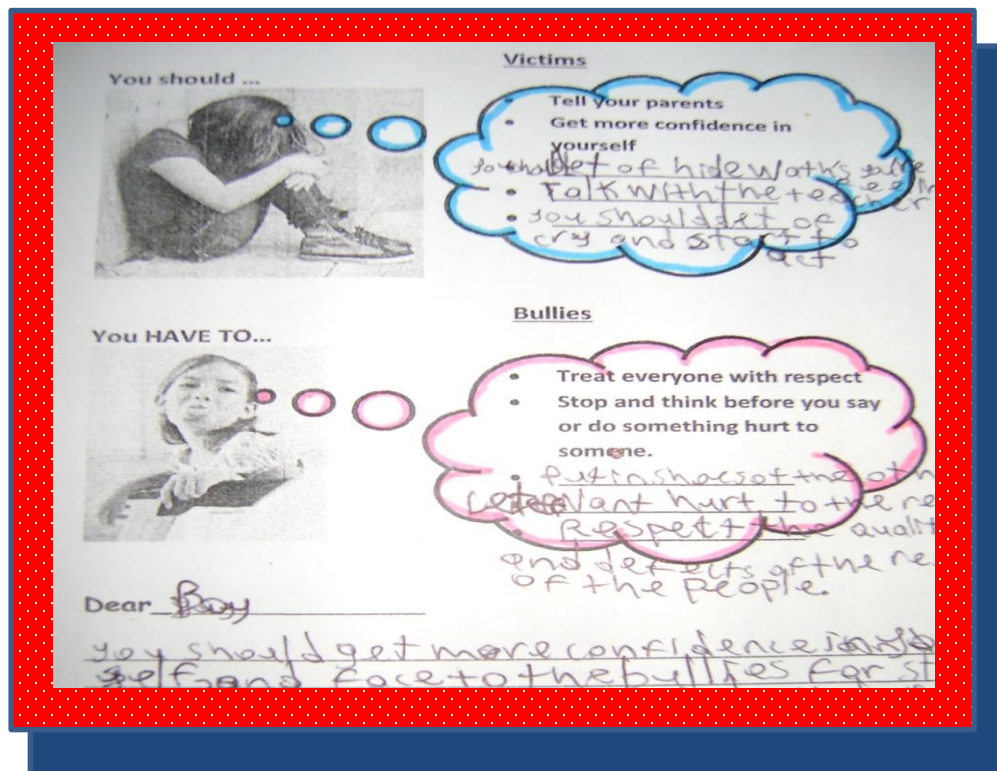
For the second activity, students were expected to write complete sentences using the modals *should* and *have to* as it was the topic developed by those days in English class. To contextualize the group of students, they watched three videos about bullying attacks in school. Then, they had to answer some simple questions to verify their understanding of these situations, choosing one of the cases to work with it. (Pre-task). In the next step, students use a Mind Map to contrast the modal verbs, giving examples of affirmative, negative and interrogative questions for each one of the verbs (see figure 5 – 14)



**Figure 5 - 15 Use of Mind map to compare grammar structures and use of modals**

In the former graphic, students established the difference between the modals *should* and *have to* according to the grade of obligation each one of these verbs imposes on an action. As seen, it includes structures of affirmative, negative and interrogative sentences, emphasizing in the use of three elements, subject – verb - complement.

At that point, having this difference in mind, students were prepared to the last task. In the first part of it, they wrote sentences about what a victim *should do* and what a bully *have to do* (See figure 5 – 15).



**Figure 5 - 15 Writing activity n° 7. Student n° 10**

After students defined the advices and obligations for a victim and a bully, they wrote little message addressed to the victim, giving her some advices to overcome her painful situation. Some sentences from the example are *you should get more confident, you don't have to hold on that insults*, etc. When students finished their texts, some of them read their messages and several sentences were analyzed in the whiteboard to remark its correct grammar.

In the development of the activities for this indicator, three interesting facts were remarkable. In first place, thanks to the activity with Mind Maps and the reflections after

finishing the tasks, students could establish differences between English and Spanish grammars on the importance of defining the three elements of the sentence in English in order to create meaningful sentences. Secondly, the sequentially process developed by the students to write their texts lead them to discover that they are like a building house, where each brick is important, that is, each sentence is important to give sense to the whole text. Thirdly, students were aware of the possibility of using the Mind Map to make a previous organization of ideas to establish relationships between the concepts they want to manifest. Finally, when asked about their experience in developing their tasks, students recognized in a spontaneous way that it was easier for them to select between the modals because they had differentiated them through the previous mind mapping.

