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Compound Nouns and Reading Comprehension:
Creating Awareness of Compound Nouns to Improve the Reading
Comprehension of Students of English at the University of Cuenca

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Resumen

El propósito de esta investigación fue indagar sobre el impacto que tendría una enseñanza directa de la identificación y decodificación de los sustantivos compuestos en la comprensión lectora de un grupo de estudiantes de tercer nivel de inglés como lengua extranjera de la Universidad de Cuenca durante el semestre Marzo-Julio de 2013. Para el efecto, se aplicó un estudio cuasi-experimental a un grupo de treinta estudiantes en una clase intacta, usando un enfoque de métodos mixtos. Se administró pruebas antes y después del tratamiento en tanto que un cuestionario y una entrevista ayudaron a triangular los resultados. El tratamiento estuvo compuesto de tres partes principales. En primer lugar, se enseñó a los estudiantes a identificar los sustantivos compuestos. Luego, los estudiantes usaron inventarios para decodificar dichos compuestos. Finalmente, los participantes aplicaron este conocimiento en los ejercicios de lectura comprensiva. Los resultados se procesaron por medio de SPSS 22 que permitió realizar la prueba t para mediciones repetidas. Los hallazgos revelaron que la enseñanza directa de los sustantivos compuestos produjo un incremento razonable en la habilidad de comprensión lectora de los participantes.

Palabras claves

Sustantivos compuestos, identificación, decodificación, comprensión lectora



Abstract

The purpose of this research was to investigate the impact that direct instruction of compound noun identification and decoding had on the reading comprehension of a third-level group of EFL (English as a Foreign Language) students at the University of Cuenca during the semester March-July, 2013. Accordingly, a quasi-experimental study was applied to one group of thirty students in an intact class, using a mixed methods approach. Pretests and posttests were administered before and after the treatment, while a survey and an interview helped triangulate the results. The treatment was composed of three main parts. First, students were taught how to identify compound nouns. Second, they used inventories to decode compound nouns. Finally, students applied this knowledge to reading comprehension exercises. The results were processed by SPSS 22 which allowed to run the *t* test for repeated measurements. The findings revealed that the direct instruction of compound nouns produced a reasonable increase in the students' reading comprehension ability.

Key words

Compound nouns, identification, decoding, reading comprehension



Contents

Resumen	2
Abstract	3
List of Tables	7
List of Figures	8
Cláusula de Derechos de Autor.....	9
Cláusula de propiedad intelectual	10
Acknowledgments.....	11
Dedication	11
Introduction	12
Chapter 1: The Study	15
1.1 Background and Justification.....	15
1.2 Problem Statement.....	20
1.3 Research Questions.....	21
1.4 Research Objectives	21
1.4.1 General objective:	21
1.4.2 Specific objectives:	22
1.5 Research Methodology.....	22
Chapter 2: Theoretical Framework	24
2.1 The English Compound Noun Structure	24
2.1.1 Definition and background of the English compound noun structure. 24	
2.1.2 English compound nouns as an alien structure for Spanish-speaking learners	28
2.1.3 Ambiguity of compound nouns composed of three or more nouns....	33
2.2 Connecting Compound Nouns to Reading Comprehension.....	37
2.2.1 Compound nouns and their impact on reading comprehension.....	37
2.2.2 The theory of transfer in reading comprehension.....	41
2.2.3 Teaching	45
2.2.3.1 Disambiguating compound nouns through inventories as a teaching strategy.....	48
2.2.3.2 Applying language learning strategies to teach compound nouns for reading comprehension improvement	54



2.3 State of the Art	57
2.3.1 Brief overview of reading research	58
2.3.2 Birch's contributions to L2 Reading	63
2.3.2.1 The interactive information processing system	65
2.3.2.2 The expert decision making system	69
2.3.3 Current trend	69
Chapter 3: Research Methodology	71
3.1 Participants	72
3.1.1 Age	73
3.1.2 Education background	74
3.1.3 English studies	75
3.1.4 Reasons for learning English	76
3.1.5 Participants' English proficiency and reading comprehension ability	77
3.1.6. Importance of reading proficiency to students	79
3.1.7 Students' problems with reading comprehension	80
3.1.8 Differences in English vs. Spanish reading found by participants	81
3.1.9 Most difficult texts for students' comprehension	82
3.2 Instruments	83
3.2.1 Informed consent	84
3.2.2 Background questionnaire	84
3.2.3 Pretests	85
3.2.4 Lesson plans	86
3.2.5 Students' journals	89
3.2.6 Teacher's journal	89
3.2.7 Posttests	89
3.2.8 Survey	90
3.2.9 Interview	90
3.3 Procedures	91
Chapter 4: Analysis and Discussion of Results	100
4.1 Statistical Procedure	100
4.2 Inferential Results	101
4.3 Data Used to Triangulate Results	105



4.4 Discussion.....	118
Chapter 5: Conclusions and Recommendations	122
References.....	126
Appendices	134
Appendix A: Consentimiento para participar en la investigación	134
Appendix B: Background Questionnaire	137
Appendix C: Pretest 1	140
Appendix D: Pretest 2	143
Appendix E: Lesson Plans	147
Appendix F: Worksheets.....	167
Appendix G: Observation Sheet.....	219
Appendix H: Quizzes.....	221
Appendix I: Questionnaires	237
Appendix J: Posttest 1	242
Appendix K: Posttest 2.....	245
Appendix L: Final Questionnaire	250
Appendix M: Interview	252



List of Tables

Table 1. Oxford's strategy classification system.....	56
Table 2. Problems identified in reading comprehension.....	80
Table 3. Differences in English vs. Spanish reading found by participants.....	82
Table 4. Awareness of the structure: identification of compound nouns.....	101
Table 5. Translation of compound nouns: decoding compound nouns through translation.....	102
Table 6. Mean of decoding compound nouns.....	103
Table 7. Reading comprehension.....	104
Table 8. Students' self-evaluation of reading comprehension.....	106
Table 9. Self-evaluation of reading comprehension improvement through knowledge of compound nouns.....	107
Table 10. Importance of compound nouns vs. vocabulary and other structures.....	110
Table 11. Most difficult texts to understand.....	111
Table 12. Topic difficulty level in subgroups.....	112



List of Figures

Figure 1. Hypothetical Interactive Information Processing Model of the Reading Process..... 66

Figure 2. Hypothetical Interactive Information Processing Model of the Reading Process..... 68

Figure 3. Participants' age 74

Figure 4. Participants' elementary and high school education 75

Figure 5. Participants' total years of English studies 76

Figure 6. Participants' reasons for EFL learning..... 77

Figure 7. Students' initial self-evaluation of English proficiency 78

Figure 8. Students' initial self-evaluation of reading comprehension skill 78

Figure 9. The importance of reading proficiency for students..... 79

Figure 10. Students having problems with reading comprehension..... 80

Figure 11. Identified problems..... 81

Figure 12. Increase of compound noun identification ability..... 102

Figure 13. Increase of compound noun decoding ability 103

Figure 14. Increase of compound noun identification and decoding ability 104

Figure 15. Increase of reading comprehension ability 105

Figure 16. Change of self-evaluation about reading comprehension..... 107

Figure 17. Topic difficulty levels 112

Figure 18. Quiz results 114



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Dedication

To my dear husband for having given me the encouragement not to lose faith throughout the process and the support to achieve my goal.

To my beloved father who gave me the first books when I was a child and stimulated my love for reading.



Introduction

Every second language learner, by definition, already knows a first one, so it can be assumed that the knowledge of this first language will consciously or unconsciously exert some kind of influence on the new one (Ortega, 2009). Leaving aside, for the moment, the consideration of whether this influence is positive or negative and when or why it is so, the focus of this research is on a particular issue that appears to be connected to that assumption.

Specifically, this research deals with problems that Spanish-speaking students seem to encounter with reading comprehension in English when they are faced with compound noun structures [(n + n) (n + n + n) (n + n + n + n)] that are different from their equivalent structures in Spanish, but which are rather common in authentic written English. Such is the case, for example, of articles in newspapers, magazines, technical and scientific journals, or on the Internet, which students usually need to refer to as sources of information but many times cannot understand clearly because of inaccurate interpretations of compound nouns.

The area of this research work thus relates to the influence of the mother tongue on the foreign language teaching-learning process. The focus is on syntax, and the topic refers to the effects that the awareness –or not– of a language structure different from the native tongue of the learner may have on the reading comprehension of the foreign language, and the importance of the direct teaching of such structure.

The research is composed of five chapters followed by the references and appendices. Chapter 1 summarizes the thesis structure. It starts with the



background and justification, and then introduces the problem, which leads to two research questions that guide the study. This chapter also includes the general and specific objectives of the investigation as well as a brief description of the methodology.

Chapter 2 contains the theoretical framework. The chapter begins with a brief reference to the origin and structure of English compound nouns, emphasizing the fact that it is an alien structure for Spanish-speaking learners of English. Then it offers a general overview of different authors who have set forth the importance of decoding compound nouns as a language item that can sometimes be ambiguous, but which is broadly used both in everyday situations as well as in many kinds of written texts, especially technical and scientific works. The second part of the theoretical framework introduces the idea of the possible connection between EFL students' unawareness of English compound nouns and poor L2 reading performance, especially regarding the comprehension of technical and scientific articles and texts. A probable explanation is thought to be negative transfer. Research by authors like Ortega (2009), Ellis (2003), and Birch (2015), on the topic, is analyzed. Then there is a brief account of how the teaching of compound nouns to EFL students has apparently been neglected since there is little research on this field. Two inventories to disambiguate compound nouns are proposed as a way to give students some ideas on how to decode these nouns. Finally, Rebecca Oxford's language learning strategies are reviewed, and several of these strategies are adapted and used during the research treatment to teach students the compound noun structure. The third part of the theoretical framework provides the baseline for this research, and it is intended to support the hypothesis that directly teaching the structure of the compound noun phrase to



EFL Spanish-speaking students can improve their comprehension of English texts. Birch's research work related to the topic of L2 reading provided with that point of departure for the present study. Her assumptions –complemented by the concepts of transfer by Lourdes Ortega and Rod Ellis– and her hypothetical model of the reading process contributed with a foundation for this research. I have also included her work under the title of “state of the art” because of the pertinence of her investigation and findings that reflect the current trend in reading research.

Chapter 3 reviews the research methodology applied to the students of the University of Cuenca. This chapter describes in detail the participants, instruments, and procedures during the intervention.

Chapter 4 contains a description, analysis, and interpretation of the data obtained during the process, including tables and figures. There is a detailed description of the quantitative results as well as the opinions given by the students in the survey, interview, and journals.

Chapter 5 includes the conclusions of the study and recommendations for further research on the topic.

Finally, the appendix section includes samples of the materials used in different stages of this research, including the students' consent form, questionnaires, pretests, posttests, worksheets, among others.



Chapter 1

The Study

1.1 Background and Justification

After World War II, the United States emerged as one of the world's most powerful countries, and from then on, it has been gaining prominence, not only in the military and economic fields, but also in the areas of science and technology. However, that progress might not have been possible if the country had not oriented some of its main efforts towards reinvesting on research, thus generating more development because the more a country investigates, the more it can advance in the different fields as a result of the studies. As US President Barack Obama (2014) stated,

We know that the nation that goes all-in on innovation today will own the global economy tomorrow. This is an edge America cannot surrender. Federally funded research helped lead to the ideas and inventions behind Google and smartphones... There are entire industries to be built based on vaccines that stay ahead of drug-resistant bacteria, or paper-thin material that's stronger than steel (p. 1).

Along with progress, the English language became increasingly known abroad, reaching an international status. Crystal's (2003) reflection below summarizes the fast process of English turning into a global language. He noted,



It has all happened so quickly. In 1950, any notion of English as a true world language was but a dim, shadowy, theoretical possibility, surrounded by the political uncertainties of the Cold War, and lacking any clear definition or sense of direction. Fifty years on, and World English exists as a political and cultural reality. How could such a dramatic linguistic shift have taken place, in less than a lifetime? And why has English, and not some other language, achieved such a status? (p. xii).

There may be many answers to Crystal's (2003) questions, and he himself proposed both geographical-historical and socio-cultural explanations which he developed in a complete book. However, I will briefly refer to just one of his ideas because it is related to the justification of this study, as explained below. He said,

English is the medium of a great deal of the world's knowledge, especially in such areas as science and technology. And access to knowledge is the business of education. When we investigate why so many nations have in recent years made English an official language or chosen it as their chief foreign language in schools, one of the most important reasons is always educational – in the broadest sense (p. 110).

Therefore, it can be said that one of the reasons for the status reached by the English language as an instrument towards knowledge, becoming an important part of education in many countries, may be the significant amount of research that has been written in English. At the same time, this conception seems to describe the justification of this investigation, which is the need to improve the reading comprehension of students in order for them to access the knowledge that has been reached through research, especially during the past



66 years of American scientific and technological development, and which is mostly available in English.

As research seems so important to generate progress in many aspects, and most research is done in English, that might be a sufficiently important reason for teaching English in schools and universities around the world. Moreover, since research involves the reading comprehension skill as one of its key elements, it should be crucial to find ways to improve the reading comprehension ability of EFL students.

In Ecuador, although some schools began teaching English in 1912, more formal instruction of the language, within the curriculum, started in 1950 (“El deficit de profesores,” 2014), which coincides with the time when the United States started to be seen as one of the most powerful countries in the world. However, according to the same source cited above, the teaching was limited to high schools and only for one hour a week due to shortage of licensed teachers. After some years, the Philosophy Faculty of the Central University of Quito began training the first English teachers, and then some other universities in the country followed, but the number of teachers was, apparently, not enough. Most of the English high school instruction was done by people who had some knowledge of the language but were not qualified, which may have accounted for the problems that students have faced for many years. In the words of Rocío Ortega, ex-technical member of the Education Division of Pichincha for the English Curricular Reform Project (Cradle), “lack of training is the core issue, which has not been overtaken yet” (as cited in “El deficit de profesores,” 2014). In the same light, the ex-minister of Education, Fausto Segovia, stated that “in



Ecuador there has not been a national strategy for the teaching of foreign languages” (as cited in “El deficit de profesores,” 2014).

Although English has been considered the international language for communication in the last decades –especially since the emergence of the Internet in the 1990’s– only recently, the Ecuadorian government seems to have realized about its significance, and some action has been taken, at last, to improve its teaching. For example, school teachers are being trained in the country and abroad, and a B2 level according to the CEFR (Common European Framework of Reference for Languages) is the minimum requirement to teach in these institutions. In addition, since this year, 2016, English in elementary school changed from optional to mandatory in the public system, which is a good start.

The current government is prioritizing English language learning as a means of raising the country’s profile further on the international stage, and public sentiment towards English is generally positive as it is linked with prosperity and better employment prospects (“English in Ecuador,” 2015).

This might be due to the circumstance that the positioning of the Internet as a world phenomenon has made English reach its peak as the most used language at a global level, not only in its spoken form, but also in the form of written information. This is where we stand today, and the Internet can be more valuable for the people who can have access to contacts and information through the knowledge of the English language, including a good reading comprehension ability. For example, members of international academic and business communities would not communicate effectively if they did not use a



lingua franca in lecture-rooms and board rooms; in the same light, conversations between scientists or business people from different countries through the Internet would not be possible if they did not use a common language (Crystal, 2003), which most of the times happens to be English. Therefore, learning English nowadays has become not only a requirement for schools, but a necessity for anyone who aspires to get better opportunities in most fields of work and research.

In the particular case of the students of the University of Cuenca, they have to complete a certain number of English credits as a requirement for their graduation. Some schools require only a basic knowledge of general English, but some others, such as Medicine, Engineering, and Tourism, include technical English in their courses where reading comprehension of topics related to their careers plays an important role. In fact, that appears to be the tendency for the future since the use of the English language is growing in most fields. In the academic field, specifically, post-graduate studies are increasingly using English as the language for both reading materials and research, so students will need to know it and be especially proficient in reading comprehension as this ability is essential in order to have easier access to the information necessary to improve their knowledge and reach their academic post-graduate degrees.

Finally, with regard to work opportunities, from all the aforementioned, it follows that a university graduate who knows English will have more probabilities to get a better job than one who does not, and once in a work position, self-improvement leading to job promotions will probably require doing some reading in English.



1.2 Problem Statement

Having established the importance of English reading comprehension for the students, my purpose was to investigate a critical difficulty related to this skill that I had noticed during my years of teaching practice as a university professor. Students seemed to have problems when reading some texts in class, and this had to do with inaccurate comprehension of parts of texts that contained compound noun structures within sentences. Apparently, they lacked awareness of this English structure, non-existent in Spanish and which required a reading strategy that Spanish-speaking students seemed not to be conscious of.

Two-noun compounds were often found in their textbook readings, turning into a difficulty for them, but the problem became especially evident when they were asked to read articles in English taken from other sources, including the Internet.

These texts often contained compounds made up of two, three, and even four nouns, and students usually did not know how to decipher them. Since students were apparently unaware of the right-headed structure of these compounds, they seemed to be lost when they found that their expected reading fluency was suddenly broken in English when they faced the obstacle of such phrases, especially those with three or four nouns strung together. Students used to stop their reading because they did not understand which noun was being referred to in the compound. As a result, many students in intermediate and advanced courses were frequently not able to understand the message accurately in many parts of written texts that contained these types of phrases if they were not taught to decode them, even though they appeared to know the vocabulary.

Since that was a recurrent difficulty with different groups of students, I decided to focus this research on that problem, which can be stated as follows:



unawareness of the compound noun structure in English can cause some Spanish-speaking students to think that the order of words in those phrases is irrelevant as long as they understand their individual meaning. However, recognizing just the words but not the compound nor the way it works may lead to serious misunderstandings that can hinder reading comprehension.

The identification of this problem generated the idea of carrying out this research with the objective of finding a possible solution, which can hopefully contribute to the improvement of the reading comprehension of the students at the University of Cuenca.

1.3 Research Questions

1. Can an intervention on the processes of identification and decoding of compound nouns improve the reading comprehension skill of a group of EFL students whose mother tongue is Spanish?
2. How do students respond to direct instruction of compound nouns in terms of performance and interest?

1.4 Research Objectives

1.4.1 General objective:

To determine the effect of direct instruction of compound nouns on the reading comprehension performance of a group of English students at the University of Cuenca.



1.4.2 Specific objectives:

- To evaluate the students' ability to identify and decode compound nouns as well as their reading comprehension skill before and after the treatment.
- To assess how the students apply compound noun decoding strategies when reading texts after receiving explicit training.
- To find out about the participants' perceptions and opinions towards receiving explicit compound noun decoding instruction.

1.5 Research Methodology

This investigation can be more accurately identified as action research, which is defined as a type of study “conducted by or in cooperation with teachers for the purpose of gaining a better understanding of their educational environment and improving the effectiveness of their teaching” (Burns, 2005, as cited in Dörnyei, 2011). In the case of this research study, it was applied to a group of students who were assigned to me as their teacher, and the main purpose was to investigate if a change –improvement in their reading comprehension– was observed after the intervention process in order to enhance future teaching

The research had a quasi-experimental design with a group of students in an intact class. Besides, a mixed methods approach was used, that is, both quantitative and qualitative data were collected and analyzed (Johnson and Christensen, 2004, as cited in Dörnyei, 2011). There were two purposes for using this approach. One of them was to understand the outcomes better by looking at them from different perspectives, e.g. not only in terms of numbers, but also in terms of participants' opinions. The second purpose was to triangulate the results



obtained through the different methods in order to validate the conclusions (Sandelowsky, 2003, as cited in Dörnyei, 2011).

The sample was comprised of students at a third-level course of “English Credits” at the Department of Languages of the University of Cuenca (A2 according to the CEFR). The quantitative data obtained from two pretests and two posttests were compared at the end of the treatment, and the results were triangulated through qualitative opinions attained from several instruments, such as questionnaires, journals, and an interview. The study had a duration of 33 hours. The participants, instruments, and procedures are described in detail in Chapter 3.



Chapter 2

Theoretical Framework

This chapter contains a review of theoretical concepts related to the topic and the questions under research. It begins with a brief background examination of the structure of compound nouns in order to get insights into the topic. Then it gradually moves on to review aspects more directly related to the questions being investigated.

2.1 The English Compound Noun Structure

2.1.1 Definition and background of the English compound noun structure

A compound, in general, has been defined as a “lexical unit made up of two or more elements, each of which can function as a lexeme independent of the other(s) in other contexts, and which shows some phonological and/or grammatical isolation from normal syntactic usage” (Bauer, 2001, p. 695).

Bauer emphasized the significance of some terms in this definition. For example, he considered important to define compound constituents as *lexemes*, which are minimal units of language whose meaning cannot be understood from the meaning of its morphemes. This explanation can avoid confusions like taking affixation as compounding. Also, compounds are defined as *lexical units*, to mark off some boundaries so as not to misperceive as compounds some other normal syntactic combinations such as the possessive case or the combinations adjective + noun, auxiliary + main verb, or adverb + verb.



Grammatical isolation is another important feature of the definition of compounds. It means that one of its elements cannot take a full variety of modifications. The author gave some examples: “Given an English compound like *nosebleed*, we cannot have *[noses] bleed*, a *[broken nose] bleed*, a *[his nose] bleed*, etc., and given a compound *blackboard* we cannot have *[blacker] board*, *[very black] board*, etc.” (Bauer, 2001, p. 695). Furthermore, he discussed about a phonological feature of compounds that differentiates them from a normal syntactic unit, and he mentioned the example of the pronunciation of the compound *blackboard* versus the pronunciation of the adjective + noun *black board*, where the stress is different. In the former, the main stress is placed on *black* while in the latter it is on *board*. The contrasting stress patterns can be transcribed as *bláckbòard* vs. *blàck bóard*. Hogg and McCully (1991) explained this contrast in more detail,

In *blackboard* the stress is strongest at the beginning of the string –or, more accurately, there is a falling stress contour, whilst in *black board* there is a rising stress contour (with the stress strongest towards the end of the string) (p. 1).

The definition above refers to all kinds of compounds, so it also applies to the particular type of compounds the present research refers to: *noun + noun*; *noun + noun + noun*; or *noun + noun + noun + noun*; giving clear insights of the nature of a compound noun.

However, for the purposes of this research, the definition given by Lauer (1995) seems more specific: “A noun compound is *any consecutive sequence of nouns at least two words in length that functions as a noun, but which contains no genitive markers, and it is not a name*” (p. 31). He gave some



examples, including “stone fish,” “emergency bus fuel,” and “killer whale attack” (p. 31).

The compound noun structure (noun + noun), typical of the English language, derives from its German ancestor. Hiebert and Bravo (2014) have pointed out that, “In German, the language most closely associated with English historically, compounding is the primary means of forming new words” (p. 8).

According to Barber, Beal, and Shaw (2009), the historical roots of English tell of two common ways to generate new words. One is the system that originated from the Romance layer of English, involving the addition of prefixes and suffixes to root words, and the other is the remarkable way of creating new words within the Germanic layer of English, consisting in the combination of two or more root words to create a compound word.

They explained that between the early and late modern periods of the English language (17th and 18th centuries approximately), noun compounding began to be considerably common for word-formation, besides affixation, with the combination of two or more free morphemes, usually nouns. *Sheep-bran* and *waterdock* are two examples of the commonest type of compounds in the early period (p. 193) while *airship*, *bandmaster*, *graveyard*, *pigskin* and *railway* are examples of the late period (p. 232).

As it can be observed when comparing the examples, the formation of new words seems to have responded to the changes experienced by the people at that time. The early compounds refer to country life while the second group shows the changes that society was probably going through in those moments, with the advent of the industrial revolution.



With the arrival of science in the 18th century, compounding continued being a source of word-formation as new words began to be needed, especially to name the new scientific discoveries; the tendency has continued into our contemporary world where scientific and technological advance is increasingly requiring more new words to be formed. This phenomenon has made compounding grow faster lately as an alternative for creating those new words in English, especially in those fields.

An investigation carried out by Bauer and Renouf (2001) to a British newspaper found that approximately 3,000 new compounds had been created from 1988 to 1998, and according to Carstairs-McCarthy (2005), an unlimited number of compound nouns could be formed in English.

As it can be inferred from this brief historical account, the fact that science and technology are increasingly using more compounds to create new words suggests that the use of this structure will probably continue to grow, hence its importance for EFL learners. On the other hand, the fact that compound nouns in English have a German structure might be one of the reasons many Spanish speakers, used to Romance structures, seem to have trouble understanding them when learning English.

Ó Séaghda (2008) pointed out that noun-noun compounds are seldom used in Romance languages and gave an example in French where he demonstrated that in that language, post-modification is usually the alternative to compounding in English. That example, and the notion behind it, can be well applied to Spanish, too. Just as Ó Séaghda's example in French, the Spanish translation of the English compounds "steel knife" and "cheese knife" also take the form of post-modified nouns (e.g. steel knife would be translated as *cuchillo*



de acero in Spanish while cheese knife would probably be translated as *cuchillo para queso*).

The author said that English, on the contrary, is known for the flexibility and frequency of its noun-noun compounding processes and that nearly 3% of all words in the British National Corpus are formed by compounds.

According to Biber and Clark (2002), the use of compound nouns has been increasing, in special in genres that are more formal, such as the news and academic writing, and they said that it is one of the most commonly used methods for noun modification in English.

2.1.2 English compound nouns as an alien structure for Spanish-speaking learners

First of all, it seems interesting to note that the bibliography related to systems to analyze and disambiguate English compound nouns is fairly broad (Finin (1980), Buckeridge & Sutcliffe (2002), Kim & Baldwin (2005)), which suggests a complex structure in general. There has also been a considerable amount of research aimed to computer translation of these compounds into other languages, especially Japanese and Chinese (Baldwin & Tanaka (2004) and Cao & Li (2002)).

Regarding Spanish, it is important to mention an investigation carried out by Girju (2007) related to computer translation of English NPs (noun phrases or compound nouns) into five Romance languages: Spanish, Italian, French, Portuguese, and Romanian. The purpose of this study was to interpret English NPs through cross-linguistic evidence of their “internal argument” (p. 571) mainly based on semantic analyses of the prepositions used in the Romance



language translations. Since these translations released the compressed definitions contained in the English NPs, they were used to decode meaning more clearly in English. Girju (2007), remarked:

The focus on Romance languages is well motivated. It is mostly true that English noun phrases translate into constructions of the form *N P N* in Romance languages where, as we will show below, the *P* (preposition) varies in ways that correlate with the semantics. Thus Romance languages will give us another source of evidence for disambiguating the semantic relations in English NPs (p. 568).

Besides referring us back into the semantic complexity of the noun phrases, even for English parsers, this study emphasizes the paraphrases –usually using prepositions– that are necessary to make in the Romance languages in order to arrive at their meaning, hence implying that English NP structures are strange to these languages.

In addition, the research studies by Leiva and Bailey (1998), Carrió (2008), and Benassi et al. (2011), applied to EFL Spanish-speaking students in technical and scientific areas, also focused on the interpretation of compound noun phrases which they considered unfamiliar to Spanish. For instance, Leiva and Bailey (1998) observed that “An additional problem arises from the fact that often several nouns are strung together in English, while parallel nominal structures in Spanish use prepositions to make their relationships and meanings more explicit” (p. 19). Carrió (2008) noted that “Because their element number can be hypothetically infinite, it is well known that CNP (Complex Noun Phrase) understanding represents an important obstacle for non-native speakers of



English, even more for Spanish learners of English” (p. 27). Finally, Benassi et al. (2011) added that

English can simply juxtapose different words by their semantic relationship, as in ‘*blood urea nitrogen concentrations.*’ However, Spanish is not a synthetic language and needs connectors to join the different elements of a phrase, i.e. ‘*concentraciones de nitrógeno en la urea de la sangre*’ (p. 30).

Spanish, as a language with a Romance background, does not have the same way of forming compound nouns as English. Spanish syntax for the notion expressed by English compounding is different, so it seems logical to imagine unawareness of the structure on the part of an EFL Spanish-speaking student who has not been alerted of its existence. As researchers Buckeridge and Sutcliffe (2002) noted, “In English, compounds consisting of two nouns are predominantly right-headed” (Introduction, para.1).

Spanish does not have right-headed phrases. Therefore, the right-headed *noun + noun* structure, e.g. “movement disorder,” which may seem obvious to a native speaker of English, might pose a significant difficulty to EFL Spanish-speaking learners because it does not exist in Spanish. Very frequently, in specialized texts, they also find *noun + noun + noun* and *noun + noun + noun + noun* right-headed compounds, e.g. “attention deficit disorder” or “food policy research institute” in sentences that they try to read and understand simultaneously from left to right as they do in Spanish. Comprehension, then, might not be so obvious for them if they have no idea of such English structure whose notion is syntactically different when expressed in Spanish –usually with the nouns in reverse order and the use of prepositions to connect them.



When students are not aware of how the structure works, they may understand the individual words in a compound, but they might not always get the correct interpretation of the compound as a unit precisely because they do not know how the nouns in these compounds function together nor that there are different ways to decipher the latter. If they know the vocabulary, they would typically understand word by word from left to right without making clear connections between the nouns in the compound.

Arens, Granacky, and Parker (1987) explained that in everyday life, people usually find noun phrases containing an article and a head noun many times modified by one or more adjectives, or perhaps even noun-noun compounds, such as 'park bench,' 'atom bomb' or 'computer programmer' (p. 59), but that it is uncommon to hear sequences of three or more nouns in natural language. However, they added that in the technical areas, these noun structures are not uncommon. Systems designers, for example, need to use three or more nouns for their descriptions of the specifications of electronic systems, in expressions such as

bus request cycle

transfer block size

segment trap request

interrupt vector transfer phase

arithmetic register transfer instruction (Arens et al., 1987, p. 59).

These phrases might be problematic even if the Spanish-speaking learners are students of Systems Engineering if they are not familiarized with the English structure. This difficulty can be extended to other technical and scientific fields, as well, such as architecture, civil engineering, economics, medicine, etc.,



where the formation of such compounds has become very common, especially lately because science and technology have been advancing so quickly and the world has been changing so fast that new words need to be created all the time, therefore, the resource of compounding becomes a rather easy alternative.

Hiebert and Bravo (2014) pointed out that since most English compound nouns are not usually joined or hyphenated, foreign readers of English may not recognize them as compounds as native speakers of English usually do. However, for Spanish-speaking readers, specifically, that might not be the only reason. The main problem appears to be that English compound nouns involve a word order that is alien to the Spanish language because their right-headed structure does not exist in this language.

Going a bit further, Arens et al. (1987) stated that “Noun phrases consisting of a sequence of nouns (sometimes referred to as nominal compounds) pose considerable difficulty for language analyzers but are common in many technical domains” (p. 59).

This statement suggests trouble in interpreting longer compound nouns. Thus, if decoding such structures is difficult even for specialists in their study, it should seem reasonable to provide EFL Spanish-speaking students with as much instruction on compound nouns as possible to help improve their comprehension.

Research studies about the relationship between compound noun understanding and English L2 reading also recommend special attention to the English compound noun structure as a feature that is difficult for reading comprehension by foreign students of the language. For instance, Master (2003) emphasized the importance of nominal compounds in this sense:



Noun compounds, which are also known as nominal compounds, often constitute a troublesome area of English grammar for students learning English as a second or foreign language... By teaching students how to decode noun compounds, we can help them overcome a common difficulty in reading advanced and specialized texts (p. 3).

Advanced and specialized texts frequently use compound nouns made up of three or more nouns, which seem to be the most problematic because many times they pose problems of ambiguity, as it is explained in the next part.

2.1.3 Ambiguity of compound nouns composed of three or more nouns

Returning to the explanation given by Arens et al. (1987) regarding the formation of three-or-more-noun compounds for specification purposes, it seems that during the process of design specification, the phrases are usually created rather easily by the specifiers to refer to a particular item or activity. They just seem to apply the known right-headed structure where the last noun on the right is the one being talked about and the ones preceding are the modifiers. The relationships among the nouns are very clear in the minds of the encoders because they know the concepts they are putting together in the compound.

However, when it comes to the decoding of those phrases, difficulties may appear because ambiguities can arise for two reasons. One of them is syntactic ambiguity. That is, some of the nouns used in the compound can also function as verbs, as it can be seen in the examples above where most of the words can syntactically be both verbs and nouns. For instance, the first compound in the



list above, 'bus request cycle,' could also be understood as a command 'to bus the request cycle' (Arens et al., 1987, p. 59).

The other reason is that the modification order may vary when the compound is made up of three or more nouns although the main noun is always the last one. For example, in a three-noun compound, there is the possibility to group either the first two nouns as a new compound within the original compound to modify the last one, or the last two nouns into one to be modified by the first noun. In the end, in all those compounds, the last noun is strictly the one being modified, but the meaning of the phrase may vary.

Buckeridge and Sutcliffe (2002) referred to this problem when they said that "compound construction is recursive and both the modifier and the head can themselves be compounds, resulting in structural ambiguities" (Introduction, para 1). In order to disambiguate these sequences of three-noun compounds ($n_1 n_2 n_3$) (Marcus, 1980, as cited in Lauer, 1995) proposed an algorithm:

Given three nouns, n_1 , n_2 and n_3 :

- If either $[n_1 n_2]$ or $[n_2 n_3]$ is not semantically acceptable then build the alternative structure;
- otherwise, if $[n_2 n_3]$ is semantically preferable to $[n_1 n_2]$ then build $[n_2 n_3]$;
- otherwise, build $[n_1 n_2]$ (p. 50).

In other words, if the arrangement ($n_2 n_3$) is more suitable than ($n_1 n_2$), the compound should be understood as ($n_1 (n_2 n_3)$); otherwise, the combination should be $((n_1 n_2) n_3)$.

Arens et al. (1987) added that "considerable knowledge of the semantics of the domain is necessary to decide the correct interpretation of a nominal



compound and the natural language analyzer must ultimately have access to it” (p. 60). The following examples show the possibilities of associations which evidence their ambiguity.

[engine damage] report

January [aircraft repairs]

[boron epoxy] [[rocket motor] chambers]

1970 [[balloon flight] [[solar-cell standardization] program]] (Rhyne, 1976 and Marcus, 1979, as cited in Arens et al., 1987, p. 59).

In general, studies agree on the ambiguity of three or more noun compounds, but their findings are not very conclusive about their interpretation, except for the suggestion of using the knowledge of the specific domain to decode them when found in a written text.

Knowledge of the subject matter can be considered a top-down strategy for comprehending compound nouns in reading. However, in order to use this strategy, previous recognition of the compound noun phrase is necessary, as Arens et al. (1987) emphasized, “before complete semantic interpretation of such a noun phrase can even be attempted, the analyzer must have a method of recognizing its presence in a sentence and determining its boundaries” (p. 60).

Thus, for attempting this kind of decoding of the compound, it is necessary to have a notion of how the nouns can be grouped, so that the reader can be conscious of the presence of the compound as a structure. That is, identification of the compound is crucial for any further step to understanding it. Knowing the subject matter alone, would not be enough when the reader is a foreign language student who has not mastered the new language yet, hence the



importance of an interactive approach to reading. As Eskey (1988) noted, “developing readers must therefore work at perfecting both their bottom-up recognition skills and their top-down interpretation strategies. Good reading – that is, fluent and accurate reading– can result only from a constant interaction between these processes” (p. 95).

This view was partially opposed to Goodman’s (1967) who considered reading as a cognitive process carried out basically through top-down strategies in what he called “the psycholinguistic guessing game” (p. 127), which did not pay much attention to language teaching. Goodman’s ideas had prominence for many years, but the grasp that Eskey (1988) had of the problem seems to have gained greater support lately.

Birch (2015), following Eskey’s (1988) line, proposed bottom-level strategies to improve students’ abilities for automatic reading. Among them are syntactic strategies which “allow readers to unconsciously arrange the recognized words accurately and quickly into phrases and sentences, so that the meaning can be constructed at the top of the reading process” (p. 5).

Relating this to compound nouns, it means that direct teaching and practice of the compound noun structure can help students to automatically recognize it and be prepared to attempt to solve ambiguities through their additional knowledge of the domain, by reaching a balance in the use of strategies.

It seems sensible then to think that EFL students would, first, need to be taught the basic *noun + noun* structure in order to be able to recognize it and decode it (bottom-level teaching). Once they know the two-noun structure, it would be advisable to teach them to recognize longer sequences of nouns, and their possible groupings, so that students are conscious of the ambiguities that



may occur when trying to decode these longer compounds. Then they can use their subject matter knowledge to attempt decoding if the long sequence becomes too ambiguous (top-level processing).

As it can be observed, ambiguities in three or more noun compounds will frequently be problematic, but hopefully, if students are sure about how the structure functions and they know the subject matter, comprehension will be considerably improved.

If students do not know the structure, they would probably attempt at guessing meaning and imprecise understanding of the compounds might reflect on poor reading comprehension.

2.2 Connecting Compound Nouns to Reading Comprehension

As established in the introduction, the purpose of this thesis was to investigate if an understanding of the English compound noun structure, defined as its identification and correct decoding, can help improve reading comprehension of EFL Spanish-speaking students, in order to emphasize the direct teaching of this structure. Therefore, an analysis of this relationship is intended in the following part.

2.2.1 Compound nouns and their impact on reading comprehension

Goodman (1967) promoted a “top-down” approach to reading. He stated that

Reading is a selective process. It involves partial use of available minimal language cues selected from perceptual input on the basis of the reader’s expectation. As this partial information is processed, tentative



decisions are made to be confirmed, rejected or refined as reading progresses (p. 126).

Eskey (1988) observed that top-down models that included higher cognitive skills such as prediction of meaning through context or applying background knowledge, among others, had some limitations if they were used alone because they were underestimating the perceptual and decoding dimensions of the reading process present in bottom-up language skills, which are also necessary for accurate reading comprehension. Referring to the supporters of the top-down model (e.g. Goodman (1967); Smith (1982), Eskey (1988) said,

The model they promote is an accurate model of the skillful, fluent reader, for whom perception and decoding have become automatic, but for the less proficient, developing reader –like most second language readers– this model does not provide a true picture of the problems such readers must surmount (p. 93).

He explained his position by saying that, to him, fast and accurate decoding of language was important for both L1 and L2 reading. He defined a good reader as someone who knows the language both in its lexical and syntactic aspects and uses that knowledge to understand texts through some kind of automatic and unconscious identification of words, phrases, and sentences, getting meaning from their relationships within the context, not by guessing from context or simply by previous world knowledge. As a result, readers would become more fluent, and their minds would be free to interpret what they are reading. He thought that good decoding skills were one of the causes and not only a result of fluent reading, which he described as rapid and accurate. Therefore, he favored the interactive model that was beginning to



emerge at that time, which proposed a balance of higher and lower strategies for reading comprehension (Eskey, 1988).

Through the years, this model has gained prominence, and, apparently, it is current trend in reading comprehension research, at least in theory. “Now the study of lower-level reading strategies is mainstream, and there are few teachers or researchers who still believe that higher level cognitive strategies can make up for deficiencies in basic language proficiency” (Birch, 2015, Preface para. 1). She added, “In the decades since 1988, the importance of a balanced approach to reading instruction in the English L2 classroom has been confirmed” (p. 5).

In the light of these considerations, the conclusion that teachers should be using the interactive model for reading comprehension in the classroom becomes sensible. As bottom-up strategies have gained acknowledgment, teaching EFL Spanish-speaking students to decode compound nouns for their reading improvement should be considered an important alternative to just guessing through context or applying some other top-down strategies. That instruction would make students aware of the different reading strategies that English may require in sentences containing compound nouns, so as not to take it for granted that their understanding of anything written will always occur concurrently as they read from left to right, like in Spanish. If they are not told so, students will not necessarily know that, in English compound nouns, the last noun is regularly the one being talked about while the others just complete its meaning in different ways.



Arens et al. (1987) noticed this feature of the English language when they pointed out that “In almost all cases the meaning of noun sequences can therefore be inferred largely based on the last noun in the sequence” (p. 59).

Therefore, the three-noun compound (n + n + n) “energy drink consumption,” for example, would be talking about ‘consumption’, and the four-noun compound (n + n + n + n), “dentist drill noise reducer” would be talking about ‘reducer.’ However, this can be imperceptible or confusing for EFL Spanish-speaking students who do not know the structure. In that case, the former phrases will probably be translated word by word as *energía bebida consumo* and *dentista taladro ruido reductor*, which do not make any sense in Spanish, thus negatively affecting their comprehension in English.

Students’ expected reading fluency seems to become significantly affected by this sudden interruption in sentence comprehension when they come across the obstacle of such structures, which they do not know how to decode.

The consequences of this lack of awareness may vary from the less dangerous inaccuracy of interpretation of some phrases containing the compound, leading to poor comprehension of fragments of the text, to a total misunderstanding of the message when the confusion is about important parts in the piece of writing.

The occurrence of compound noun structures in authentic written English is frequent. According to Master (2003), “They are especially prevalent in professional texts in science and technology, business, medicine, law, and other areas of English for Specific Purposes (ESP)” (p. 3).

Lauer (1995) also noted that



Noun compounds are even more evident in press and technical materials. In regard to the former text type, McDonald (1982:125) identifies 252 noun compounds (types) in around 500 sentences of *Newsweek* and *New York Times* articles. A previously unseen compound must be dealt with on average in every second sentence. For the latter text type, ter Stal (1994a:9) has made a study of compounds in a corpus consisting of 293 technical abstracts from *Engineered Materials Abstracts*. His list contains some 3514 noun compounds (types), yielding an average of 12 per abstract (p. 26).

Therefore, awareness of compound nouns and knowledge of the way they function may help EFL Spanish-speaking students to grasp more accurately the information provided by many important reading sources.

That might also help them read more fluently because if they recognize these phrases within the sentences, and learn to mechanize the strategy of understanding the phrase in reverse order, they will probably not stop their reading because they will be able to decipher the compound automatically.

2.2.2 The theory of transfer in reading comprehension

As it can be noticed in the examples mentioned above, at least one of the reasons for EFL Spanish-speaking students' confusion when they come across English compound nouns in a written text appears to be the inadequacy of their previous native language reading experience when it is applied to read the new language. They probably know the words they are reading, but all of a sudden, those words do not make any sense when they read them together. They might even think that the writer failed to make sense of some parts of the reading (the



parts that contain the compounds). Therefore, it seemed important to refer to that phenomenon in this part of the research to try to understand the possible causes of the problem and attempt to find some solutions.

Underlying the problem, there seems to be a case of negative transfer. Spanish-speaking students appear to be transferring their language structures and even their reading strategies into English.

According to Ortega (2009), the fact of learning a second language necessarily implies knowing a first one, which will presumably influence on the new language in a conscious or unconscious way. She defines transfer or cross-linguistic influence as the effects that the learners' knowledge of and capabilities in their mother tongue, and other languages they may know, may have on the development of L2 (new language).