Regarding the sentences written in the last exercise, specially the increasing in the use of subject - verb – complement elements in their lasts texts, it is evident that students can take advantage of a visual support to remember the use of these elements in English grammar structures. Some reasons that justify this appliance are stated by Darn (2011), who remarks some advantages of using an ER as the Mind Map in teaching languages:

- ERs provide the learner with a different way of seeing and thinking about information.
- Language barriers (words, grammar) are removed, so that learners can focus on the connections between information.
- The visual display conveys complex information in a simple-to-understand manner. Showing (as opposed to telling) how information is structured is a way of facilitating understanding. In most cases, dual-presentation) is more successful than either approach alone, regardless of whether the student is a visual or auditory learner.

- Creating the map helps the learner to generate ideas and see the possibilities associated with a topic as the map grows.

The three first points support Mind Map as a convenient strategy to apply in teaching grammar topics in English, thanks to its visual features which enrich the learning process by highlighting relationships that usually are hidden in traditional verbal centered methods applied in the school. The last point remarks the creative potential of this tool as it helps to increase the associations of new items in a radiant fashion, as its structure allows. Nevertheless, in a deeper sense, the potential of Mind Maps as a cognitive tool comes from two features of ERs. Firstly, as Kirsh (2009) states, by using an ER

Outer forms can be manually duplicated and rearranged. They are extended in space, not just in time, and can be operated on in different ways. By reordering physical icons of statements, for instance, it is possible to discover aspects of meaning and significance that were hard to detect from an original statement viewed in isolation. (p. 1105)

It is appealing that, in spite of students had been previously in touch with the grammar topics developed in this research, they did not remember these concepts. Probably, this phenomenon happened as they did not have experiment another didactics to learn them. However, in this case, as the students followed a training process along some months, using outer and meaningful forms, they could adjust their previous knowledge to a visual iconic scheme which allows them to re significance it, going beyond the usual grammar teaching schemes.

Another aspect to be into account is that manipulating knowledge as ERs stimulates additional cognitive operations, something hardly possible by using traditional IRs. In this sense, Kirsh (2009) states that there are cognitive advances gendered from the cognitive operations allowed by using ERs: “This process of inferring, duplicating, substituting, reformulating, rearranging and redefining, is the rationale behind proofs, levels of

abstraction, differentiation of concepts, classifications and indeed symbolic computation more generally.” (p.1106) For instance, in the land of grammar, “Rearrangement of statements, like rearrangement of puzzle pieces, serves to make it easier to notice key attributes.” (ibid). In that sense, by applying Mind Maps in learning processes, students noticed relationships between grammatical concepts worked there, which were not evident for them before. These findings allows thinking in the extra benefits students get as they learn to learn using new models, as was seen in this research.

## Chapter 8

### Summary Results

As seen in chapter 7, the appliance of the planned activities generated different results for each indicator. Taking into account these outcomes, in the next paragraphs there is a reflection on each category, which integrates these accomplishments to provide a broader perspective of the appliance of Mind Map as a cognitive tool to improve the lexical competence in EFL learners.

The first category, vocabulary acquisition, includes as indicators *The student writes correctly a word associated to an image* and *The student remembers the word associated to an image*. As realized in the previous item, students responded positively to the appliance of this didactic tool. Indeed, the Mind Map memory game was effective in both cases as students finally could achieve the expected results in the activities. These outcomes were possible as Mind Maps, being a sort of ER, stimulated different cognitive areas in the mind. In fact, during the elaboration process, students had to manipulate material to make them, allowing a first kinetic approach to the concepts. Then, as students discussed to take decisions about the images to be drawn, students created a meaningful object of thought. Finally, during the memory game, students built a relationship between a word and a visual referent taking advantage of visual and kinetic channels, which established the first step in the process of learning vocabulary.

In spite of the achievements, there were some differences in their performance as some students required less effort than others to accomplish the task. However, the general

positive outcome allows thinking in the possibility of apply the visual features of this ER in teaching vocabulary and improving, by the way, the lexical competence in EFL.

In a second moment, it was expected to verify the impact of mind mapping in the quality of writing of the vocabulary learned using this ER. In order to establish the grade of precision in recalling the writing of new words, two indicators were defined to analyze spelling problems category: *The student writes correctly a word associated to an image* and *The student writes correctly the words beforehand learned in a text*. Once applied the first activity, it was evident that students required an extra reinforce to improve their spelling. For that reason, students took part in a competition game to help them to be more aware of the correct spelling of vocabulary previously learned. Despite this extra activity, in the second evaluation, there was not a meaningful improvement in the spelling of words.