Ellis (2003) goes on to make a broad classification of transfer, but for the purpose of this research, only two types will be mentioned: negative and positive. Negative transfer or interference is "how one language interferes with the acquisition of another" (p. 349), and positive transfer or facilitation "occurs when there are similarities between L1 and L2" (p. 355), which might help learner acquisition of L2 but is more difficult to observe.

Furthermore, Birch (2002) applied transfer to reading comprehension. She noted that "Facilitation can occur if the knowledge and processing strategies are similar in L1 and L2, but L2 readers may rely on their L1 strategies even when L2 is different, which may cause interference or at least inefficiency in reading" (p. 34).

This would mean that an initial assumption by Spanish-speaking students that the reading strategies for English are the same as those used in Spanish



because they worked well with some basic similar structures (facilitation) could give students the wrong idea that they always work. That would result in interference when faced with structures that are not similar and need a different reading strategy, and which seems to be the case with compound noun structures.

Applying these concepts to the topic of the present research, it seems possible that Spanish-speaking learners might be negatively transferring features of their native language into the understanding of compound nouns in English texts in at least two ways. First, their Spanish mental structure might not be prepared to recognize language structures that do not exist in their native language, so they might be transferring that mental unconsciousness, which in the new language could be perceived as an incapability to understand the structure. However, they might just be unconsciously showing their incapability to recognize something that they do not know. They may not even be able to imagine the existence of phrases that do not exist in their own language if they are not told so. In other words, if students' difficulties in understanding compound nouns when reading English texts are thought to be basically a matter of unawareness of the right-headed structure because it does not exist in Spanish, then they may be transferring that non-existence.

The second feature of their mother tongue that EFL Spanish-speaking students might be also transferring, and which is connected to the former one, is their reading decoding strategies. For instance, Spanish transparent orthography and post-modifying syntax seem to allow for easier decoding in reading than English opaque orthography and compounding. "There is evidence that reading comprehension in languages with transparent orthographies, such



as Spanish, is less influenced by the decoding ability than English reading comprehension” (Florit and Cain, 2011; Share, 2008, as cited in Ripoll & Aguado, 2014, p. 2).

When students read in Spanish, they decode words easily because there is usually only one sound that corresponds to each symbol, and since post-modification functions as a self-explanation, comprehension seems to be facilitated. It can be accomplished systematically from left to right because students are able to decode and understand word by word as they go along the reading without much effort. Ford and Palacios (2015) stated,

Once children learn the basic sound-symbol correspondences, they can easily decode most Spanish words. Thus, by the end of first grade, children can read most Spanish text with a high level of accuracy, regardless of the familiarity of the word patterns (Spanish and English: What’s the same and what’s different? para. 7).

However, when Spanish-speaking learners read in English, they may find that besides the difficulty of decoding words due to the various sounds that are represented by only one symbol, the syntax of compounding adds complexity to comprehension. Compound nouns function as compressed definitions that first need to be decoded and whose meaning must be unfolded in reverse order compared to the rest of the text, which makes the process more complicated (Master, 2003).

This may be done mechanically by native English-speaking readers because they recognize the phrases and know how they work within the sentence. But for Spanish-speaking students, this strategy might need to be learnt first and then practiced because it is not part of the mental reading



process in their own language. Otherwise, they may transfer their left-to-right reading strategy, which does not function with English compound nouns.

In conclusion, negative transfer appears to be the issue lying beneath Spanish-speaking students' problems to understand compound noun phrases within English sentences with the subsequent adverse consequences in their reading comprehension.

2.2.3 Teaching

Birch (2002) offered invaluable insights for the accomplishment of the present research not only on the issue of transfer in reading comprehension, but also by providing evidence that the direct teaching of problematic structures of the language with appropriate strategies can help improve reading comprehension. Talking about EFL students, she pointed out that "knowledge and processing strategies develop in response to L1, that they transfer positively and/or negatively to L2, and that strategies optimal for reading English may not develop without direct instruction" (Birch, 2002, p. xii).

Birch (2002, 2007, 2015) has suggested direct instruction for L2 reading in general. Regarding compound nouns, it is important to emphasize the teaching of the structure for the improvement of students' reading ability. Accordingly, it is necessary to find and apply some systems for understanding and interpreting compound nouns in order to teach students how to develop adequate language processing strategies to understand how the basic noun-noun compound structure functions as well as advanced cognitive processing strategies to decode the compound when found within a written text. Then EFL



students might also be able to attempt meaningful interpretations of longer compound combinations of three or more nouns.

However, according to Hiebert and Bravo (2014), investigation related to teaching compounding in English has been sparse. They found only one study where the objective was to teach compound words to Chinese learners, and they quoted that according to the researchers, their experiment was among the first to have been done on cross language transfer regarding compounding:

We found one study where the explicit goal was to teach compound words—and this study was conducted with Chinese speakers: Zhang, Anderson, Li, Dong, Wu, and Zhang (in press). The authors claim that theirs is among the first experimental demonstrations of crosslanguage transfer of an aspect of compounding. Our review of the literature suggests this well may be the first instructional study focused specifically on compounds (Hiebert & Bravo, 2014, p. 12).

Besides, it seems that pedagogical literature regarding compounding is also sparse in English. It is suggested that one reason might be that it is assumed that the meaning of compound nouns is quite clear although they admit this might be true for some of them, but not necessarily for others (Hiebert & Bravo, 2014).

As an EFL teacher, and based on my teaching experience, I would say that compound nouns may seem pretty obvious to native speakers used to the structure, but not to EFL students who usually are not aware of their existence.

The teaching of compound nouns to EFL students, for some unknown reason, appears to have been rather neglected although, as many researchers have noted, compound nouns not only occur in written texts but are also a very



frequent component of every day vocabulary as well. Following is an interesting citation taken from *Learning Compound Noun Semantics* by Ó Séaghdha (2008), which shows the frequency of compounding in English,

Noun-noun compounds are familiar facts of our daily linguistic lives. To take a simple example from my typical *morning routine*: each *weekday morning* I eat breakfast in the *living room*, while catching up on *email correspondence* and reading *news websites* or (if I'm feeling particularly diligent) some *research papers*. Unless my *training schedule* prescribes a *rest day*, I pack some *running clothes and shoes*. If the weather looks threatening, I'll fetch my *rain jacket* before leaving. By the time I begin my *cycle commute* to the *University Computer Laboratory* I have already encountered a plethora of concepts that are most conveniently denoted by combinations of nouns (p. 11).

One of the problems for the study and teaching of compound nouns seems to be a lack of agreement among language specialists as to what part of the language compound nouns really belong to. "Despite its prevalence, there is a tendency among linguists to view compounding as a particularly ill-behaved phenomenon that does not fit into standard categories" (Ó Séaghdha, 2008, p. 16).

However, the circumstance that compound nouns have not been strictly categorized cannot cast aside their existence, their importance in both written and spoken language, and the fact that more and more compound nouns are being formed every day, especially in the technical areas where reading comprehension is essential.



The students of the University of Cuenca will eventually need to read these kinds of academic texts, especially when fulfilling their academic requirements for their graduate studies, hence the importance of teaching them the compound noun structure to facilitate their reading comprehension in English.

One way to attempt decoding compound nouns has been the creation of inventories, which have been developed by many researchers. Two of them were chosen to be used with the participants of this research in order to teach them some ways to decode this structure. They were devised by Judith Levi (1978) and Nastase and Szpakowics (2003) and are described below.

2.2.3.1 Disambiguating compound nouns through inventories as a teaching strategy

At first sight, it may appear that disambiguating meaning of compound nouns is quite easy, but that does not seem to be really the case. As Ó Séaghdha (2008) put it, “It is not sufficient to simply associate particular constituent words with particular semantic relations” (p. 12). He gives the example of a *cheese knife* which is a knife for cutting cheese in contrast to a *kitchen knife* which is not a knife that cuts kitchens (p.12).

According to him, to understand compound nouns, we need to take into account both the lexical and relational levels of semantics. That is, first, an understanding of the individual meaning of the words that form the compound is essential, but then knowledge of the world is necessary to give a meaningful interpretation to the interaction between the elements of the compound.

In order to achieve that understanding, several efforts have been made to try to classify compound nouns by some researchers (e.g. Levi (1978); Finin



(1980); Lauer (1995); Nastase and Szpakowics (2003); Ó Séaghdha (2008)). Ó Séaghdha's guidelines have been specially regarded by many of them, but at the same time, they were largely based on a set of categories created by Levi who made an interesting attempt to interpret compound nouns in 1978. She analyzed noun-noun compounds in a profound way and classified these compounds in the following nine categories (capital letters) with the corresponding examples (small letters):

CAUSE1 flu virus CAUSE2 snow blindness

HAVE1 college town HAVE2 company assets

MAKE1 honey bee MAKE2 daisy chains

USE water wheel

BE chocolate bar

IN mountain lodge

FOR headache pills

FROM bacon grease

ABOUT adventure story (Levi, 1978, as cited in Ó Séaghdha, 2008, p. 17).

A flu virus is a virus that CAUSES flu, an adventure story is a story ABOUT adventure, and so on. The three RDPs (Recoverably Deletable Predicates) CAUSE, HAVE and MAKE each have two variants, as either the head or modifier of a compound can fill the first argument of these predicates, while the other arguments are either symmetric (BE) or restricted to taking the compound head as first argument. RDPs are deleted in the derivation of compound nominals, and hence all compounds are ambiguous in exactly 12 ways. Levi deems this degree of ambiguity to



be sufficiently restricted for a hearer to identify the relation intended by a speaker by recourse to lexical or encyclopaedic knowledge, while still allowing for the semantic flexibility that undoubtedly characterises compound nouns (Ó Séaghdha, 2008, p. 19).

Let us attempt a simpler explanation of some of these compounds as they would be explained to low intermediate students of English. Take the first pair of compounds that express cause, “flu virus” and “snow blindness.” Since compound nouns are right headed, the head, or the noun being talked about in both of them, would be the second one. So, in the first case we are talking about some kind of virus and in the second compound we are talking about some kind of blindness. However, the cause relationship between the two components of each pair is different if we analyze a little further, and that is why they are classified differently into the two categories above, CAUSE 1 and CAUSE 2. A flu virus is a virus that causes the flu. In this compound, the head expresses the cause and flu is the result (although in the compound flu is describing the virus), but in “snow blindness,” it is the modifier (snow) which expresses the cause that produces blindness. In this phrase, the head of the compound is the passive result of the cause. Blindness is caused by snow (although, as in the first case, snow is also describing blindness). Therefore, the head in CAUSE 1 could be defined as the one who causes the modifier while the head in CAUSE 2 would be defined as the one who is caused by the modifier. Similar analyses can be made with other pairs of compounds, and in fact, they were made by the students who participated in this research, and that opened their minds to other possibilities for connections that together with



logical deductions based on some knowledge of the world could help them decode the meaning of many compounds.

However, this inventory as well as other similar ones have received some criticisms as being too narrow to contain all the possibilities that can be expressed by compound nouns. They have also been said to be too ambiguous and to give a poor idea of compound semantics (Ó Séaghdha, 2008, p. 18-19).

To avoid those problems of inventories, some authors, such as Bauer and Lieber (as cited in Ó Séaghdha, 2008), decided to eliminate the complexities of compound semantics and use a combination of world knowledge and context, using the term *pragmatics* to identify the relation between the components of the compound. Although this technique avoids ambiguity, it is not clear on how to get compound meaning. It supposedly interprets compounds through pragmatic mechanisms, but they are not specified.

In spite of the criticisms, Levi's classification has been considered useful by many studies and is usually mentioned in most research works on decoding compound nouns. It has even served as the basis for further classifications, such as Ó Séaghdha's himself, who just added a few more categories to Levi's.

Another classification that explains the semantics of compound nouns is that offered by Nastase and Szpakowics (2003). Their categories for interpretation of compound nouns are grouped in five super categories that include 30 relations: causality, participant, quality, temporality, and spatial, according to the description below:

CAUSALITY

- CAUSE flu virus



- EFFECT exam anxiety
- PURPOSE concert hall
- DETRACTION headache pill

PARTICIPANT

- AGENT student protest
- BENEFICIARY student discount
- INSTRUMENT laser printer
- OBJECT metal separator
- OBJECT PROPERTY sunken ship
- PART printer tray
- POSSESSOR group plan
- PROPERTY novelty item
- PRODUCT plum tree
- SOURCE olive oil
- STATIVE cell division
- WHOLE daisy chain

QUALITY

- CONTAINER film music
- CONTENT apple cake
- EQUATIVE player coach
- MATERIAL brick house
- MEASURE saturation point
- TOPIC weather report



- TYPE oak tree

TEMPORALITY

- FREQUENCY routine exercise
- TIME AT morning exercise
- TIME THROUGH six-hour meeting

SPATIAL

- DIRECTION exit route
- LOCATION home town
- LOCATION AT desert storm
- LOCATION FROM country butter (Nastase & Szpakowics, 2003, p. 13).

Ó Séaghdha (2008) considered that this inventory reveals profound semantic knowledge and gives a broader idea of the vast possibilities of interpretation of compound nouns than Levi's (1978). He said that "The size of the inventory facilitates fine distinctions in meaning" (Ó Séaghdha, 2008, p. 23). For example, a difference can be perceived between *headache pill* (DETRACTION): a pill that takes away the pain, and *fertility pill* (CAUSE or PURPOSE): a pill that is intended to cause fertility. Nastase and Szpakowicz' categories have been used in many other classifications although they also exhibit a few inconsistencies in the super-category groups, e.g. PART/WHOLE and CONTAINER/CONTENT are in different super categories.

Although inventories have been criticized for their apparent simplicity, they can help to awaken students' consciousness so that they can be ready to adapt the categories to make up their own new relationships between nouns, using



their knowledge of the world to give adequate meaning to the compounds that they may find in the readings related to their field of study.

2.2.3.2 Applying language learning strategies to teach compound nouns for reading comprehension improvement

Finally, Oxford's (1990) strategies for language learning were also reviewed as a reference for application, several of which were used during the treatment period of this research.

According to Oxford (1990), communicative competence is the ability to communicate and it concerns both spoken and written language. Reading comprehension, as the message decoder skill, becomes a crucial part of written communication and so acquires a significant role for communicative competence in this area. In consequence, it is important for students to develop accuracy in this skill so that they can decode messages with the required precision. Unfortunately, there may be some obstacles for accurate understanding of some written texts by EFL students, such as lack of enough vocabulary, unawareness of a specific grammar structure, or lack of knowledge of the world. In any case, it would be important for the teacher to investigate about the specific difficulties that might be hindering students' understanding of the written message.

Once the obstacles have been identified, it is necessary to find solutions that would help eliminate them. In the case of the lack of knowledge of the mechanics of compound nouns, it would be necessary to find some strategies that would let students identify and decode these phrases more easily in the sentences in order to grasp the idea accurately.



Oxford (1990) proposed a great number of interesting learning strategies, which she broadly divided into direct and indirect strategies. Direct strategies relate to the language itself, and they have been classified into memory, cognitive, and compensation strategies while indirect strategies are those that serve as reinforcement for the actual learning of the language and are categorized as metacognitive, affective, and social strategies. Then each of these is subdivided again as shown in Table 1.

Referring to language-learning strategies, Oxford (1990) pointed out that “They are tools used because there is a problem to solve, a task to accomplish, an objective to meet, or a goal to attain” (p. 9). These strategies are intended to comprise different ways people learn foreign languages. For example, a learner may use one of the reasoning or guessing strategies to understand a foreign language reading passage better, or another can use a memory strategy to remember something. Affective strategies are used to help the learner relax or gain greater confidence, so that more profitable learning can take place. Many of the strategies used during the treatment of the present research were taken from the lists below, and their use is described in the Methodology chapter.



Table 1.

Oxford's strategy classification system

Direct Strategies		
I. Memory Strategies	A. Creating mental Linkages	1. Grouping
		2. Associating/elaborating
		3. Placing new words into a context
	B. Applying images and sounds	1. Using imagery
		2. Semantic mapping
		3. Using keywords
		4. Representing sounds in memory
	C. Reviewing well	1. Structured reviewing
D. Employing action	1. Using physical response or sensation	
	2. Using mechanical techniques	
II. Cognitive Strategies	A. Practicing	1. Repeating
		2. Formally practicing with sounds and writing systems
		3. Recognizing and using formulas and patterns
		4. Recombining
		5. Practicing naturalistically
	B. Receiving and sending messages	1. Getting the idea quickly
		2. Using resources for receiving and sending messages
	C. Analyzing and Reasoning	1. Reasoning deductively
		2. Analyzing expressions
		3. Analyzing contrastively (across languages)
		4. Translating
		5. Transferring
	D. Creating structure for input and output	1. Taking notes
		2. Summarizing
		3. Highlighting
	III. Compensation Strategies	A. Guessing Intelligently
2. Using other clues		
B. Overcoming limitations in speaking and writing		1. Switching to the mother tongue
		2. Getting help
		3. Using mime or gesture
		4. Avoiding communication partially or totally
		5. Selecting the topic
		6. Adjusting or approximating the message
		7. Coining words
		8. Using a circumlocution or synonym

*(continued)*

Indirect Strategies			
I. Metacognitive Strategies	A. Centering your Learning	1. Overview and linking with already known material	
		2. Paying attention	
		3. Delaying speech production to focus on listening	
	B. Arranging and planning your learning	1. Finding out about language learning	
		2. Organizing	
		3. Setting goals and objectives	
		4. Identifying the purpose of a language task (purposeful listening/reading/speaking/writing)	
		5. Planning for a language task	
		6. Seeking practice opportunities	
C. Evaluating your learning	1. Self-monitoring		
	2. Self-evaluating		
II. Affective Strategies	A. Lowering your anxiety	1. Using progressive relaxation, deep breathing, or meditation	
		2. Using music	
		3. Using laughter	
	B. Encouraging Yourself	1. Making positive statements	
		2. Taking risks wisely	
		3. Rewarding yourself	
	C. Taking your emotional temperature	1. Listening to your body	
		2. Using a checklist	
		3. Writing a language learning diary	
		4. Discussing your feelings with someone else	
	III. Social Strategies	A. Asking Questions	1. Asking for clarification or verification
			2. Asking for correction
B. Cooperating with others		1. Cooperating with others	
		2. Cooperating with proficient users of the new language	
C. Empathizing with others		1. Developing cultural understanding	
		2. Becoming aware of others' thoughts and feelings	

Note: Taken from Oxford, 1990, p. 132-133.

2.3 State of the Art

A state of the art reflecting some of the later tendencies on English L2 reading research seemed appropriate at this point to support the present study. It starts with a brief overview of some important research about the reading process and reading instruction, taking the mid-1960s as a starting-point period.



Then it mainly focuses on Birch's more recent research contributions to English L2 reading improvement, and finally, it inserts this work as a possible addition to her reading model.

After appearing in the three editions of her research book, Birch's ideas and findings have become part of the current trend in L2 reading research, especially her conclusions about the importance of direct language instruction and a balance between top-down and bottom-up strategies for reading. Her hypothetical model of the reading process provided both the baseline for the present investigation and the main foundation required for its hypothesis

2.3.1 Brief overview of reading research

According to Samuels and Kamil (1988), reading research started just over a hundred years ago. They mentioned 1879's Javal's paper on eye movements and 1886's Cattell's work on seeing and naming letters versus words as the first two studies about the process of reading. However, they were not profound enough.

Surprisingly, serious attempts at building explicit models of the reading process –models that describe the entire process from the time the eye meets the page until the reader experiences the “click of comprehension”– have a history of a little more than thirty years (Samuels & Kamil, 1988, p. 22).

Referring to the period between those simplistic studies and the more sophisticated models of the reading process that began to appear during the mid-1960s, Alexander and Fox (2004) have pointed out that there was apparently not much interest in matching reading research and practice. Only after War World II, public pressure appears to have been exerted on the



educational community to solve the problem of reading acquisition experienced by an increased number of children attending public school as a result of the high birth rate during that period. Also, the need of the United States to compete globally seems to have required better reading abilities.

Consequently, behaviorism, which was dominating the scene of psychological research at that time, took on the task of bringing a scientific perspective to reading. However, according to Alexander and Fox (2004), the conceptualization of reading as separate skills drilled and practiced in a passive way until reflexively demonstrated, typical of the behaviorist teaching methodology and exemplified in the EFL Audiolingual Method, started to be perceived as ineffective by the mid-1960s. By that time, a transition of research towards the learner and the learning process had already begun, including investigation of the reading process in general.

The orientation of reading development changed to a top-down perspective, following the holistic Gestalt modality, which “emphasized whole-word recognition, the importance of context in comprehension and word identification, and the consideration of reading as a unique human activity with its own definitive characteristics” (Alexander & Fox, 2004, p. 37).

Alexander and Fox (2004) added that reading research of this period was influenced by both linguists and psycholinguists. Both groups had views of the reading process that were opposed to those of former behaviorism, in their own ways. For example, linguists, following Chomsky’s (1975) views, believed in a hard-wired interpretation of language acquisition, including reading, which considered that the mental structures of human beings were naturally designed



to develop language under favorable conditions through the incorporation and integration of the linguistic cues existing in a particular language community.

Psycholinguists, on the other hand, believed that behaviorist methodologies that paid attention to individual aspects of reading damaged its natural communicative quality (Goodman, 1980, as cited in Alexander & Fox, 2004). According to Alexander and Fox (2004) these circumstances created the stage “for a new era of reading research” (p. 38).

Making use of linguists’ new ideas of a built-in language capacity in humans, psycholinguists extended it from speaking to writing and reading. Therefore, learning to read began to be considered as an innate capacity instead of a set of skills externally acquired (Harste, Burke, & Woodward, 1984, as cited in Alexander & Fox, 2004).

The learner became an active participant who constructed meaning by using different kinds of information in search of comprehension. “Learning to read was not so much a matter of being taught, but a matter of arriving at facility as a result of predisposition to seek understanding within a language-rich environment” (Alexander & Fox, 2004, p. 39). Since the underlying skills of reading during this period were not isolated and corrected, reading diagnosis was focused on understanding how readers interpreted a written text. The goal was not to identify and eliminate errors but to determine how readers attempted to get meaning (Goodman & Goodman, 1980, as cited in Alexander & Fox, 2004).

The changes in language research and the psychological studies of the mental processes during this period were the most important factors that contributed to the model-building activity for the reading processes that began



developing during this time. Some of those models were applied to the fields of ESL (English as a second language) and EFL reading research as well. One specific model highly considered and taken up by many researchers and teachers of ESL and EFL for many years until quite recently was the psycholinguistic model for reading, by Goodman (1968), known as the “whole language” theory. This approach considers, among other things, that the language process should be integrated in the learning process as a whole and that the sounds, letters, words, phrases, and sentences should be learnt in real contexts and not individually.

Concerning L2 reading, its idea is that it is not the knowledge of the new language which determines reading ability in L2 but the ability to read in L1 itself. Thus processing strategies for reading would be practically the same in the different languages. This model in a way disregarded the teaching of basic knowledge of the language and bottom-up strategies, favoring more advanced cognitive processing strategies that are based on a knowledge of the world. However, after years of having had the greatest influence in research and in the classroom, many researchers began noticing gaps in the whole language approach which apparently was not “*whole*” because it excluded basic aspects of language teaching. New ideas and investigation began to appear regarding the importance of also developing lower-level language knowledge and bottom-up strategies in learners to complement world knowledge and top-down strategies into an interactive model for more accurate reading comprehension achievements.

Two researchers worth mentioning, who strongly advocated the interactive model for reading comprehension, were Eskey (1988) and Birch (2002).



According to Eskey (1988),

In practical terms, my concern is thus to keep the language in the teaching of second language reading. That may not sound very controversial, but I think that in promoting higher-level strategies –like predicting from context or the use of schemata and other kinds of background knowledge– some researchers have been sending a message to teachers that the teaching of reading to second language readers is mostly just a matter of providing them with the right background knowledge for any texts they must read, and encouraging them to make full use of that knowledge in decoding those texts. Though that is certainly important, it is also, I think, potentially misleading as a total approach...We must not, I believe, lose sight of the fact that language is a major problem in second language reading, and that even educated guessing at meaning is not a substitute for accurate decoding (Eskey, 1988, p. 97).

Eskey's theoretical considerations were actively used by Birch who applied them into consistent research devising her hypothetical model of the reading process opposed to Goodman's exclusively cognitive model. She also created her own metaphor of "the expert decision maker" (Birch, 2015, p. 6). With it, she referred to the reader who can have the option of using any of the higher or lower knowledge base or processing strategies provided by her interactive model, aiming at getting more precise meaning from reading. This notion is opposed to Goodman's (1967) metaphor of the "psycholinguistic guessing game," which apparently leads to more inaccurate comprehension (Eskey, 1988, p. 93). With time, Eskey's perceptions of the reading process have



spread among researchers and teachers and are being increasingly used.

According to Birch (2015), “There is a greater focus on linguistic form, along with function and meaning” (Preface).

2.3.2 Birch’s contributions to L2 Reading

As early as in 2002, Birch stated the importance of an interactive model of the reading process that included direct lower-level language teaching using bottom-up strategies in order to achieve better reading comprehension instead of focusing only on higher level knowledge and top-down cognitive strategies as it had been mainstream in former years. She noted that the “whole language” ideology, mainly supported by Goodman (1968), which had been in control of second language reading for a long time up to that point promoted a kind of reading where EFL students were mostly required to use their cognitive abilities to understand written texts in English (p. ix).

Although she generally acknowledged some benefits of the “whole language” practice, she felt that something was missing in that ideology in order to justify its name. Therefore, her research took the position that a whole language ideology should be able to adapt to different kinds of researchers and teachers so as to include, too, those who believed that the aspects of language as such were also important to help students improve their reading (p. ix).

She pointed out that higher-level cognitive knowledge and abilities had been researched much more than low-level linguistic knowledge and abilities, which had been rather neglected, and invited EFL reading researchers to explore this field of investigation in more detail, especially “those whose students already know how to read in their native language” (Birch, 2002, p. x).



In opposition to Goodman (1968), she also mentioned “the possibility that many beginning English-learning readers who are already literate in their native language may need direct instruction in the strategies that expert English readers form to read English most efficiently” (Birch, 2002, p. 29). Following the assumptions of the whole language theory, until that time, reading comprehension in EFL had apparently been considered a process that could be carried out by students of the new language as soon as they began learning the language. It was assumed that EFL students can directly use the information in a text in the foreign language to go on into more advanced cognitive processes even if their language abilities are not advanced enough, but according to Birch’s research results, that assumption might not always be true. She carried out some case studies of reading by students speaking four different languages: Spanish, Greek, Arabic, and Chinese, and she arrived at the conclusion that direct instruction is necessary to develop the best strategies for reading in English.

Birch’s second edition of her book, in 2007, followed the same general line of criticism to the whole language approach to reading as the first one. However, the third edition in 2015, presents substantial changes in that it reveals that finally, the trend for reading comprehension both in research and in teaching has changed towards reaching a balance between top-down and bottom-up knowledge and strategies. Birch (2015) goes on to fill the gaps for L2 teachers and researchers interested in using bottom-up reading strategies to supplement top-down teaching approaches to teaching reading but who do not know exactly how to do it.



She begins by saying that reading is not as simple as it may appear because “it involves a great deal of precise knowledge that must be learnt and many processing strategies that must be practiced until they are automatic” (Birch, 2015, p. 2).

Birch explains that to understand the reading process, researchers often use models to compare the complex and abstract mental processes to something more comprehensible. She said, “Models provide a coherent framework on which to arrange the linguistic information that expert readers need to acquire and that teachers need to know” (Birch, 2015, p. 2).

Accordingly, she developed two models of the reading process. The first model considers reading as a kind of information processing system, and the second one as an expert decision making system. In her view, those two models capture some essential features of the reading process.

2.3.2.1 The interactive information processing system

The Interactive Information Processing System is composed of two main parts: a knowledge base and a dynamic processing constituent that uses strategies to deal with the text. The illustration of this model, taken from Birch (2015), is displayed in Figure 1 below.

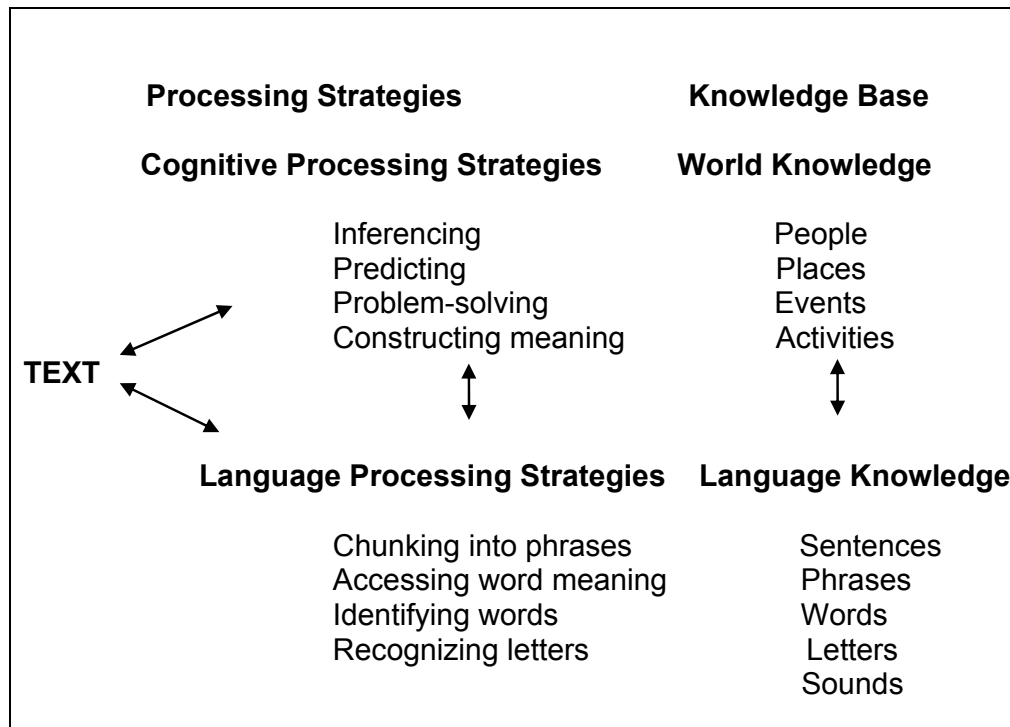


Figure 1. Hypothetical Interactive Information Processing Model of the Reading Process with some sample processing strategies and types of knowledge (Birch, 2015, p.3)

This model shows that the processing strategies are the elements that interact with the text in order for the reader to arrive at comprehension. Birch explained, “The knowledge base is not sufficient for reading by itself, because it cannot interact directly with the text without processing mechanisms. The processing component consists of a variety of strategies that the reader must intentionally learn or acquire by practice” (Birch, 2015, p. 3).

Therefore, through the strategies, the reader can take the two sources of information: the text and the knowledge base, and make sense of what is printed. These strategies can be used consciously or unconsciously.

Also, as it can be seen in the illustration of the model, world knowledge and cognitive processing strategies that are used to make predictions, inferences,



and so on, are placed at the top while language knowledge and the processing strategies used to give meaning to symbols and basic units of language are at the bottom. The strategies on top of the model are known as high-level processing strategies while the strategies at the bottom are called low-level processing strategies.

However, all the processing strategies seem to work simultaneously with access to any part of the knowledge base in the reading system. When reading, people need information coming both from the top and the bottom in order to reach successful understanding of the written text.

According to Birch (2015), the process of reading is interactive in three ways. First, both the processing strategies and the knowledge base, top and bottom, interact with each other to accomplish the reading. Second, the mind of the reader interacts with the written text to understand the message, and third, the reader interacts indirectly with the writer of the text.

Birch's hypothetical model, as shown in Figure 1, includes all the bottom language knowledge base: sounds, letters, words, phrases, and sentences, necessary for the reading process, but her research just concentrated on letters, sounds, and words in their connection to reading. She studied four sample case histories where reading strategies were developed with direct instruction and a bottom-up focus. However, the approach was mainly morphological and phonological. Her research did not cover the area of syntax, related to phrases and sentences, "due to space limitation" (Birch, 2015, p. 6), but she recommended the topic for further study.

Since the present research has a rather syntactic approach and its topic belongs to the phrase category, it apparently fits within her model. Being



phrases formed by two or more words, compound nouns form part of the base language knowledge that English L2 readers would need to know in order to improve their reading. Moreover, if the results of teaching English compound noun phrases to the Spanish-speaking students of the University of Cuenca confirm the hypothesis of this thesis, they would also be indirectly asserting Birch's assumption that language direct instruction benefits L2 reading, which might be a contribution of the present research within the model devised by this author. Figure 2 below shows the topic of the present investigation inserted in Birch's model.

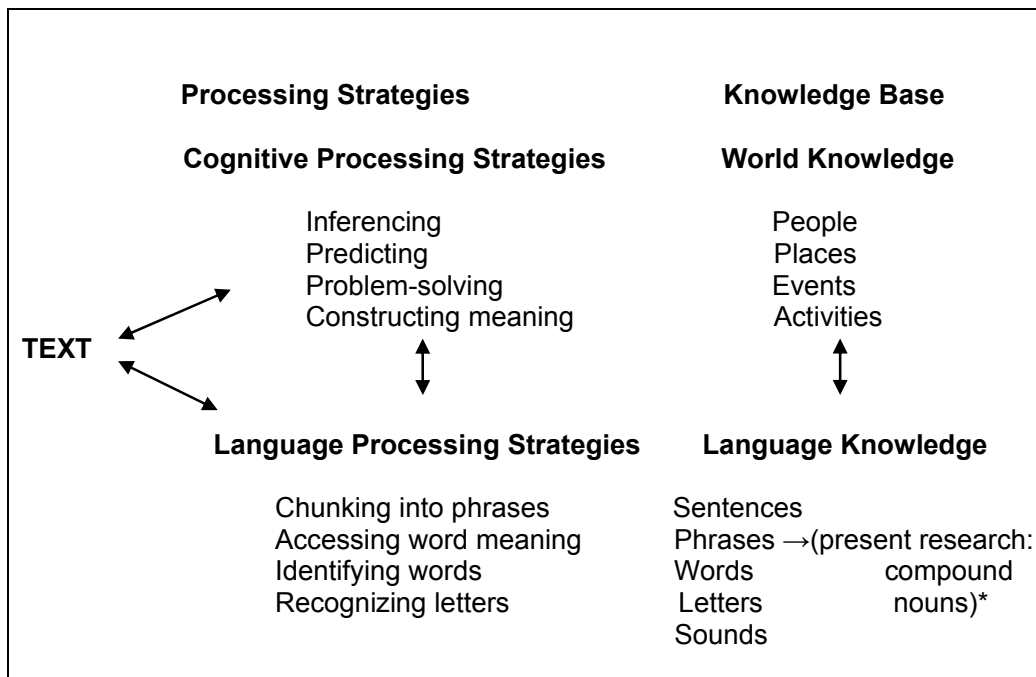


Figure 2. Hypothetical Interactive Information Processing Model of the Reading Process (Birch, 2015, p. 3) *This information has been added to show where the present investigation is placed within the model.



2.3.2.2 *The expert decision making system*

Basically, in this model, a good reader is called an expert decision maker, and he is compared to a computer program that uses both symbolic processing strategies and the stored knowledge base to make quick decisions. Birch explained,

The model of the reader as an expert decision maker is a fine-tuning of the information processing model. Good readers effectively use their high- and low-level knowledge and processing strategies to assign meaning to letters, words, sentences, paragraphs, and so on by making informed decisions at strategic points (Birch, 2015, p. 7).

Apparently, the idea of this second model is to show that a balance between top and bottom knowledge and strategies is necessary for making fine and rapid decisions regarding meaning in reading. The more a reader knows about the language and subject matter and the more he is prepared in the management of the different strategies, the better the reading results.

This concept also exemplifies the importance of the teaching of any aspect of language as a part that, together with the other components of the reading process, will contribute to have a more complete view of a text in order to make the best decisions to achieve accurate meaning.

2.3.3 Current trend

As Silberstein (1987) noted, in the EFL/ESL reading context, three models of reading seem to be widely known: the bottom-up model, the top-down model, and the interactive model.



However, after the first two have been individually applied with not so good results for reading comprehension, it seems that the current tendency supported by research is toward the interactive model that includes both of them.

Birch (2015) said,

In the decades since 1988, the importance of a balanced approach to reading instruction in the English L2 classroom has been confirmed. Beginning readers need maximum support for higher level processing to supplement deficiencies at the lower level with language but they also need to improve their abilities with language details and low-level strategies for automatic reading (p. 5).

However, she added that “Although researchers now know that information flows in both directions while people are reading, there is still some debate among teachers and teacher-trainers about which is the most important for successful reading” (Birch, 2015, p. 4).

Research then has apparently found that the interactive approach that combines both top-down and bottom-up models produces better results in reading comprehension. Teachers will probably have to be more open to observe and acknowledge the results they are achieving. A balanced approach that gives due importance to all the aspects of the process seems more logical than an individual approach. However, teachers will probably need to be attentive because they might sometimes require to emphasize one over the other, depending on the specific needs and level of the students.



Chapter 3

Research Methodology

This study can be defined as action research because it was carried out by the teacher of the group of participants with the twofold purpose of understanding a problem that had been observed and enhancing the teaching practice to produce a change in the participants; in this case, an improvement in their reading comprehension performance (Burns, 2005, as cited in Dörnyei, 2011).

It has a quasi-experimental design since it was applied to a group of students in an intact class. Due to ethical considerations, no control group was incorporated to the study because, first, the inclusion of a control group would have implied using those participants for the benefit of this research without offering them any advantage, and second, they would have felt at a disadvantage compared to the experimental group because the control group would have attained no profit in relation to the group receiving the treatment. They would have only been used with no possible fair explanation; therefore, the design would have been discriminatory (Hanuka, 2000, as cited in Gorard, 2004).

Pretests and posttests were administered and the results of students' performance were collected quantitatively. Besides, qualitative data about the process were gathered through questionnaires, students' journals, and a final interview. Therefore, in general terms this study employed a mixed methods approach (Dörnyei, 2011).



The general objective of this research was to determine the influence of direct instruction of the structure of compound nouns upon the reading comprehension performance of a group of English students at the University of Cuenca. The investigation sought to answer the following questions:

1. Can an intervention on the processes of identification and decoding of compound nouns improve the reading comprehension skill of a group of EFL students whose mother tongue is Spanish?
2. How do students respond to direct instruction of compound nouns in terms of performance and interest?

This chapter contains a detailed description of the methodology used during the research. The description below refers to three important aspects of the study: participants, instruments, and procedures.

3.1 Participants

This research was applied to a group of 30 students (16 males and 14 females) aged 19 to 26, attending a third-level English course at the Department of Languages of the University of Cuenca (level A2, approximately, according to the CEFR).

The English Credit program the students belonged to was composed of three levels of 96 hours each, which students were required to take in order to graduate. The general objective of the Department of Languages' program of Credits was to provide students with a CEFR B1 level, after 288 hours of study, which could allow them to have access to better job opportunities or to some postgraduate studies in the country or abroad. In accordance, the objective of the third-level course was to develop students' fluency in the four basic skills of



reading, listening, speaking, and writing through a variety of communicative activities and using the textbook *Open Mind 3* by Rogers et al. (2010) that would take them from an A2 to a B1 level of the CEFR by the end of the term. Regarding reading, specifically, the focus was to get students to identify, grasp, and infer general and specific information from general and academic texts according to the level.

This particular group of students was selected to participate in the investigation for two main reasons. First, the students belonged to one of the classes that had been assigned to me, as their English teacher, during that term of study, March-July 2013; and second, their level of English seemed to be appropriate for the application of the research.

The background questionnaire (Appendix B) that was given to the students provided the following information about the participants:

3.1.1 Age

The group age varied from 19 to 26 years. The youngest group comprised the 40% of the population with ages between 19 and 21. The majority of students, 53.3%, were 22 to 24 years old; and finally, the oldest group corresponded to the 6.7% of the students who were 25 and 26 years old. Figure 3 displays this information.

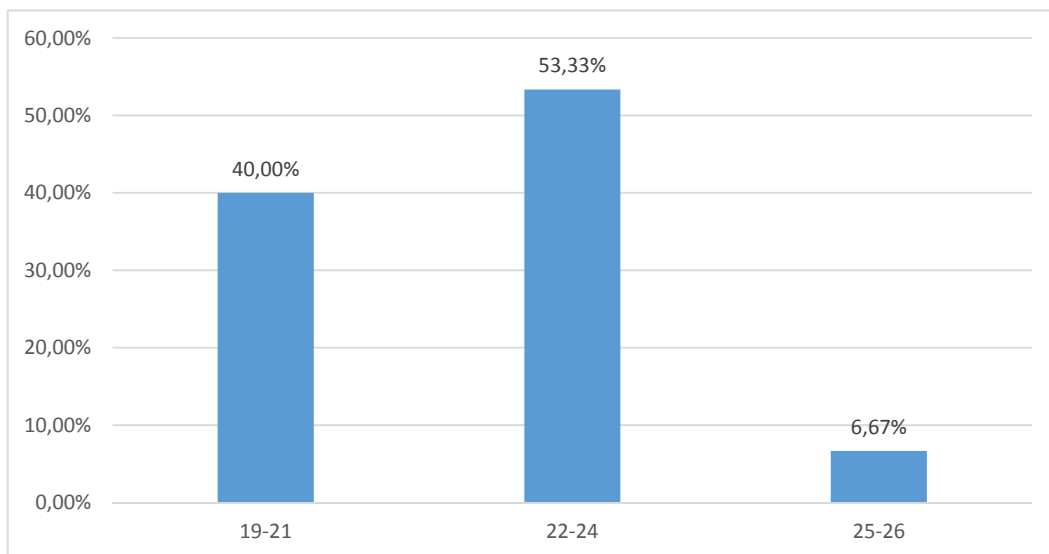


Figure 3. Participants' age

3.1.2 Education background

The type of elementary and high school the students attended, public or private, and the percentage of students coming from each type is shown in Figure 4. This information is an important antecedent because there is a difference in English instruction between public and private schools. At the time of this research, English was optional for elementary schools. Therefore, not all public schools offered English classes, and the ones which did, had a schedule of two to three hours a week while private schools usually offered from five to ten hours a week. On the other hand, public high schools usually offered the minimum number of hours required by the government curriculum while private schools usually had programs with more hours ranging from six to ten hours a week, depending on the objectives of each private school.