By the same way, the second indicator does not reveal a great advance in spelling. It was an expected result: if the students did not write correctly the words having a graphic support (which was expected to elicit the word as a visual referent), it would be worse without it. These facts indicate that the visual support of the image is enough to elicit relationships between a written signifier and its correspondent significant, but this fact does not guarantee that the learner could keep the correct writing of a word in his/her long term memory just as a result of a previous visual interaction with it. In other words, Mind Maps do not improve spelling problems but, in agreement with the theories of cognitive sciences, this subject can be dealt with another sort of ERs. The study of this possibility could gender new approaches on an aspect that frequently is problematic in learning writing.

The third category to be analyzed, function of words, included two indicators: *The student writes sentences using a correct noun - adjective order* and *The student writes sentences including the three elements in the structure of a simple sentence: subject – verb –*

*complement.* In this case, once the students were trained with Mind Maps about these grammar topics, their writing production showed an enhancement as seen in the data analysis. These achievements can be originated as students, when used Mind Maps to prepare these topics, assimilated the structures of grammar in a meaningful way: this ER allowed them to rearrange their grammar concepts through a visual and a spatial referent, gendered two cognitive operations: to be aware of relationships between concepts that they had not detected before (contrast) and to take advantage of the use of these schemes in to develop a sequential and logic process to build meaningful messages in communicative contexts.

The previous summary ratify the cognitive benefits of using Mind Maps in improving lexical competence as it tighten the features of an ER. In simple words, as Kirsh (2009) states

When a structure is viewable and drawable, its properties prime a constellation of associations. Just by grappling with external material—using rulers, making lines intersect, etc. — and then looking at the results, a set of properties and possibilities of forms are encountered and primed. (p.1103)



## **Chapter 9**

### **Conclusions and general suggestions**

#### **Conclusions**

The development of this project was led by the accomplishment of three specific objectives which, achieved in a consistent way, permitted to attain to a general conclusion about the use of Mind Map as a tool to help students of EFL to improve in three aspects of their lexical competence.

This study started with the establishment of the initial condition of lexical competence in EFL of the selected group. To accomplish this aim, students were evaluated with a survey and two written activities. The survey allowed identifying that these students have a positive attitude towards learning English as they consider it a language that provides many options to their future development, such as students or professional women. This information was complemented with two written activities which provided a general perspective on their level of lexical competence in two fields. The first one was vocabulary acquisition: students handled a basic vocabulary related to places in the house, parts of the body, months and days of the week and some regular and some irregular verbs. The second activity evaluated aspect let to diagnose writing skills of the students. According to these results, there was a tendency to commit two grammar mistakes: incorrect use in the use of noun adjective and to write

fragment sentences instead of the complete sentence that included the three elements, noun – verb - complement.

Once the level of lexical competence of the students was recognized, they were trained in mind mapping, following the Task Based learning scheme. Nevertheless, it was not just the Mind Map that helped students in their process of acquisition of vocabulary, but the memory game they played with it. Thanks to this activity, Mind Map was proven as an effective tool to improve two basic aspects of vocabulary acquisition linked to word – image associations because its cognitive properties as an ER.

After having used Mind Map to learn new words, students were expected to recall them in writing activities. However, the planned activities developed also in a Task Based learning context, did not produce consistent results. In fact, according to cognitive approaches in learning, to improve spelling, if regarded as an ER, it is necessary to apply specific and more complex strategies, focused in developing this skill.

The last topic to be evaluated on lexical competence, function of words, generated better results by using Mind Maps. In fact, after students used this ER to reinforce grammar topics learned before, their written production in Task Based learning activities showed a better performance in the studied aspects as they assimilated grammar structures in a meaningful way.

Therefore, taking into account the phases proposed by Frith (1985), Mind Map is an interesting tool to be applied in the logographic and alphabetic phases, but it does not work in the orthographic phase. Otherwise, probably, mind mapping could work to improve spelling of words if it is adapted by following the parameters of cognitive sciences in learning.