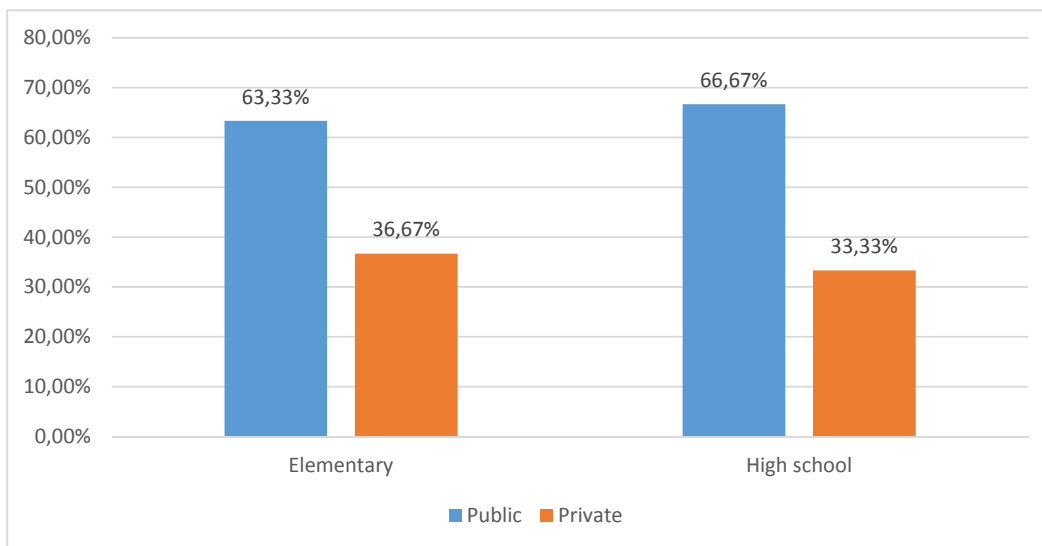


Figure 4. Participants' elementary and high school education

As it can be seen in Figure 4, 63.33% of the participants completed their elementary studies in public schools, and 36.67% in private institutions.

The type of high school education was very similar to elementary education with a slight variation. In this case, 66.67% of the participants indicated to have studied in public high schools while the 33.33% said to have done it in private schools.

3.1.3 English studies

When inquired about their years of English studies throughout their lives, it was found that 53.3% of the students had studied English from ten to fifteen years. The following group, 33.3% of the students had a period of studies from five to ten years. The 6.7% indicated to have less than five years of English studies, and the same percentage of students did not answer (see Figure 5).



The group with the most time of English studies included three students who had taken English courses additional to the formal education, which ranged from six months to four years, and one of them had had the opportunity to study in the United States for ten months.

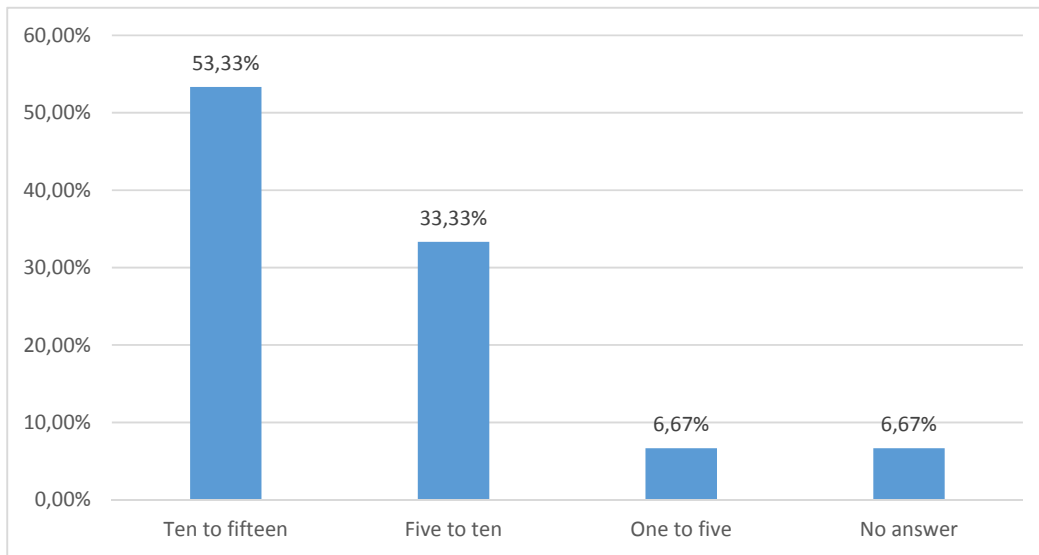


Figure 5. Participants' total years of English studies

At that time, none of the students was taking any extra English classes besides the English course at the university.

3.1.4 Reasons for learning English

Twenty-four students –eighty percent– said that they enjoyed learning English, and to the question about their reasons for learning English, which allowed students to choose from more than one option, only three students checked that they were taking English exclusively as a requirement for graduation. Although this option had the most choices, 83.3 percent, the other students said to have also other reasons for learning English besides fulfilling



the requirement, as shown in Figure 6. In the “other” option, they included aspects as travelling or making friends.

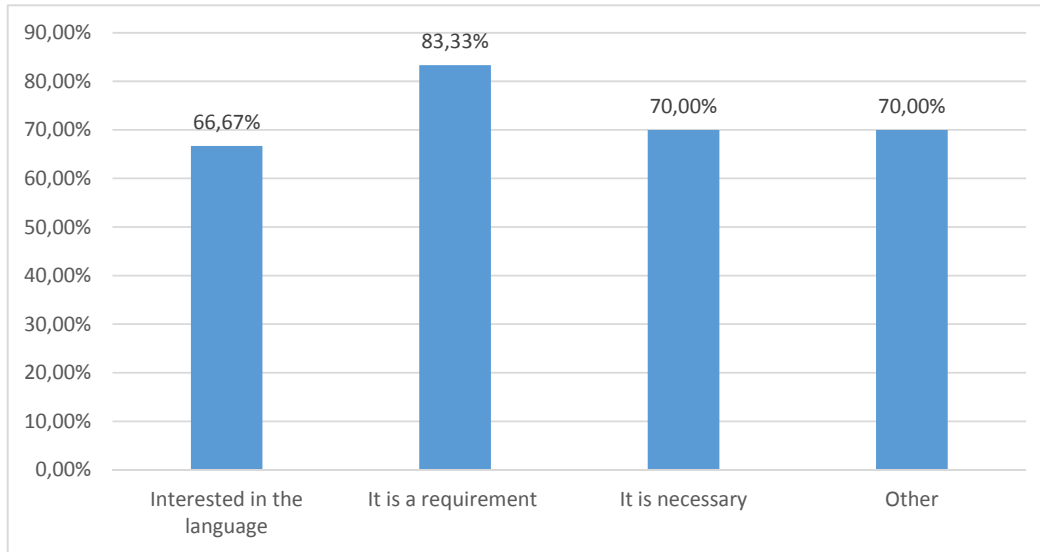


Figure 6. Participants' reasons for EFL learning

3.1.5 Participants' English proficiency and reading comprehension ability

Regarding their own general proficiency in English, at the beginning of the process, only one student self-evaluated his as excellent compared to that of former classmates; seventeen students self-evaluated theirs as good; and twelve did it as just fair, as shown in Figure 7.

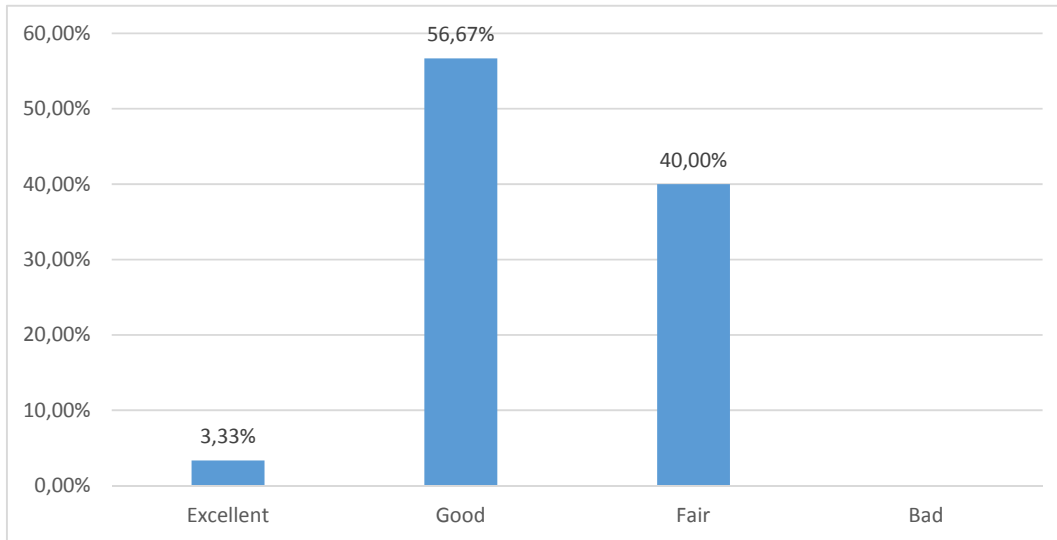


Figure 7. Students' initial self-evaluation of English proficiency

Nevertheless, in relation to their initial reading comprehension ability, only eleven students (36.70%) rated theirs as good while nineteen students (63.3%) ranked theirs as fair (see Figure 8). This perception is important because it is directly related to the investigation. Therefore, an analytical comparison with the final answers to the same question is done in the inferential results section in chapter 4.

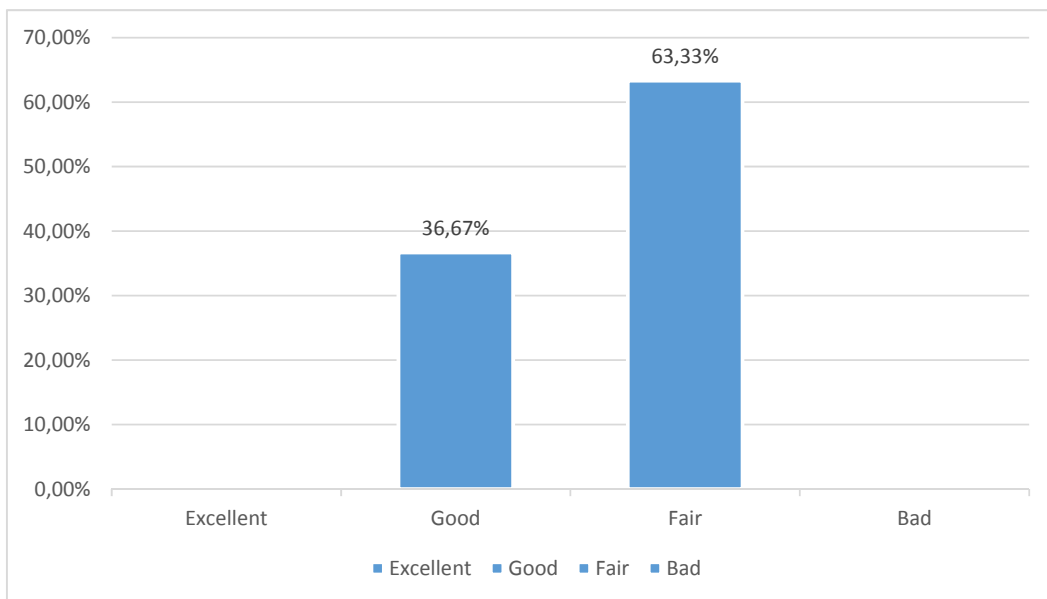


Figure 8. Students' initial self-evaluation of reading comprehension skill



3.1.6. Importance of reading proficiency to students

Participants also rated the importance of achieving reading comprehension proficiency by selecting one of three options. Twenty-seven students (ninety percent) chose *very important* and three students (ten percent) selected *important*. The other possibility was *not very important* (see Figure 9). Most of the reasons for these ratings had to do with the students' need to understand technical and scientific articles and texts in English in their future postgraduate studies and in their careers in general. Some students mentioned that it would help them get good job opportunities. Fewer students focused on getting knowledge and information in general. This means that students are aware that, as professionals, they will probably need to read material written in English that is related to their specific area of knowledge.

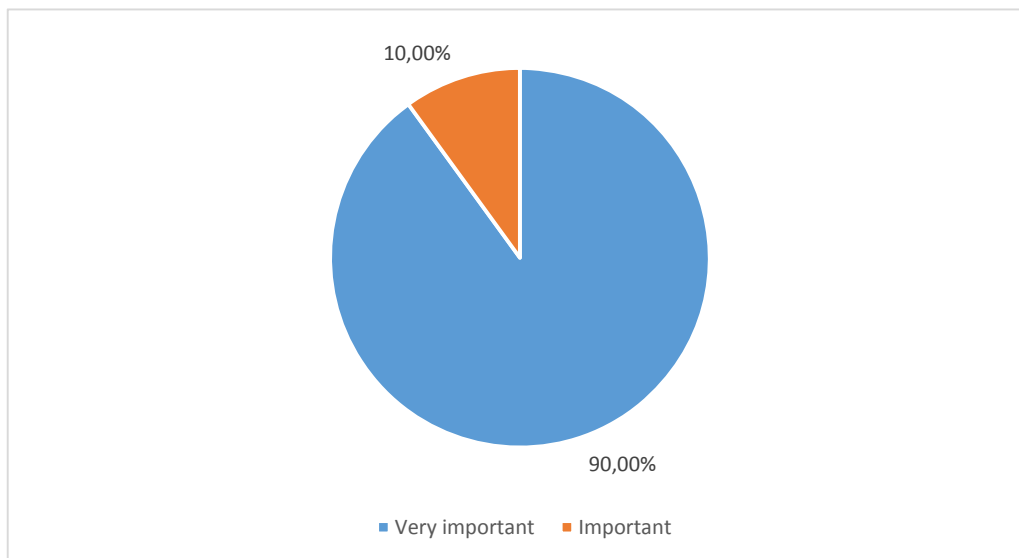


Figure 9. The importance of reading proficiency for students



3.1.7 Students' problems with reading comprehension

When the students were asked if they had any problems with reading comprehension, twenty-eight of them (93.3%) answered “yes” and only two (6.6%) answered “no,” as it can be seen in Figure 10 below. The biggest difficulty for those who answered “yes” is summarized in Table 2 and Figure 11.

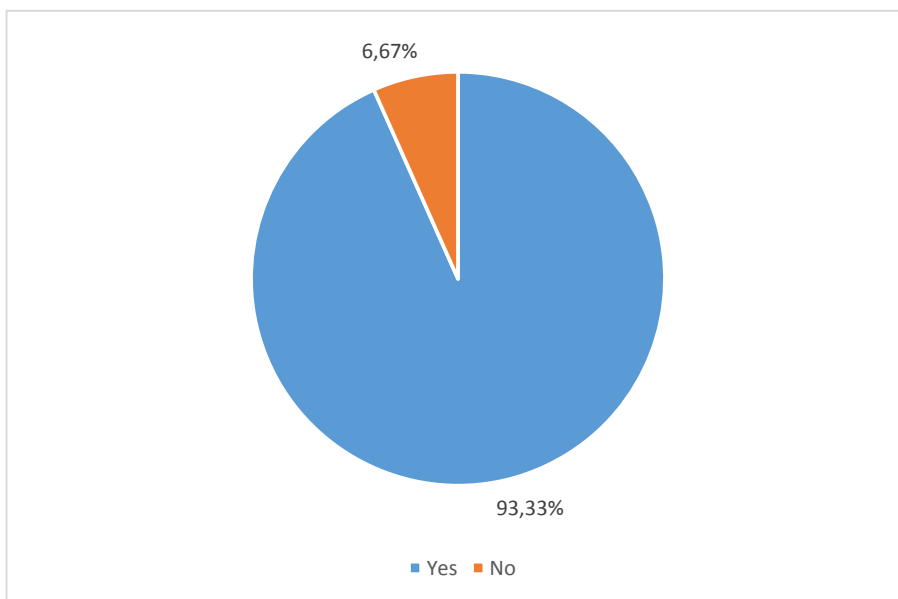


Figure 10. Students having problems with reading comprehension

Table 2

Problems identified in reading comprehension

Problems	N	%
Vocabulary	10	33.33%
Word order	12	40.00 %
Grammar	6	20.00%
No problems	2	6.67%
Total	30	100.00 %

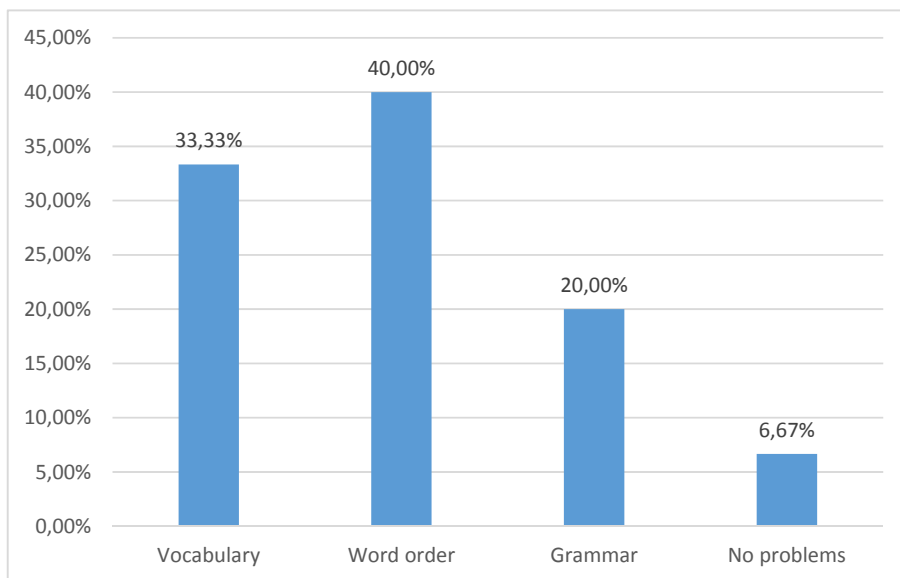


Figure 11. Identified problems

3.1.8 Differences in English vs. Spanish reading found by participants

To the question of whether they had noticed that reading in English may be different from reading in Spanish, twenty-seven students (90%) answered “yes” and three (10%) answered “no.” When required to specify the differences, except for six students (20%) – who rather focused on a phonetic difference, mentioning the difficulty of English pronunciation due to more than one sound for some letters– it was noticed that word order accumulated the biggest percentage (43.33%) as a difference in reading between English and Spanish. The other comments, such as the sentences not making sense (6.67%) or having to read the whole sentence (3.33%) and some parts from right to left (6.67%) in order to understand are all indirectly related to word order (see Table 3).

**Table 3*****Differences in English vs. Spanish reading found by participants***

Difference	N	%
Word order is different	13	43.33%
Some letters in English have more than one sound	6	20.00%
Translation does not make sense	2	6.67%
Reading in English is sometimes from right to left	2	6.67%
It is necessary to read the whole sentence to understand	1	3.33%
Some sentences have no logic	1	3.33%
Not all the words that are used in a sentence in Spanish are used in English	1	3.33%
You cannot read and understand at the same time	1	3.33%
No problems	3	10.00%
Total	30	100.00%

From this diagnosis, it can be concluded that, for this group, the fundamental reading difference between English and Spanish seemed to be one of structural nature. For that reason, it is at least pertinent to consider that the compound noun structure, since it is strange to Spanish, might be playing an important role in the perception of that difference.

3.1.9 Most difficult texts for students' comprehension

Finally, to the question of which type of written texts seemed the most difficult to understand, twenty students chose those from the Internet, six students chose their textbooks, and four students checked newspapers.

Most of the students who chose the Internet, explained that these texts are usually more technical and scientific, that they have too many new words, and



that reading must be done in some other way. Again, there is a perception of something strange happening, although students do not seem to know exactly what it is. Some of the students said that these texts are too professionally written, so they are hard to understand. Others thought that they were not clear, but none of them could explain why exactly. They mentioned new vocabulary, but it did not seem to explain the difficulty of these texts completely. However, an explanation could be that technical and scientific texts use a great deal of compound nouns as noticed by several of the author mentioned earlier.

The students who chose newspapers explained that their articles are more complicated and harder to understand because of the vocabulary, and finally, the students who selected their textbooks had got confused and had thought that they were choosing the least difficult, which was evident in their explanations. They said that those readings had vocabulary they knew and were easy to understand.

3.2 Instruments

This part of the chapter contains a description of the instruments that were used in the research. They include the following: an informed consent form (Appendix A), a background questionnaire (Appendix B), two pretests (Appendixes C and D), two posttests (Appendixes J and K), a survey (Appendix L), and an interview (Appendix M). Additionally, lesson plans (Appendix E) were used for the application of the treatment, and quizzes (Appendix H), self-monitoring questionnaires (Appendix I) and student and teacher journals were used to gather some quantitative and qualitative information about the process that helped answer some of the research questions and explain some results.



Most of these resources were adaptations of bibliographic material, and they are described below in the order in which they were used throughout the study.

3.2.1 Informed consent

The informed consent form for participation in the research (Appendix A) was adapted from a sample taken from Mackey & Gass (2005). The form was translated into Spanish, and the items that referred to the specific content of the research were modified. This consent form gave students a summary of the information they needed to know regarding their participation in the present research, the nature and purpose of the study, their rights as participants, the voluntary character of their participation, and confidentiality. Finally, the students were asked to sign the form if they agreed to participate.

3.2.2 Background questionnaire

The background questionnaire (Appendix B) was an adaptation of Oxford's background questionnaire (Oxford, 1990, p. 282), to which, some questions about reading comprehension were added, according to the needs of the present research. The questionnaire had two main purposes. The first one was to obtain some demographic data about the participants, such as their age, elementary and high school education, and additional previous and current English instruction. The second purpose was to have some idea of the students' own perceptions of their level of reading comprehension as well as their experience and opinions about some aspects of reading comprehension relevant to the research. The questionnaire was translated into Spanish for clarity and reliability purposes for students and researcher respectively.