Regarding the previous comments, the general conclusion has to do with the use of Mind Maps as a tool to improve lexical competence of students. This ER, due to its particular features (use of images, colors, radiant structure, etc.), being elaborated by the students, and adapted as a memory game, fits the principles of constructivism and meaningful learning. These theories establish that knowledge can be regarded as a network which constantly grows up, according to the daily meaningful experiences the subject has. For this reason, in a pedagogic sense, mind mapping becomes a meaningful experience as it allows the student to create her own referent according to her cultural background. Additionally, it is remarkable that this graphic provides a visual scheme which reinforces relationships (subordination, contrast, comparison, etc.) among the keywords displayed on it. Then, Mind Map is very recommendable to improve lexical competence in EFL lessons.

Under a broader perspective, human knowledge has been regarded as a semantic network. This idea support teaching proposals which incentive student to create their own network. Accordingly, Mind Map helps students to improve learning concepts as this ER has the potential to activate cognitive abilities that reinforce the links established between previous concepts student has and new ideas.

Finally, as an extra profit, students increased their awareness on bullying phenomenon. Once this project was developed, they had a general idea about the profile of people involved in bullying, the impact of bullying in victims, some advices to deal with this problem and, as a reflection, the grade of mutual responsibility any of the students has if she confronts a case in school.

## **General suggestions**

Once finished this project, some suggestions arise in order to take advantage of the recognized cognitive potential of Mind Map to improve learning processes.

This research has verified the positive cognitive impact of using an ER, as the Mind Map, in learning processes. In our schools, nowadays, the use of ERs is lower in comparison with IRs use. Probably, this is the residue of traditional pedagogical proposals in our country. In that sense, why not propose a transversal plan to apply ERs in teaching in LIFEMENA? It would be feasible because this kind of projects does not demand a high inversion; teachers' training will take few time and students would take advantage learning with didactics as these. As a matter of fact, Wyckoff (1991) states that "Mind Mapping takes into account that the two halves of the brain (right and left) are responsible for carrying out different tasks." (p.42). Regarding such potential, this tool could be use more frequently in the classroom, prognosticating better results in learning processes.

One of the main benefits of Mind Maps is the possibility to increase creativity. For instance a keyword triggers other associations, linked one concept to the previous one. There is here a brainstorm potential that deserves to be analyzed and used more frequently in the classroom. In addition, it will be remarkable to apply Mind Maps as a tool to evaluate students, as they can easily recognize a previous learned scheme, reinforcing their cognitive skills to store new information and facilitate its recovering after some time. It increases the confidence of the student on the topics learned.

In the academic field, Universidad Pedagógica Nacional can lead researches to deal with some questions that arose from the achievements of this research. For instance, from a semiology approach, it can be interesting to analyze the impact of Mind Maps, as a visual sign with colors, images and icons, in the development of communicative competences. In

addition, from a pedagogical perspective, it would be interesting to understand the impact of ERs in the developing of sociolinguistic or pragmatic competences in EFL. By the way, what other didactics or games can be developed using mind mapping to elicit meaningful networks in students' cognitive structures?

One of the most recognized strategies to improve writing and spelling problems in the classroom is reading. It is necessary that students have more contact with texts in order to develop reading, comprehension and spelling of vocabulary. Why not to create a strategy to use mind mapping as a parallel activity to foster the learner's ability to deal with texts?

Besides, it will be interesting to study the social impact of mind mapping in the learning process of EFL. In fact, drawing a Mind Map by group can be an opportunity to put in practice different communication skills as giving instructions, expressing opinions, assigning tasks, description of images, etc. How these interactions can improve lexical competence in the students?.

Nowadays, there are programs to create Mind Maps in computer. For this reason, an interesting research question would be about the possibility of EFL learners to take advantage of ITC thorough mind mapping in a virtual environment. In other words, what improvements in learning can be achieved by adding the cognitive benefits of Mind Maps with the broad range of possibilities that offer the virtual world?

Finally, regarding the practice process, it would be desirable to have more stable conditions in the school, in two aspects: schedules, which were arbitrarily changed and could have affected the development of the project; and the continuity with students' groups as sometimes there are changes from one academic year to another and new teachers do not agree with the idea of allow trainee teachers to be in their lessons.