3.2.3 Pretests

Two pretests were designed to collect information about students' knowledge of compound nouns and reading comprehension before the treatment. Pretest 1 (Appendix C) was intended to measure students' ability to identify and decode compound nouns. It contained three items, two for identification and the last one for decoding. The first identification item was a list of twenty different kinds of isolated phrases, e.g. prepositional phrases, noun possessives, noun phrases with adjectives, and compound nouns, where students had to check ten compound nouns; the second item was a list of five sentences where students had to underline ten compound nouns. The decoding item included five English sentences containing compound nouns, which students had to translate into Spanish.

Pretest 2 (Appendix D) was designed to measure students' reading understanding of a passage containing compound nouns. There were 10 comprehension questions, which referred to parts of the reading that contained those compounds. Students had to circle the correct answer out of three options for each item. The text for the reading exercise was taken from the source cited in it.

Both the vocabulary and content of these tests were analyzed in light of the CEFR level description and the curriculum content of the English program at the University of Cuenca, and they were considered to be, in general terms, within the students' assumed language knowledge range. However, a few technical words, such as *vaccine*, *cell*, *culture*, *drill*, *premises*, and *exits* were reviewed before the test in order to avoid the possibility of a negative uncontrolled-



variable effect. Also, the comprehension questions were formulated following criteria taken from models used in textbooks for reading comprehension practice, such as *501 Reading Comprehension Questions* (2006).

3.2.4 Lesson plans

I prepared seven lesson plans (Appendix E) with the corresponding descriptions of objectives, contents, materials, methodology, and evaluation for each topic of study. The materials included the following:

- Power Point presentations that introduced the main concepts in all the lessons during the treatment and proposed some activities for students. They were posted in the University of Cuenca's virtual platform for students to go over after class.
- Worksheets 1 to 22 (Appendix F), which were the main materials used by the students to practice the contents of every lesson. They contained pre-reading exercises, a reading passage, and reading comprehension questions both for classroom and homework practice. Each lesson plan indicates which worksheets were used for which lesson specifically. The first three worksheets were slightly adapted from the originals, which included a note that granted permission to be reproduced for classroom use (see Appendix F). That material was easy to find because Lesson 1 was about nouns and adjectives, and these topics are found in most textbooks. However, subsequent lessons needed specific exercises that were related to the topics dealt in each lesson, the objectives, and the particular reading that students had to perform. Since it was not possible to find exercises to match all these needs, they were designed by myself.



The types of exercises (e.g. identification, completion, matching, etc.) were based on samples extracted from EFL textbooks, but the content was adapted as necessary. They were simple exercises to be done before the reading section, such as identification of compound nouns, completion of charts, classification of compound nouns within categories, matching words to definitions to practice vocabulary, and translation to check decoding of compound nouns. On the other hand, the reading comprehension questions followed criteria from the model questions in *501 Reading Comprehension Questions* (2006), whose aim is “to build your critical reading and thinking skills” (p. viii) and from Chesla’s (2005) *Reading Comprehension Success in 20 minutes a day*, which gives useful insights for the formulation of questions that cover different aspects of reading comprehension, such as finding the essential information and the main idea, comparing and contrasting, defining vocabulary in context, differentiating between fact and opinion, making inferences, among others.

- Posters, pictures, and cards that were used in some activities for group practice. For example, one of the activities was to design posters in groups where students had to make drawings or write definitions that the other students had to interpret using compound nouns; pictures were used for a game in lesson 1; and cards were used for matching exercises involving compound nouns. The purpose of these activities was to familiarize students with the concept of the compound noun in a friendlier manner.



- The compound noun inventories by Levi (1978) and Nastase and Szpakowicz (2003), which were described in chapter two. The idea of using two inventories was to complement some categories that were missing or not very clear in one or the other.
- Tally charts (Appendix G) that were used to observe students' performance and participation in order to discover some direct and/or indirect learning strategies, such as taking notes, paying attention, asking questions, cooperating with classmates (Oxford, 1990) used by the students, which helped me evaluate my own teaching. I employed this kind of observation sheets because they are very easy to use. The design of the observation sheets was an adaptation of Nunan's (1989) sample (as cited in Mackey and Gass, 2005, p. 192), which was practically the same for all the lessons, except for a few items that were changed to match some particular activities in some lessons, for example, *students not very engaged in group activity 1* or *students very engaged in the matching exercise*.
- Quizzes (Appendix H) and Questionnaires (Appendix I) were given to students after every topic, and they were related. The purpose of the quizzes was to keep track of students' performance on the corresponding topic to reinforce their learning and explore any difficulties. The questionnaires had two purposes. One was to have students monitor their own learning, and the other was to gather students' opinions about their accomplishment in relation to each topic in order to contribute with possible causes for the quantitative results of the quizzes through a qualitative analysis of their achievements and difficulties.



3.2.5 Students' journals

Students were asked to write a daily journal with the main purpose of knowing their responses and reactions in relation to the research questions and aspects of the process. That is, what they found easy or difficult about the topics; the effects they were experiencing on their reading comprehension of the articles; possible causes for their performance on the quizzes; and their opinions about the direct teaching of the compound noun structure. Additionally, they were encouraged to write personal reflections about the contents studied in class, the teaching-learning process, their difficulties, and anything they considered important for their learning as well as questions to the teacher about some of their doubts, keeping an ongoing conversation that let me make some adjustments to the treatment when possible. These journals were checked every week.

3.2.6 Teacher's journal

I kept a daily journal containing detailed descriptions of each class development, registering class observations, worksheet and quiz performance, students' answers to questionnaires and notes from their journal entries that I considered relevant for analyzing the results, and thus, finding answers to the research questions.

3.2.7 Posttests

Two posttests, Posttest 1 (Appendix J) and Posttest 2 (Appendix K), were designed to evaluate students' achievement after the treatment. Their design and criteria were similar to the pretests' although their content was not exactly



the same. Both tests had the same questions and degree of difficulty, but the texts were changed to avoid what Dörnyei (2011) called the *practice effect*, according to which, the results of a study may improve simply because participants have gained experience from taking a particular test (p. 53).

3.2.8 Survey

A final questionnaire was designed to know the opinions of students about the whole process. The questionnaire was composed of 10 questions, and they were in Spanish with the purpose of getting more accurate and reliable answers (See Appendix L).

3.2.9 Interview

Finally, the students answered to a recorded interview (Appendix M) composed of five questions. The questions were asked in Spanish to avoid misunderstandings that might affect the reliability of the answers. However, for the purpose of this description, they have been translated into English:

1. Can you recognize compound nouns within sentences when reading?
2. Do you understand better how compound nouns work now than at the beginning of this course?
3. Did the analysis of Levi's compound noun categories help you understand better the possible interpretations of compound nouns?
4. Is a knowledge of the world and the context necessary to decode compound nouns? When and why?
5. Has your reading comprehension ability improved after practicing with compound nouns? Why?



The questions were formulated as yes/no questions, but that was just the start for short conversation exchanges that would let me get more information from the students' personal appreciations of the process. The first three questions, which asked about their ability to identify and decode compound nouns, had two purposes. First, they were oriented to check the usefulness of the teaching in relation to the lesson plan objectives, but the main purpose was to establish if there was a relationship between their understanding or not of the structure and the improvement or not of their reading comprehension formulated in question five. That is, if they said that they had improved in their handling of the compounds and also in their reading comprehension, that might be an indication that those aspects could be related. Question four was related to the concept of the interactive approach to reading, in this case, asking if a top-down strategy is necessary for decoding compound nouns. The question was oriented to explore students' opinions about top-down and bottom-up strategies for reading comprehension as both are necessary for accurate interpretation of messages containing compound nouns.

3.3 Procedures

The investigation process was completed in a period of 33 hours, divided into class periods of 90 minutes, Monday through Thursday, from March 19 to April 25, 2013.

In order to start the research, on their first day of classes, students were given detailed information about the study and were told that they would receive half of their course work credit for their participation. Then they voluntarily agreed to sign the informed consent (Appendix A) to participate in the study.



After answering the background questionnaire (Appendix B), the students were numbered from 1 to 30 and explained that they would have to use their code instead of their name for all the activities during the research period so as to assure absolute discretion about their identity.

The next step was to establish the level of the students' ability to identify and decode the compound noun structure, that is, *noun + noun*, *noun + noun + noun*, and *noun + noun + noun + noun*, so they took Pretest 1 on the second class.

Then it was necessary to measure students' ability to decode compound nouns in longer contexts containing the structures to examine their reading comprehension level. For that purpose, students took Pretest 2 in the following class.

After taking these preliminary steps, the study went on to the application of the actual treatment. This consisted of offering the students direct instruction about the compound noun structure during the first lessons, and then some strategies for decoding compound nouns in sentences for their further application in the reading comprehension of texts.

The methodology applied during the process was carefully designed. As a first resource, I decided to write a daily journal to register all the details of the investigation. That was a useful source of information, since it later provided many of the details that otherwise might have been forgotten. The actual treatment process began as follows.

First, lesson plans were prepared for each topic with the corresponding descriptions of objectives, contents, materials, activities, strategies, and evaluation as summarized in each lesson plan in Appendix E.



On their first day of class, I told the students that the scores that they would get out of the investigation quizzes and tests would not affect their grades for the regular course, which they continued after completing the study. Then I proceeded with the first topic which was about the distinction between adjectives and nouns. I noticed that most of the students differentiated between concrete nouns and adjectives, but the difference between adjectives and abstract nouns, such as *honest* vs. *honesty* was not very clear to them, so we worked on that. The idea of including this topic was to make the concept of a noun clear to them so that they could later identify the compound noun structure as different from the adjective + noun structure that they were supposed to know already. Some Oxford's direct and indirect strategies were used for teaching as listed in the lesson plan and generally explained below. Worksheets 1, 2, and 3 (Appendix F) were used for practice. The following day, the students answered to Quiz 1 (Appendix H) about the contents taught and to Questionnaire 1 (Appendix I) asking for their opinions about their learning so that they could also evaluate and monitor their own learning (metacognitive indirect strategies) in parallel to the teacher evaluation.

For the next lessons, the procedure was basically the same, with the corresponding variations in activities depending on the different topics, which is shown in each lesson plan in Appendix E. However, I will describe the reasons the topics were chosen and a brief description of each lesson. Lesson 2, for instance, was about suffixes to form nouns. This topic was selected because of the great amount of nouns that are formed from adjectives or verbs through the addition of suffixes. Besides helping them with the identification of compound nouns, teaching noun suffixes was a way of extending their vocabulary by



offering them a great possibility of noun recognition through a very few suffixes. Worksheets 4, 5, and 6 (Appendix F) were used for practice while Quiz 2 and Questionnaire 2 served for teacher evaluation and self-monitoring by students respectively.

Lesson 3 introduced the concept of compound nouns. Students were taught the structure $n + n$ starting from models that they understood from common use. Students identified compound nouns through association and by reasoning deductively. Then they were given exercises to identify, translate, and form compound nouns. Worksheets 7, 8, and 9 (Appendix F), Quiz 3 (Appendix H), and Questionnaire 3 (Appendix I) were used in this lesson.

The purpose of lesson 4 was to give students a clue to decoding compound nouns by disclosing the idea of compound nouns as comprised definitions that need a preposition or a paraphrase to be clearly understood even in English, and of course, to be translated into Spanish. Levi's inventory was used with this purpose, and students performed several individual and group activities to practice decoding. Students were given a list of 70 compound nouns taken from Lauer (1995) that they had to place in the corresponding category by Levi (1978). Also, they worked in groups to create posters about the different categories of compounds as described in Lesson Plan 4 (Appendix E). Then they performed a reading exercise. Worksheets 10, 11, 12, and 13 (Appendix F), Quiz 4 (Appendix H), and Questionnaire 4 (Appendix I) were applied in this lesson.

Lesson 5 proposed Nastase and Szpakowickz's (2003) inventory for further decoding practice of compound nouns, offering students possibilities for more fine distinctions of meaning than Levi's (1978) inventory. Students were given a



written exercise to match compounds to categories and to apply the analysis to translation. Another activity consisted in matching cards containing compounds and categories respectively. Finally, students read for identification of compound nouns in context, categorization, and comprehension. Worksheets 14, 15, and 16 (Appendix F), Quiz 5 (Appendix H), and Questionnaire 5 (Appendix I) were used in this lesson.

In lesson 6, students practiced identifying and decoding compound nouns containing three and four nouns. They practiced finding English definitions that made sense for the compounds and then translating them into Spanish. Then they had to identify these compounds in a reading passage, and finally, answer to reading comprehension questions. Worksheets 17 and 18 (Appendix F), Quiz 6 (Appendix H), and Questionnaire 6 (Appendix I) were answered by students.

Finally, lesson 7 was rather a review lesson in which compounds formed by two, three, and four nouns were practiced. This lesson also included the use of adjectives placed before the compounds to give students some additional insight of how the structure can be modified. Worksheets 19, 20, 21, and 22 (Appendix F) provided some exercises and reading comprehension practice. Quiz 7 (Appendix H) and Questionnaire 7 (Appendix I) were used for evaluation and self-monitoring by teacher and students respectively.

The strategies used to approach students learning depended on the specific objectives and lesson content. These strategies were taken from Oxford's (1990) strategy classification system for learning a foreign language. and the ones that were used during each period of class are listed and briefly described in the corresponding lesson plan. However, I will explain, with some examples, how they were interpreted for their use in this research.



For instance, in order to teach the structure of compound nouns, I used Oxford's association (memory) strategy to teach the structure through the presentation of models that were very common and clear to students, e.g. "tennis shoes," notebook," or "bus stop." These compounds made sense to them at first sight, not necessarily because they understood their structure but probably because they had internalized their meanings, maybe as mental images through their common use. However, after analyzing the word order of these examples and associating it to other compounds, students were apparently able to memorize the word order because they applied it to the comprehension of new compounds.

To apply this direct association strategy, students wrote a short list of very common compound nouns that were meaningful to them, and then they were asked to analyze the right-headed structure in the compounds, so that they became aware of it. The idea was that once they could associate the meaning of the compounds that they previously knew to the mechanics of the structure, they would be able to associate those model phrases to new compounds later for easier comprehension.

As the students practiced, other strategies were supposed to be at work, too. That is, in this case, other direct strategies, such as memory (e.g. reviewing, placing the phrases into new contexts) and cognitive strategies (e.g. repeating, recognizing the pattern or formula, reasoning deductively, analyzing contrastively, and translating), were also needed to aid into the mechanization of the ability to understand the real meaning and the typical word order that characterizes a compound noun. Once they clearly understood the concept, the



mastering of these known compound nouns helped, by association, to understand new compounds.

Grouping also showed to be a good direct strategy to decode the meaning of compound nouns. This strategy was used in conjunction with Levi's (1978) and Nastase and Szpakowicz's (2003) inventories for decoding compound nouns. As these inventories suggested, when translated into Spanish, different compound nouns needed different prepositions. Having students make groups of compound nouns that shared the same preposition and contrast them with other groups that shared other prepositions helped students grasp the idea of the many possibilities of translation of different compounds, but depending on the context, too, that is, as long as they made sense.

As shown in the descriptions and examples above, learning strategies do not usually function in an isolated way, but they tend to support each other. It seems that for the brain to internalize new knowledge it is necessary to work with as many learning strategies as possible, and not only with direct strategies, such as memory and cognitive strategies, but also with indirect strategies. That is why, many of these direct and indirect strategies were used during the treatment, and depending on the lesson topic as listed in each lesson plan.

I used indirect strategies as follows. First, I listed them in the lesson plan as a reference to check the effectiveness of the class (e.g., paying attention (metacognitive) was an indirect strategy that was always listed because it was necessary for learning on the part of the students, and it also gave me an idea of how interesting the class was for students). Then I prepared a tally-chart-type observation sheet including the indirect strategies I wanted to observe. Continuing with the example, if most students paid attention, which was



checked in the observation sheet, it meant that the activities and/or content were probably relevant to them. These strategies helped me to evaluate my own teaching performance. Indirect strategies, such as paying attention (metacognitive), asking questions and cooperating with partners (social), or writing their journal (affective) were listed in each lesson plan according to their relevance; then they were checked in the observation sheets during class; and finally, they were registered in the teacher journal for further reflection.

After every topic, the students were given a quiz. Besides evaluating students' learning, the purpose of the quizzes was to identify the difficulties the students were having with the contents in order to adjust teaching strategies. There were seven quizzes in total and their results are analyzed in chapter 4.

For self-monitoring of their learning, students answered a questionnaire after every unit. The answers also provided the teacher with insights about the strengths and weaknesses of the process in order to make any adjustments, and additionally, they helped to find explanations to many quantitative results of the quizzes. In total, students answered seven questionnaires whose results are also described and analyzed in the corresponding section of this investigation.

After the treatment process was completed, students were given two posttests, Posttest 1 (Appendix J) and Posttest 2 (Appendix K), on a different day each. The results of these posttests were compared to the results of Pretest 1 (Appendix C) and Pretest 2 (Appendix D), and the findings are described in the next chapter.

Finally, the students answered to a written survey and an oral interview on their opinions about the learning process and the results that they thought they had obtained through the intervention. These instruments were used one after



the other on different days. The survey was answered first, and the interview was answered on the final day of the treatment.



Chapter 4

Analysis and Discussion of Results

This chapter contains an analysis and discussion of the data collected during the research, including the results of pretests and posttests, which were analyzed through statistical procedures, and the data gathered from the students and teacher's journals, questionnaires, surveys, and interview, which were interpreted qualitatively.

4.1 Statistical Procedure

The data were processed using SPSS 22 statistical software. Descriptive results were generated for the participants' age, type of institution where they completed their previous studies, their years of formal English studies, the reasons why they were taking English classes, the self-evaluation of their reading comprehension skill, the importance that they gave to the reading ability, and the problems found in relation to Spanish. All these results are presented through frequencies (N) and percentages (%) and were described in the methodology section.

On the other hand, inferential statistics allowed to evaluate the compliance of the main research objectives and questions. Thus, they present, in averages, the initial and final situations relative to the identification and decoding of compound nouns as well as the reading comprehension ability of the students. With that purpose, the results are expressed with the mean and standard deviation. To verify if the reading comprehension skill had indeed improved in



comparison to the initial situation, a t test was employed. This test allows to know, in terms of probability, the level of statistical significance in order to accept or refute the hypothesis that the students have improved or not their reading comprehension ability. Also, an HSD Tukey test was used to establish differences among the seven topics taught in the intervention, according to their level of difficulty, based on the ANOVA test. The level of significance used is 0.001. That means that, if the level of significance is lower than 0.001, the final situation is accepted to be different from the initial situation.

4.2 Inferential Results

The pretest, regarding the identification of compound nouns, shows an average performance of 47.57. After the intervention process, the level of awareness of the structure to be able to identify compound nouns increased to 71.00. According to the statistical test, it is a significant difference. That is, the students achieved a gain of 23.43 points, improving their initial situation. It therefore, follows that the intervention increased the students' ability to identify compound nouns (see Table 4 and Figure 12).

Table 4

Awareness of the structure: identification of compound nouns

	Pretest	Posttest	Difference	T	Df	sig. (bil.)
Mean	47.57	71.00	23.43			
S.D.	19.32	12.89	18.85	-6.808	29	0.000

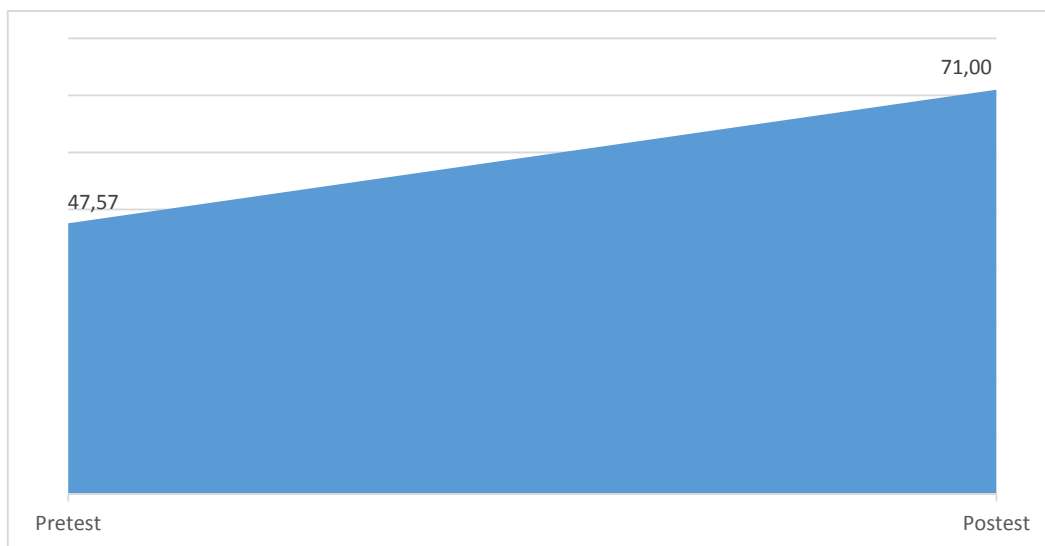


Figure 12. Increase of compound noun identification ability

The evaluation of compound noun decoding performed by the students revealed that at the beginning, the average was 47.63. However, after the treatment process, this situation changed perceptibly, reaching an average of 63.50. The level of statistical significance shows that the values before and after are definitely different. Thus, it can be concluded that the process of intervention allowed to augment 15.87 points, which is significant. This can be seen in Table 5 and Figure 13.