## References

- Ausubel, D. (1978). *The Psychology of Meaningful Verbal Learning*. New York: Grune & Stratton.
- Baron Chaparro, Viviana. (2006). *The visual stimuli association as a facilitator component of the English language learning in second graders from the I.E.D. Liceo Femenino Mercedes Nariño*. (Unpublished thesis) Bogotá D.C.: Universidad Pedagógica Nacional.
- Beare, Kenneth. (2015). *Spelling problems in English*. Retrieved from [http://esl.about.com/od/writingintermediate/l\\_spell.htm](http://esl.about.com/od/writingintermediate/l_spell.htm)
- Boley, David. (2008). *Use of Premade Mind Maps to enhance simulation learning. Nurse educator*. Retrieved from [http://www.academia.edu/170224/Use\\_of\\_Premade\\_Mind\\_Maps\\_to\\_Enhance\\_Simulation\\_Learning](http://www.academia.edu/170224/Use_of_Premade_Mind_Maps_to_Enhance_Simulation_Learning)
- Brown, David. (2012) *Human Learning*. Retrieved from: <http://www.tuninst.net/LANG-MEAN/Human-learn/human-learn.htm>
- Buzan, Tony. (1974). *Mind Mapping*. Retrieved from <http://www.tonybuzan.com/about/mind-mapping/>
- Burns, A. (2010) *Doing Action Research in English Language Teaching*. New York: Routledge.
- Chamber of Business of Bogota (2007). *Perfil económico y empresarial Localidad Rafael Uribe Uribe*. Retrieved on August 20th, 2014 from [http://www.institutodeestudiosurbanos.info/dmdocuments/cendocieu/coleccion\\_digital/Localidades/Rafael\\_Uribe\\_Uribe/Perfil\\_Economico\\_RafaelUribe-Cam\\_Comercio.pdf](http://www.institutodeestudiosurbanos.info/dmdocuments/cendocieu/coleccion_digital/Localidades/Rafael_Uribe_Uribe/Perfil_Economico_RafaelUribe-Cam_Comercio.pdf)
- Council of Europe. (2001). *Common European framework of reference for languages: learning, teaching, assessment*. Strasbourg: Language Policy Unit.
- Briman, Alan. (2003). *Encyclopedia of Social Science Research Methods*. SAGE Publications.
- Creswell, John. (2003). *Research Design. Qualitative, Quantitative and Mixed Approaches*. Nebraska: University of Nebraska.
- Davies, Martin. (2010). *Concept mapping, mind mapping and argument mapping: what are the differences and do they matter?* Springer Science +Business Media B.V. Retrieved from <http://media.usm.maine.edu/~lenny/critical%20thinking%20and%20mapping/mind%20mapping.pdf>

- Duppenthaler Peter. Vocabulary acquisition: the research and its pedagogical implications. Retrieved from <http://www.lib.tezuka-gu.ac.jp/kiyo/rTEZUKAYAMAGAKUIN-UNI/r42PDF/r42Duppenthaler.pdf>
- Echevarria, Valeria. (2007). Acquisition of Lexical Competence in English as a Second Language. Santiago de Chile: Universidad de Chile. Retrieved from [http://www.tesis.uchile.cl/tesis/uchile/2007/echeverria\\_v/sources/echeverria\\_v.pdf](http://www.tesis.uchile.cl/tesis/uchile/2007/echeverria_v/sources/echeverria_v.pdf)
- Ellis, Rod. (2003). Principles of Task Based Language Teaching. Oxford: Oxford University Press.
- Estrada Chango, Ximena. (2014). El conocimiento lexical del inglés en la competencia comunicativa de los estudiantes del Instituto Charlotte English School durante el año 2013. Quito: Universidad Central del Ecuador.
- Frith, Uta. (1985) A theory on reading acquisition. In: Beneath the surface of developmental dyslexia. Retrieved from [http://www.icn.ucl.ac.uk/dev\\_group/ufrith/documents/Frith,%20Beneath%20the%20surface%20of%20developmental%20dyslexia%20copy.pdf](http://www.icn.ucl.ac.uk/dev_group/ufrith/documents/Frith,%20Beneath%20the%20surface%20of%20developmental%20dyslexia%20copy.pdf)
- Garavito Caballero, Loana. (2012). Enhancing memory skills in order to retrieve foreign vocabulary in the level B3 at Centro Colombo Americano. (Unpublished thesis) Bogotá D.C.: Universidad Pedagógica Nacional.
- Genovesse, Jane. (n.d.). Health Mind Map. Retrieved from <http://www.mindmapart.com/health-mind-map-jane-genovesse/>
- Hannum, Wallace (2005). Learning Theory Fundamentals. Retrieved from <http://www.theoryfundamentals.com/index.html>
- Jiménez Quintero, José. (2012). Videojuegos como vehículo para el aprendizaje del vocabulario en inglés. (Unpublished thesis) Bogotá D.C.: Pontificia Universidad Javeriana.
- Joklová, Katerina. (2010). Using pictures in teaching vocabulary. Brno: Masaryk University.
- Klimek, Renata. (2004). Lexical knowledge, vocabulary acquisition and vocabulary learning strategies. Retrieved from <http://www.edukacja.edux.pl/p-8619-lexical-knowledge-vocabulary-acquisition.php>
- Liceo Femenino Mercedes Nariño (2014). Institutional Web Page. Retrieved on August 21th, 2014 from <http://lifemena.jimdo.com/>
- Lipka, Leonhard. (2002). English Lexicology: Lexical Structure, Word Semantics & Word-formation. Gunter Narr Verlag. Germany.