Table 5

Translation of compound nouns: decoding compound nouns through translation

	Pretest	Posttest	Difference	T	Df	sig. (bil.)
Mean	47.63	63.50	15.87			
S.D.	27.46	18.81	18.95	-4.586	29	0.000

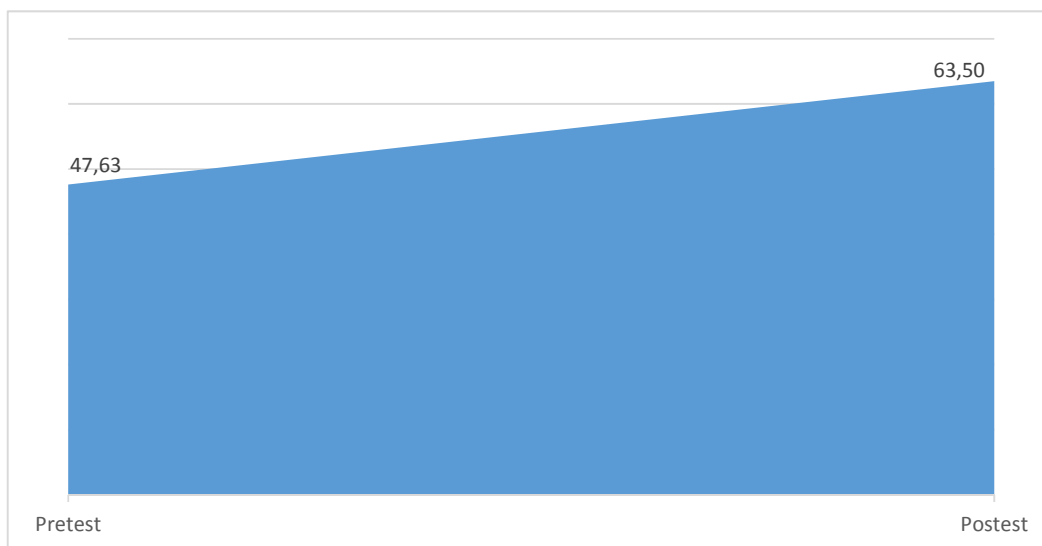


Figure 13. Increase of compound noun decoding ability

An average of the identification and decoding of compound nouns, in the pretest and posttest, allowed to get a general picture of the initial and final level of students' compound noun knowledge. At the beginning, the average was 47.83, but after the intervention process it reached 67.17. There is an average increase of 19.34 points. Judging from the statistical test, the situation has increased significantly due to the treatment process as it is shown in Table 6 and Figure 14.

Table 6

Mean of decoding compound nouns

	Pretest	Posttest	Difference	T	Df	sig. (bil.)
Mean	47.83	67.17	19.34			
S.D.	18.01	13.89	13.03	-8.126	29	0.000

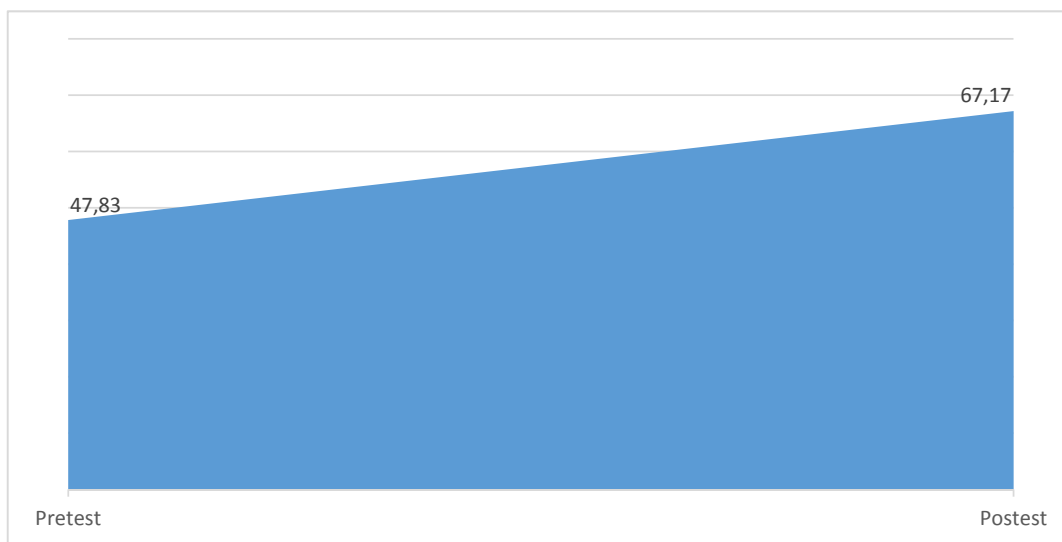


Figure 14. Increase of compound noun identification and decoding ability

The analysis of the reading comprehension of texts containing compound nouns in the pretest and posttest revealed that the initial average result was 51.67 points while after the intervention process, the average augmented to 73.67. The increase achieved in reading was 22.00, a value that is considered significant by the statistical test employed (see Table 7 and Figure 15)

Table 7

Reading comprehension

	Pretest	Posttest	Difference	T	Df	sig. (bil.)
Mean	51.67	73.67	22.00			
S.D.	18.95	11.59	18.08	-6.665	29	0.000

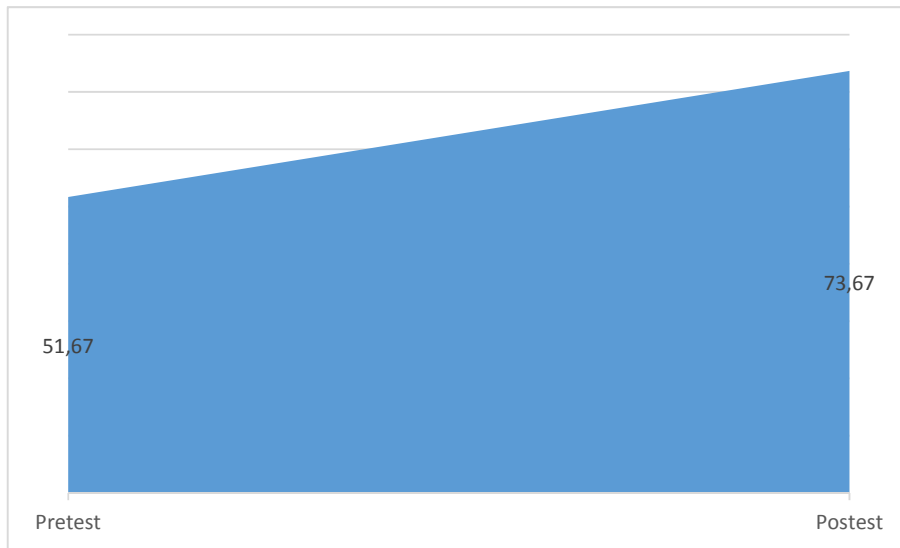


Figure 15. Increase of reading comprehension ability

4.3 Data Used to Triangulate Results

In order to triangulate the former results, two surveys and an interview were the main instruments employed. The results of the background questionnaire, were already described in Chapter 3, but some of them, together with the answers to the final survey and the interview are analyzed below with the aid of the corresponding tables and figures.

First, a multiple-choice question was used to know the students' opinions about their own reading comprehension ability in the surveys before and after the intervention. In a scale of one to four, one corresponding to bad, two to fair, three to good, and four to excellent, the students preferred to select the options fair and good in both surveys. However, it is interesting to note that at the beginning, 63.30% of the students evaluated their reading skill as fair and the remaining 36.70% claimed that their level was good, but once the process concluded, the results were inverted. In the final survey, 66.67% said to have a



good level of reading comprehension of English while only the remaining 33.33% indicated to continue having a fair level. Evidently, there was a significant change in the students' self-perception of their reading comprehension ability, as shown in Table 8 and Figure 16.

In the interview (Appendix M), 93% of the students said that they had learned to identify and decode compound nouns with acceptable accuracy and that that ability had helped them improve their reading comprehension considerably. Therefore, both surveys and the interview confirmed the results obtained through the comparison of pretests and posttests.

Table 8

Students' self-evaluation of reading comprehension

Reading comprehension	Before intervention		After intervention	
	N	%	N	%
Good	11	36.70%	20	66.67%
Fair	19	63.30%	10	33.33%
Total	30	100.00%	30	100.00%

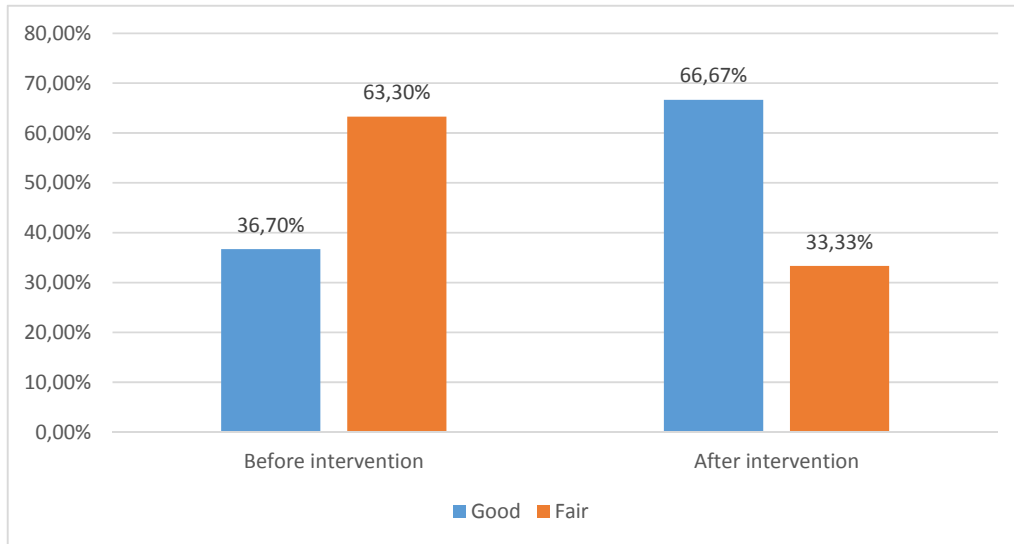


Figure 16. Change of self-evaluation about reading comprehension

To the survey question of how much their reading comprehension in English had improved through the knowledge of compound nouns, twenty-eight students answered by choosing the option *a lot* and two students selected a *little*. The option *nothing* was left blank (Table 9).

Table 9

Self-evaluation of reading comprehension improvement through knowledge of compound nouns

Reading improvement	N	%
A lot	28	93.33
A little	2	6.66
Nothing		
Total	30	100.00



Students' comments are included in the two lists below because they reveal important opinions that show how students appreciated the usefulness of the structure for their reading comprehension.

➤ **Compound nouns help a lot:**

- “Understanding compound nouns helps to read better.”
- “I can understand sentences better, which was a problem I had.”
- “Because it is a basic structure that has been used in a wrong way.”
- “Because it helped me to understand better the phrases within the sentences.”
- “Through their understanding, you can read better.
- “Knowing the structures helps a lot when translating.”
- “Because they let me know what a text really says.”
- “Because before, I used to read just to read, but now I can understand better.”
- “I had not imagined how to read correctly until now.”
- “Because it is a kind of writing that can go unnoticed in the texts but which contains a lot of meaning and importance.”
- “Because the sentence makes sense and it is easier to understand.”
- “Before, it used to take me longer to try to find an understandable translation. I even gave other meanings to words.”
- “They helped me a lot. I understood the structure.”
- “Now I can read the compound nouns in the correct order.”
- “Because I could not understand anything nor could I translate compound nouns.”



- “It is easier to understand the texts in English.”
- “Because they help to understand better the phrases that include them.”
- “Because we learned the correct way (right to left) to understand the phrase.”
- “Before, the structure was unknown to me, and after knowing it, it helps me a lot with the comprehension of texts.”
- “Before, I had more difficulty in understanding reading because I did not know the compound noun structure.”
- “Because knowing the compounds and how they are interpreted, we can understand the readings.”
- “Because I did not know how to recognize them before.”
- “Because I have an idea of compound nouns now and know how they must be interpreted.”
- “Before, I thought that reading in English was the same as in Spanish, but now I understand that we have to make sense of the sentence and add some words to understand. We must read from right to left.”
- “Because before, I just read from left to right and I did not understand the structure of the phrases or sentences.”
- “Before, I did not know what a compound noun was, and if I saw words together without any connection or preposition, I did not know what they were talking about.”

➤ **Compound nouns help somehow**

- “Because it is kind of difficult to interpret compound nouns.”
- “I still need to know more about compound nouns.”



This positive self-evaluation of reading comprehension improvement through the knowledge of compound nouns revealed by twenty-eight students describing themselves as having improved a lot and two students as having improved a little, plus their direct comments appreciating the good influence of compound nouns in that improvement, also confirm the results obtained through the statistical instrument.

To the question of how the students would compare the teaching of compound nouns to that of vocabulary and other structures of the English language for the purpose of reading comprehension, the answers were as shown in Table 10.

Table 10

Importance of compound nouns vs. vocabulary and other structures

Importance	N	%
More important	22	73.33
Same importance	8	26.44
Less important		
Total	30	100.00

This answer shows that students consider the structure as a key element for reading comprehension.

Other minor instruments have also helped triangulate results. For example, an analysis of the observation sheets revealed that at least 83.33% of the students took notes in class regularly, 66.66% asked questions during class, and about 90% participated actively in the classroom tasks, which constitutes information that helps to answer one of the research questions, related to the interest of students shown during direct instruction. Also, the student journal



entries about their reactions to the treatment revealed that they were very involved in and even enthusiastic about the project and their learning. To the question about their opinions of direct instruction of compound nouns, about 90% answered that the direct instruction of this structure was crucial for understanding reading in English, which was also stated in the comments of question 6 in the final survey.

Finally, to the question of what were the most difficult texts to understand, the answers were as shown in Table 11.

Table 11

Most difficult texts to understand

Most difficult texts	N	%
Texts with 3 or 4 nouns	5	16.66
Texts with adjectives + compound nouns	15	50.00
Texts with technical words	3	10.00
Texts with new vocabulary	4	13.33
All had a degree of difficulty	2	6.66
Did not answer	1	3.33
Total	30	100.00

This perception of the most difficult texts to understand by students coincides with the results of some of the quizzes which contained texts with the characteristics described as the most difficult in Table 11 and which are analyzed below.

Regarding topic difficulty, while it is true that the pretest and the posttest evaluated the topics that were treated along the intervention, it is important to note that these topics differ in their level of difficulty as can be inferred from the comparison of quiz results, which were grouped accordingly in Table 12. In



Figure 17, the average results of the quizzes have been ordered from left to right from the most to the least difficult, assuming that the most problematic topics for the students are those with the lowest evaluations.

Table 12

Topic difficulty level in subgroups

HSD Tukey	N	Subgroups		
		1	2	3
Adjectives plus compound nouns	30	57.50		
Compound noun decoding using Levi's inventory	30	59.78		
Compound nouns formed by three or four nouns	30	64.72		
Compound nouns decoding using Nastase and Szpakowicz' inventory	30		73.29	
General knowledge of compound nouns formed by two words	30		79.06	
Nouns vs adjectives	30			89.50
Nouns built from adjectives plus suffixes	30			97.77
Sig.		0.63	0.83	0.46

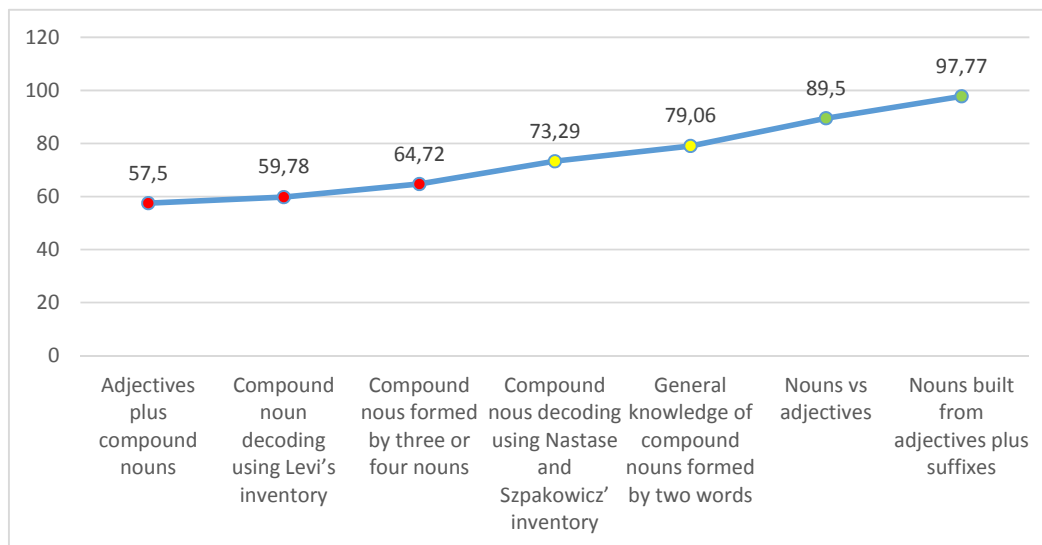


Figure 17. Topic difficulty levels



The topics about adjectives plus compound nouns, compound noun decoding using Levi's inventory, and compound nouns formed by three or four nouns, seem to have been the most difficult for the students according to the results, with values ranging from 57.49 to 64.72 points. An intermediate-difficulty group of topics is that formed by compound noun decoding using Nastase and Szpakowicz's (2003) inventory and compound nouns formed by two words whose values are between 73.29 and 79.06. Finally, nouns vs adjectives and nouns built from adjectives plus suffixes were two topics which students apparently did not find difficulty since their evaluations are between 89.50 and 97.77 points. However, even the lowest average score, 57.49, for the topic involving the apparently most complicated structures of those studied in decoding and reading (Adjective(s)+N+N / Adjective(s)+N+N+N / Adjective(s)+N+N+N+N), was higher than the scores got in pretests 1 and 2 (47.81 and 51.66 respectively), and in their average (49.73) which stills shows an increase in their handling of the structure and their reading comprehension since all those tests included those sections. This information seems important because it might serve as a guide for further research to investigate if more practice with the difficult topics, as suggested by some students and discussed below can aid for even better results.

The results of the seven quizzes about the topics mentioned had more to do with the teaching-learning process than the final results of the investigation. However, they are included in this analysis because they can throw light upon the degree of difficulty of the different topics so that possible future researchers can devote more time to have students practice the most difficult ones. Since the students were in the course of acquiring new knowledge, they probably



needed more guided practice, especially with the more complex contents in order to integrate them with what they already knew (Vygotsky, 1978). During the process, the students might have been in what he described as the *zone of proximal development*: "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p. 86).

In order to analyze this stage, the opinions given by the students themselves in the questionnaires and journals about their learning of the topics were used to explain the scores gathered from the quizzes.

Figure 18 below shows the results of the quizzes given to students during the treatment in chronological order from quiz 1 to quiz 7.

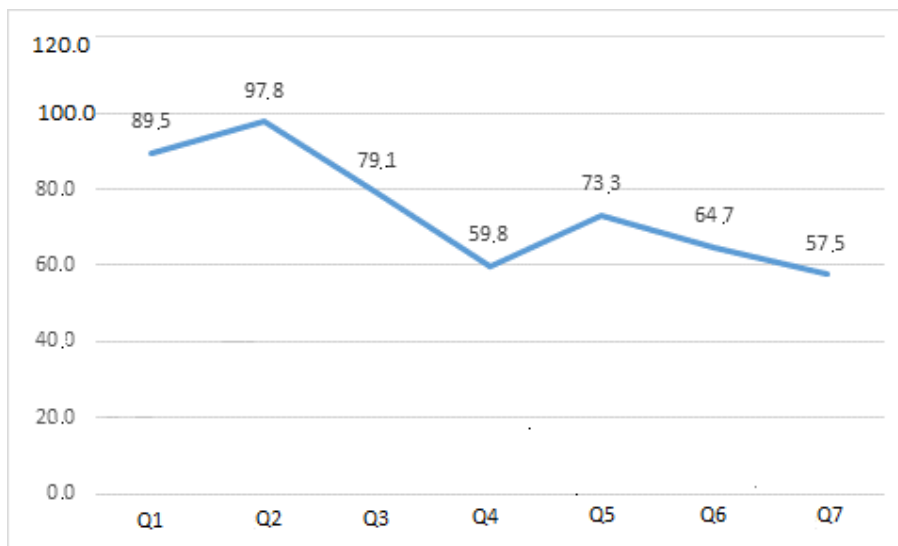


Figure 18. Quiz results

The results obtained in the quizzes can be interpreted as follows. First of all, the first two quizzes –those with the highest scores– did not include reading.



Students only had to identify nouns and adjectives, hence their fairly good results. Questionnaires 1 and 2 about their performance confirmed the results obtained from the quizzes. To the question of whether they could differentiate between nouns and adjectives, in questionnaire 1, twenty-eight students responded yes and two students said that they could not. About the difference between adjectives and nouns with suffixes, in questionnaire 2, twenty-nine students answered affirmatively and only one could not notice the difference. In their journals, most students agreed that the differences were well-understood.

However, when Quiz 3 tested reading comprehension besides identification and decoding of compound nouns, there was a decrease in the results in relation to the first two, apparently in direct relation to content difficulty since the quiz was about a new topic with relatively short practice and about the skill of reading that had been self-evaluated by the 63.30% of the students as just fair. Nevertheless, to the survey question of whether they could identify compound nouns, only five students said that they could not while twenty-five students said they could. Therefore, it could be said that students were probably in the *zone of proximal development* (Vigotsky, 1978) where guidance was still necessary for some learners to perform their tasks. Regarding their problems with reading comprehension, five students mentioned they needed to improve their vocabulary.