- Meara, Paul. (1996). The dimensions of lexical competence. Retrieved from <http://www.lognostics.co.uk/vlibrary/meara1996a.pdf>
- Ney, James. (1996). Imagery, Verbal Processes and Second Language Learning. Arizona: Arizona State University.
- Nunan, David. (2004). Task Based Language Teaching. Oxford: Cambridge.
- O'brien, Elizabeth. (2009). Sentence fragments. Retrieved from <http://www.english-grammar-rev.com/sentence-fragments.html>
- Ott, Philomena. (2007). Teaching Children with Dyslexia. A Practical Guide. New York: Routledge.
- \_\_\_\_\_ (2008). How to manage spelling successfully.
- Medellin Olaya, Luisa. (2012). The word games with images as good strategies for learning English vocabulary in the grade 306 of the Liceo Femenino Mercedes Nariño. (Unpublished thesis) Bogotá D.C.: Universidad Pedagógica Nacional
- Mineducación (2006). Estándares Básicos de Competencias en Lenguas Extranjeras: inglés. Revolución Educativa. Colombia aprende. Bogotá: Imprenta nacional.
- Montero Triana, Stephany. (2012). Diseño de material para el mejoramiento de la ortografía de los estudiantes de Segundo C del Colegio Cafam. (Unpublished thesis) Bogotá D.C.: Pontificia Universidad Javeriana.
- Pua, Carol. (2011). Using Mind Mapping as a tool to teach English Vocabulary for Elementary Students. Hong Kong.
- Sánchez, Andrés. (2013). Bilingüismo en Colombia. Bogotá: Banco de la Republica.
- Sagor, Richard. (2010). Guiding School Improvement with Action Research. U.S.A. Harvard
- SCS Spisek Consulting Services (2014). History of Mind Mapping. Retrieved from <http://www.mindmappingsite.com/history/history>
- Shen, Zhifa. (2008). The roles of depth and breadth of vocabulary knowledge in EFL Reading performance. Retrieved from [www.ccsenet.org/journal.html](http://www.ccsenet.org/journal.html).
- Sarmiento Ceballos, Jessika. (2007). Fortalecimiento de la competencia léxica en inglés como lengua extranjera a través de diferentes técnicas artísticas. (Unpublished thesis) Bogotá D.C.: Universidad de la Salle.
- Vidal Medina, Johanna. (2014). Increasing 11<sup>th</sup> graders vocabulary through explicit memory strategies instruction. (Unpublished thesis) Bogotá D.C.: Universidad de la Sabana.



- Whaby, Mansour. (2014). Promoting awareness of teaching collocations techniques to beginners (adjective- noun collocations). Retrieved from <http://eujournal.org/index.php/esj/article/viewFile/3147/3017>
- Willis, D. (2007). *Doing Task Based Teaching*. Oxford: Oxford University Press.
- Woollans, Anna. (2015). Lexical is as lexical does: computational approaches to lexical representation. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4396497/>
- Zaini, S.H. (2010). The Effect of Graphic Organizer on Students' Learning in School. *Malaysian Journal of Educational Technology* Volume 10, Number 1

## Appendix 1

### Inventory of Centro de Recursos en Ingles

#### Chart of observation

Item	Yes	No	Comments
<b>Language laboratory. CRI : Centro de recursos de Inglés</b>	X		A big classroom with chairs and tables to work on them. There is the place where are available the most of the resources listed in this chart.
<b>Library</b>	X		There are mainly tales for reading comprehension with girls.
<b>Computers</b>	X		In the CRI, there are 9 computers. However, students can get laptops from the general school's storage room.
<b>Dictionaries</b>	X		There are few, old ones.
<b>Internet service</b>	X		It is available in 5 of the 9 computers, but girls are not allowed to use it in class.
<b>English student's book</b>		X	The students use the photocopiable material provided by the teacher.
<b>Workbook</b>	X		"File" by Editorial Norma.
<b>Audiovisual devices (CD, Video, music, etc.)</b>	X		There are many audio and video CDs
<b>Television sets</b>			There are 4.
<b>Dvd sets</b>	X		There are 4.
<b>Tape recorders</b>	X		There are 9. They are on tables and students sit around them to do listening activities.
<b>Video beams</b>	X		It is not in the CRI, it have to be borrowed from the general school's storage room.

## Appendix 2

### Encuesta de actitudes en el proceso de enseñanza/aprendizaje de lengua inglesa

#### Liceo Femenino Mercedes Nariño

Edad: \_\_\_\_\_ Curso: \_\_\_\_\_

Esta encuesta tiene por objetivo reconocer tus aptitudes y habilidades en el idioma inglés. En las preguntas de selección múltiple, marca con una X la respuesta que consideres adecuada. En las que tengas que explicar, utiliza las líneas que aparecen disponibles.

1. ¿Te gusta el idioma inglés?

Si\_\_ No\_\_. ¿Por qué? \_\_\_\_\_

2. ¿Cuáles actividades te gustan de la clase de inglés?

\_\_\_\_\_

¿Por qué? \_\_\_\_\_

3. ¿Cuáles actividades no te gustan en la clase de inglés?

\_\_\_\_\_

¿Por qué? \_\_\_\_\_

4. ¿Crees que es útil para ti aprender inglés? Si\_\_ No\_\_

¿Por qué? \_\_\_\_\_

5. ¿Crees que la clase de inglés podría mejorar? Si\_\_ No\_\_

¿En qué aspectos? \_\_\_\_\_

6. ¿Qué elementos utilizas en tu clase de inglés? Marca con X tu respuesta

- Libro de texto Si \_\_\_\_ No \_\_\_\_
- Fotocopias Si \_\_\_\_ No \_\_\_\_
- Cuaderno Si \_\_\_\_ No \_\_\_\_
- Diccionario Si \_\_\_\_ No \_\_\_\_
- Colores Si \_\_\_\_ No \_\_\_\_
- Internet Si \_\_\_\_ No \_\_\_\_
- Otros. ¿Cuáles? \_\_\_\_\_

7. Dos actividades que te resultan más fácil en inglés son:
- Leer
  - Hablar
  - Escribir
  - Escuchar
8. Dos actividades que te resultan más difíciles en inglés son
- Leer
  - Hablar
  - Escribir
  - Escuchar
9. ¿Qué actividades te gustaría hacer en la clase de inglés? Marca las tres más interesantes.
- Leer cuentos
  - Narrar historias
  - Hacer representaciones de teatro
  - Cantar
  - Hacer carteleras, tarjetas, cartas, posters, etc.
  - Visitar páginas web

Otras. ¿Cuáles? \_\_\_\_\_

10. Cuando tienes dudas sobre tus tareas de inglés, ¿Quién te ayuda?

- Mi familia
- Uso el traductor de internet
- Mi profesora
- Mis compañeras
- Nadie.

11. ¿Te gustaría hacer actividades en tu casa usando el idioma inglés?

Sí \_\_\_ No \_\_\_

¿Cuáles? \_\_\_\_\_

\_\_\_\_\_

### Appendix 3

#### Consent form

Bogotá D.C, 2014

Señor (a)

Padre o Madre de Familia y/o acudiente

de la estudiante del Liceo Femenino del curso 806

El Liceo Femenino Mercedes Nariño ha mantenido un convenio con la Universidad Pedagógica Nacional con el fin de mejorar los procesos de enseñanza / aprendizaje de las estudiantes a partir de las actividades investigativas que los estudiantes de la universidad llevan a cabo en el plantel.

En este semestre, se adelanta una investigación en el área de idiomas que busca identificar las condiciones en las que se lleva a cabo la enseñanza / aprendizaje del idioma inglés en el grado octavo con el fin de diseñar nuevas didácticas para la enseñanza de esta lengua.

Por tal motivo, es invaluable la participación de las estudiantes en diferentes actividades de carácter académico para tal fin, tales como encuestas, talleres o actividades creativas de escritura. Dicha participación no implica ninguna dificultad para el desempeño académico de las estudiantes, antes bien, favorecerá su actitud hacia el estudio.

Por tal motivo, agradeceríamos contar con su aprobación para que su hija participe en las actividades académicas mencionadas anteriormente.

Atte:

William Eduardo Rendón Lara  
Maestro en formación  
Universidad Pedagógica Nacional

Consentimiento de participación

Yo, \_\_\_\_\_ padre, madre o acudiente de la estudiante  
\_\_\_\_\_ doy mi consentimiento para que la estudiante  
participe en las actividades académicas de carácter investigativo en el área de inglés.

Bogotá, \_\_\_\_\_

## Appendix 4

### Syllabus

Session	Objective	Stage	Activity	Date	Resources
1	To train students in Mind mapping	1	Students work in groups to identify the main features of Mind maps.	March 11 <sup>th</sup>	Images of Mind maps, blackboard, markers.
2	To contextualize students about bullying.	1	Students organize a sequence of images of a comic to identify a case of bullying in the school.	March 18 <sup>th</sup>	Comics divided into scenes for each group. Whiteboard Markers.
3	To learn to elaborate a Mind map – first level	2	In groups of four students, draw the first level of Mind maps about bullying.	March 25 <sup>th</sup>	Sheets of poster board, colors, markers, lists of keywords.
4	To learn to elaborate a Mind map – second level	2	Students draw the second level of Mind Maps.	April 8 <sup>th</sup>	Sheets of poster board, colors, markers, lists of keywords
5	To test Mind map as a strategy to learn new vocabulary.	3	Students play a first memory game using Mind Maps. They have to associate a piece of paper with a keyword to an image in the Mind map.	April 15 <sup>th</sup>	Mind maps elaborated by students.
6	To test Mind map as a strategy to learn new vocabulary.	3	To play the second memory game using Mind maps, students have to identify and say the keyword associate to an image in the Mind map	April 22 <sup>nd</sup>	Mind maps elaborated by students.
7	To verify the impact of images draw in Mind Maps in recalling correct writing of words.	3	Students watch some images about the previously learned topic to write the associated word.	April 29 <sup>th</sup>	TV screen, laptop, power point presentation, evaluation format.
8	To verify the impact of mind mapping in	3	Individually, students created a scene of bullying in their school, including the people	May 6 <sup>th</sup>	Evaluation format

	recalling vocabulary learned with this tool.		involved, and then describe it, giving more details		
9	To describe people using correct noun – adjective structures.	4	Pre task: Students read and socialize a diagram that explains each role of people in bullying. Task cycle: By couples, create and describe characters according to the bully spectrum. Language focus: Socialize the correct use of adjectives in descriptive sentences.	May 13 <sup>th</sup>	Keywords and format to draw and write descriptions.
10	To write elementary sentences using the correct structures subject + verb + complement	5	Pre task: To answer some questions about a bullying case. Task Cycle: Students write news about a bullying case. Language Focus: Socialize the correct order of words in elementary sentences.	May 27 <sup>th</sup>	Sheet of paper with a background of the school to draw a scene of bullying and its description.
11	To test Mind map as a strategy to learn vocabulary.	2	By couples, students elaborate a second Mind map with a new group of keywords. Then they play an association memory game to evaluate their performance.	June 24 <sup>th</sup>	Mind maps drawn by students. Keywords.
12	To test Mind map as a strategy to learn vocabulary.	2	Students have to identify and say the keyword associate to an image in the Mind map	July 1 <sup>st</sup>	Evaluation format.
13	To check spelling of words.	3	Students participate in a competition to check their spelling of new words. Then, students fill the blanks in a Mind Map with images they have studied last sessions.	July 8 <sup>th</sup>	Whiteboard, markers, evaluation format

14	To check the recalling of words learned by mind mapping.	3	Students draw their own mind maps.	July 15 <sup>th</sup>	Evaluation format.
15	To use adjectives in sentences to describe objects.	4	<p>Pre task: Students watched three videos about campaigns against bullying to identify objects designed for this proposal</p> <p>Task cycle: Students design and describe different kind of objects (t- shirts, pins, laces, etc) to be used in a campaign to prevent bullying.</p> <p>Language focus: Socialize the description of the objects, recalling the correct use of adjectives in a sentence to describe things.</p>	July 22 <sup>nd</sup>	Sheets of paper, keywords
16	To verify the use of grammatical structures subject + verb + complement in written sentences.	5	<p>Pre task: Students watch a video about a bullying in school and they had to answer some simple questions to verify their understanding of the situations.</p> <p>Task cycle: Students write sentences about what a victim <i>should do</i> and what a bully <i>have to do</i>. With these ideas, they write a little message addressed to the victim to help her to overcome her difficult situation.</p> <p>Language focus: There is an oral activity where students were inquired about the differences in meaning of use <i>should vs. have to</i>.</p>	August 5 <sup>th</sup>	Formats to write a letter.