The tendency continued in the sense that new contents seemed to affect results with a temporary decrease. This can be seen, for example, in the decrease between quizzes 3 and 4, where the fall is more dramatic with an average performance score of 59.78 although twenty-three students said in the corresponding questionnaire that they had understood Levi's (1978) categories



and a minority of seven said that they had not. In their journals, those 23 students (76.66%) mentioned that those categories had helped them to understand how they should interpret a compound noun. Many of them wrote that understanding the structure of compound nouns had finally revealed to them why reading in English had been apparently illogical with the suppression of prepositions and the reverse order of words. By the explanations a few students gave, it could be assumed that they had become aware that choosing the correct preposition for Spanish translation depends on a semantic interpretation of the compound, related to the context. One of the students, for example cited the comparison of the model compounds *flu virus* (CAUSE 1) and *snow blindness* (CAUSE 2) as very interesting, which he translated as *virus de la gripe* and *ceguera por la nieve*. He said that he understood that, in both cases, the second nouns were the ones being talked about but not both were the causes of something else because knowledge of the context (meaning the world in this case) indicated that a virus can cause the flu while blindness cannot cause snow but is caused *by* snow. He concluded that the search for the right preposition to understand the meaning (semantics) in Spanish depends on the context (knowledge of the world). However, according to many students' opinions, more practice was needed, and presumably that was reflected in the quiz results.

This perception can be supported by the fact that although about 76% of students said in their journals that Levi's (1978) categories had been easier and more practical to use than Nastase and Szpakowicz's (2003), the average score in the latter (quiz 5) was better than in the former. It increased from 59.8 to 73.3. A probable explanation, based on students' opinions –and Vygotsky's (1978)



theory— could be the chance they had for more practice as the second group of categories can be considered as just an extension of the former because the concepts are related.

The decrease on the average in the last two quizzes could be due to the same reasons: new topics with added complexity and not enough practice time. Content complexity was higher, but in both questionnaires about quizzes 6 and 7, twenty-six students answered *yes* to the question about their comprehension of the topic. About these quizzes, around 40% of the students wrote in their journals that vocabulary was a problem because although difficult words were always reviewed, that was not enough. They recognized that their vocabulary was not in its due level and wanted to improve it. Both topics, six and seven, were about sequences of three and four nouns, but the last lesson also included one or more adjectives before the compound nouns. Therefore, even though students may have understood the structures, again, more practice was needed.

Questionnaires 5, 6, and 7 included an additional question that asked if the knowledge of the specific compound noun topic in that lesson had improved their reading comprehension ability. Twenty-five students answered *yes* to Questionnaire 5, twenty-six to Questionnaire 6, and twenty-three to Questionnaire 7. Among the problems regarding topic 7, they mentioned that it was not clear which noun the adjective(s) referred to and that they understood the structure, but once more, they needed to reinforce their new knowledge with more practice.



However again, if each partial result is compared to the pretest result, all of them show an increase, even the results of the quizzes with the apparently most complicated contents.

It seems that these results were temporary as they were trying to assimilate the new contents and integrate them with the old ones because their performance in the classroom, in general, showed general improvement.

Finally, the last two worksheets (21 and 22) were done for review, and after completing that work, students took the posttests which yielded the results that were already analyzed. If the line in Figure 18 above were prolonged to show the final result of the process, it would go up to mark 73.67, which is precisely a little more than the previous increase on that figure –assumed to be caused by additional practice– showing that a new balance had been reached.

4.4 Discussion

The identification of compound nouns in the posttest shows an increase of 23.43, meaning that the students' initial situation improved thanks to the intervention process. On the other hand, the decoding of those compounds performed by the students in the posttest reveals an improvement of 15.87. The average of these two results has also augmented in 19.34 points. Finally, the reading comprehension skill of students shows an improvement of 22.00 points in the posttest in relation to the pretest. These results provide an affirmative answer to the main research question that asked if an intervention in the processes of identification and decoding of compound nouns can improve the reading comprehension skill of a group of Spanish-speaking EFL students because the changes achieved, according to the statistical test, are considered



very significant. Therefore, the findings give the research internal validity because there is a relation between the treatment and the outcome. Besides, these results were triangulated with the students' opinions about their own improvement stated both in the final survey and the interview as indicated in the former section.

This outcome ascertains Birch's (2015) claims in two ways. First, that direct instruction of the language, in this case understood as the analysis of the compound noun phrase structure, yields successful results in reading comprehension. Second, that an interactive approach, that is, the consideration of the context and the use of cognitive strategies as well –as some of those that were taken from Oxford's (1990) strategy classification system for this study– helps students to gain accuracy in the decoding of messages from written texts as it has been determined by the results obtained with this group of thirty EFL Spanish-speaking students who could increase their scores regarding reading comprehension in 22.00 points.

The use of inventories to decode compound nouns developed by Levi (1978) and Nastase and Szpakowicz (2003) also helped students by generating positive final results of the learning process through the analysis of the compound semantics.

On the other hand, this study did not evidence negative repercussions on the speaking, listening, or writing skills of the students. However, the increase of those 22.00 points generated by exclusive intervention of the reading skill allows to conclude that, indeed, the final situation of the students improved with respect to the initial situation.



The self-perception of most students, who at the beginning of the process evaluated their own reading comprehension ability as just fair, was significantly modified with an increase from 36.7% to 66.67% of students considering it good by the end of the intervention. The arguments of many students in the questionnaires, journals, and interview included descriptions as “of great help,” “according to reality,” “easy,” and “clear,” among others, to refer to the content and activities of the treatment.

Nevertheless, the fact that 33.33% of the students kept the belief that their level of reading comprehension continued being fair after the intervention shows that there might be other variables, such as “too many new words” and “complicated texts” that need to be addressed in further research. Also, not all the students keep the same learning pace nor they share the same interest for reading; therefore, according to this self-evaluation, the third part of the students do not show great modification with respect to their initial perception. Probably, it is a group of students with great influence of their mother tongue, consciously or unconsciously influencing their learning process (Ortega, 2009; Ellis, 2003), so they would have probably needed more extended practice, especially in longer sequences of compounds as many students themselves stated, which is expected to be considered both for future research and, hopefully, for classroom practice.

Additionally, this study revealed the aspects that were considered the most difficult in the study of the compound noun structure: adjective(s) + compound noun, compound noun decoding using inventories for the first time, and compound nouns formed by sequences of three or more nouns, with values



ranging from 57 to 64 points when studied for the first time, so they might require special attention and practice from the teacher or future researcher.

Although most of the findings above seem positive, it should be recognized that there were some limitations of the study. For example, a restriction was the size of the sample. A group of thirty students is rather large for a language class, but it is not big enough for generalization; therefore, the external validity of the research will probably need to be tested through replication and comparison. Besides, the lack of a random sample and a control group may have also limited the external validity of the study.

Another limitation was time. Due to the requirements of the Department of Languages, the study could not be extended for more than 33 hours because the students needed to cover their course syllabus. This restriction might have affected the students' scores in their quizzes and posttest because, as many of them said, the time for practice was not enough.

Finally, since this was action research, the researcher was also the teacher, which may have affected qualitative results because even though the students were encouraged to answer honestly all the time, they could have been biased and might not have said what they really thought.



Chapter 5

Conclusions and Recommendations

The quantitative results establish that the intervention carried out to teach the identification and decoding of compound nouns improved the reading comprehension skill of the group of EFL Spanish-speaking students at the University of Cuenca, which gives an affirmative answer to the first research question. The changes achieved, according to the statistical tests, are considered very significant and were qualitatively confirmed by the students' own statements and the notes from the teacher's diary. Some reserve is advised regarding the qualitative data because since the researcher was also the teacher, the students may have not been completely impartial in their comments. However, from the findings, it could be stated that explicit instruction of compound nouns is advisable and should be included among the strategies used for the teaching of reading comprehension in EFL classrooms for Spanish-speaking students.

Regarding the second research question, it can be concluded that the students' response towards direct instruction of the language structure was positive both in terms of students' performance and interest. Based on the increased students' scores and self-perception in relation to the initial situation – even with their ups and downs during the process– and the successful final outcome after comparing pretests and posttests, it can be said that direct instruction has resulted in increased reading performance. The same is inferred regarding students' interest since the analyses of the observation sheets and



student journals revealed that the students took notes in class regularly, asked questions during class, and had an active and enthusiastic participation. Most students answered that the direct instruction of compound nouns was crucial for understanding reading in English because the structure is different from Spanish. All of them answered that they had never studied compound nouns before, and most said this study had helped them improve their reading skill. Most students considered that in order to improve reading comprehension, the knowledge of compound nouns was more important than that of vocabulary and other structures that do not require a strategy for reading that is different from Spanish. Their answers in the final survey and interview confirmed these opinions.

Apart from the necessary caution that is recommended due to the possibility that the students might have been biased as a result of the fact that their teacher was also in charge of the research, the findings in regard to the second research question also point to a recommendation of direct teaching of compound nouns to improve reading comprehension. From these findings, it can be inferred that when students feel that the teaching of a specific topic helps them to understand the language better, they are eager to learn, provided that there is communication and interaction among the participants of the teaching-learning process. As an implication for teaching practice, it can be said that the direct teaching of compound nouns should not necessarily mean that a communicative approach cannot be used, even if it is focused on the skill of reading comprehension. For example, during the treatment of this investigation, the teacher and the students talked about the structure through real-life examples and situations and used the structure in enjoyable and meaningful



activities related to the reading passages. Once the structure was learnt, the reward was worth the effort because when the students read and understood better, their improved performance increased their interest to learn and practice more.

In addition, the most difficult aspects regarding compound nouns were pinpointed, which can be considered useful data for future research. For instance, it would be interesting to find out if allotting more time for the practice of the more complicated compound noun combinations will produce different results.

Naturally, the teaching of reading comprehension should not be limited to the instruction of compound nouns, but it should definitely include them. In a reading course, for example, compound nouns should be taught in conjunction with vocabulary and all the cognitive strategies that help decode the message accurately, which is the main and final goal of reading. And certainly, if the teaching of reading is included in a more general course, it should be integrated to interact with the other skills, using the corresponding communicative strategies of EFL teaching. Otherwise, teaching structures, exclusively, might end up undermining the teaching of the language as a whole.

It is expected that the effort put to complete this study may contribute at least as a starting point for deeper investigation in this area. As a recommendation for future studies, I would like to place special emphasis on researching the field of EFL current teaching of compound nouns, particularly in its relation to the skill of reading comprehension. For instance, an analysis of how current EFL textbooks deal with the teaching of compound nouns seems an important field of research. Since the textbook is, for the most part, the core of a language



course, it can illustrate what is being taught in the EFL classroom. Therefore, such a study can provide insights into how students are being prepared in regard to an issue that seems essential for their reading comprehension. As a corollary of this type of investigation, if it is found that appropriate teaching material is not available, a systematic development of lesson plans that creatively integrate compound nouns into regular EFL instruction might be advisable as well, which can be of special use for the teaching of reading comprehension as part of the basic language knowledge necessary for a better application of the cognitive strategies for reading comprehension.



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Appendices

Appendix A

Consentimiento para participar en la investigación

Nombre del Proyecto: Compound Nouns and Reading Comprehension:

Creating Awareness of Compound Nouns to Improve the Reading

Comprehension of students of English at the University of Cuenca

Investigador: Esp. Ruth Wilches

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La Dirección del Departamento de Idiomas de la Universidad de Cuenca ha dado su consentimiento para este proyecto de investigación.

Introducción

Usted está invitado/a a considerar su participación en este estudio investigativo. Se realizará una evaluación del efecto de la aplicación de las diferentes actividades de aprendizaje de los nombres compuestos en su comprensión de lectura en inglés. Este formulario describe el propósito y naturaleza del estudio y sus derechos como participante en el mismo. La decisión de participar es suya. Si decide participar, por favor, firme y ponga la fecha en la última línea de este formulario.



Explicación del estudio

Esta investigación tratará de determinar si una de las causas de los problemas en la lectura comprensiva del inglés entre los estudiantes de la Universidad de Cuenca podría ser la falta de conocimiento de las frases nominales que tienen su núcleo a la derecha. Esta característica hace que muchos segmentos dentro de un texto escrito en inglés se tengan que interpretar de derecha a izquierda, contrariamente a lo que se hace en español, al parecer ocasionando falta de fluidez y/o comprensión de la lectura. Se hará un test inicial y uno final para medir los resultados de la investigación. Además, se les pedirá llenar un cuestionario al inicio y una encuesta y entrevista al final del estudio, el cual tendrá una duración de 33 horas. Durante el desarrollo del aprendizaje y/o reforzamiento de los nombres compuestos se tratará de buscar estrategias, actividades y prácticas adecuadas para ayudar a los estudiantes de inglés de este curso a identificar e interpretar nombres compuestos para un posible mejoramiento de su lectura comprensiva del inglés.

Confidencialidad

Toda la información recopilada será confidencial y sólo será usada para propósitos de la investigación. Esto significa que su identidad será anónima. Cuando los datos de este estudio sean publicados, su nombre no será usado. Los datos serán guardados en una computadora y solamente la investigadora tendrá acceso a ellos.



Su participación

El participar en este estudio es voluntario y usted no será remunerado/a por su participación. Su decisión no afectará sus notas en clase.

Declaración de la investigadora

He explicado completamente sobre esta investigación al estudiante. He hablado sobre las actividades y he contestado todas las preguntas que el estudiante realizó. He traducido el presente formulario al español para una comprensión clara.

Firma del investigador: _____ Fecha: _____

Consentimiento del estudiante

He leído la información proporcionada en este Formulario de Información para Consentimiento. Todas mis preguntas fueron contestadas a mi satisfacción. Yo voluntariamente acepto participar en este estudio

Nombre del participante:

Firma del participante _____ Fecha _____



Appendix B

Background Questionnaire

1. Nombre _____ 2. Fecha _____

3. Edad _____ 4. Sexo _____

5. e-mail _____

6. ¿En qué institución cursó usted sus estudios básicos y de bachillerato?

(Señale si la institución es pública o privada)

Cursos de Básica _____ Pública _____ Privada _____

Bachillerato _____ Pública _____ Privada _____

7. ¿Ha tomado cursos extra-escolares de inglés en algún instituto? (Encierre en un círculo una opción).

Sí

No

8. Si contestó *sí* a la pregunta 7, indique por cuanto tiempo estudió esos cursos.

9. ¿Cuánto tiempo (en total) ha estudiado inglés?

10. ¿Está usted al momento tomando algún curso de inglés fuera de la universidad?

11. ¿Cómo evalúa usted su suficiencia general en inglés comparada con la suficiencia de sus compañeros en su último curso de inglés? (Encierre en un círculo una opción)



Excelente

Buena

Regular

Mala

12. ¿Por qué quiere aprender inglés? (Señale (√) todas las opciones que apliquen)

_____ interesado/a en el idioma

_____ es requisito para mi graduación

_____ lo necesito para mi carrera futura

_____ otro (indique): _____

13. ¿Disfruta usted aprendiendo inglés? (Encierre en un círculo una opción)

Sí

No

14. ¿Cuál ha sido su experiencia favorita en el aprendizaje del inglés?

15. ¿Cómo evalúa usted su suficiencia en la lectura comprensiva del inglés?

(Encierre en un círculo una opción)

Excelente

Buena

Regular

Mala

16. ¿Qué tan importante es para usted lograr suficiencia en la lectura comprensiva del inglés? (Encierre en un círculo una opción)

Muy importante

Importante

No muy importante

17. ¿Por qué?

18. ¿Tiene algún problema con la lectura comprensiva del inglés? (Encierre en un círculo una opción)

Sí

No

19. Si contestó "sí", ¿cuál de las siguientes es su mayor dificultad? (Encierre en un círculo una opción)

a. el vocabulario



- b. la gramática en general
- c. el orden de las palabras es diferente del español
- d. la lectura es a veces de derecha a izquierda

20. ¿Alguna vez ha notado que la forma de leer en inglés es diferente de la forma de hacerlo en español? (Encierre en un círculo una opción)

Sí

No

21. Si contestó “sí,” ¿en qué se diferencia principalmente?

22. ¿Alguna vez ha notado que el orden de las palabras en algunas frases en inglés es diferente del orden en español? (Encierre en un círculo una opción)

Sí

No

23. ¿Qué textos escritos son más difíciles de entender? (Encierre en un círculo una opción)

del Internet

de periódicos

de su texto escolar

24. ¿Por qué?



Appendix C

Pretest 1

(A & B measure awareness of the structure: identification of compound nouns)

(C: measures understanding of the way the structure functions: decoding compound nouns through translation)

A. Check (✓) 10 compound noun phrases (N+N / N+N+N / or N+N+N+N) in the following list.

1. near the house _____
2. office building _____
3. Carla's car _____
4. clean transportation _____
5. transportation options _____
6. honey bee _____
7. adventure story _____
8. honest man _____
9. in small volumes _____
10. headache pills _____
11. really hard exercise _____
12. insurance fraud scheme _____
13. news website _____
14. some types of therapy
15. volunteer work _____
16. positive impact _____



17. school entrance exam _____
18. petroleum reduction strategies _____
19. natural gas vehicle safety training _____
20. at the same time _____

B. Underline 10 compound nouns (N+N or N+N+N) in the following sentences.

1. Being physically active is a key element in living a longer and healthier life.
2. The federal government offers flexibility in job opportunities while the private sector does not.
3. I wanted a computer keyboard for my birthday, but my parents gave me a grammar book instead because I got bad grades in my last grammar test.
4. Energy drink consumption can produce life-threatening cardiac rhythm disturbances that can lead to sudden death, particularly in young people.
5. The U.S. Food and Drug Administration approved the first seasonal influenza vaccine manufactured using cell culture technology.

C. Translate the sentences below.

1. Being physically active is a key element in living a longer and healthier life.

2. The federal government offers flexibility in job opportunities while the private sector does not.

3. I wanted a computer keyboard for my birthday, but my parents gave me a grammar book instead because I got bad grades in my last grammar test.



4. Energy drink consumption can produce life-threatening cardiac rhythm disturbances that can lead to sudden death, particularly in young people.

5. The U.S. Food and Drug Administration approved the first seasonal influenza vaccine manufactured using cell culture technology.



Appendix D

Pretest 2

(Measuring understanding of the way the structure functions: decoding compound nouns through reading comprehension)

Read the passage and circle the letter of the appropriate response to each of the questions below.

1 As a firefighter, you may be assigned the important task of conducting school fire inspections. At the school, you should first meet with school officials to discuss fire safety policy. Be certain all those involved, including administrators, teachers, and support staff, understand their roles during emergencies. Ask about the school's fire drill schedule and inquire about your department's participation in future drills.

2 Next, conduct a check of all alarms on the premises. If an alarm has been altered, notify school officials immediately. If an alarm is not functioning properly and cannot be repaired immediately, notify school officials and fill out a repair request form.

3 Next, inspect all exits to be sure none are obstructed. Review evacuation plans to make certain primary and secondary exits are viable. Walk the routes yourself.

4 Next, inspect all extinguishers. Remember, pressurized water extinguishers must not be located near electrical equipment. If this is the case, they should be replaced immediately with foam units, which are safer.



5 Finally, inspect wall and ceiling decorations. Depending on regulations, it is often a violation of fire codes to have more than 20 percent of any wall or ceiling covered with artwork or other hangings. Last, report your findings to your supervisor (*501 Reading Comprehension*, 2006, p. 64).

1. The idea of the first sentence in the passage is that
 - a. as it happens with firefighters, inspectors are fired for not conducting important tasks at their schools.
 - b. somebody might ask a firefighter to visit schools to check if they are prepared for fire events.
 - c. you are really a firefighter and you have to inspect a fire in your school.

2. What sentence is true according to paragraph 1?
 - a. The firefighter should talk to the police before putting out a fire at a school.
 - b. You should meet the police officers at school.
 - c. Before the inspection, the firefighter should talk to the authorities of the school about the rules for security during a fire accident.

3. Your conclusion from paragraph 1 is that
 - a. it is important for a firefighter to know the time and day the school has assigned for future fire simulation trainings and his possible participation.
 - b. the firefighter wants his department to participate in future fire simulations.
 - c. the school has a schedule to make fires for students.



4. The “repair request form” mentioned at the end of paragraph 2 refers to
 - a. the shape of the alarm that needs to be repaired
 - b. a printed piece of paper to be completed to ask for fixing
 - c. a way of repairing

5. According to paragraph 3,
 - a. plans for evacuation were made and the firefighter should review them.
 - b. evacuation was done in the past, and the firefighter is reviewing it to make new plans.
 - c. plans for evacuation really need to be changed.

6. According to the context, the “pressurized water extinguishers” mentioned in paragraph 4 are
 - a. devices that serve to extinguish water
 - b. devices that use pressure to extinguish water
 - c. devices that put pressure on water to extinguish fire

7. Why should pressurized water extinguishers located near electrical equipment be replaced?
 - a. They cannot be easily replaced.
 - b. They obstruct emergency exits.
 - c. They are a potential threat to safety.



8. According to paragraph 4, what should replace pressurized water extinguishers when there is electrical equipment nearby?
- a. Units filled with a kind of chemical
 - b. Bubbles from soap and water
 - c. Pieces of soft material
9. According to the reading, what must a firefighter do if half a wall in a classroom is covered with posters and decorations?
- a. Not report anything
 - b. Remove the decorations himself
 - c. Report his finding to his superior
10. Why must the firefighter do what you chose in question 9?
- a. Because it is advisable
 - b. Because it might be a violation of the existing set of rules in relation to fires
 - c. Because the decorations were not really good.



Appendix E

Lesson Plans

Lesson Plan 1	
Topic: Nouns vs. adjectives	
Date: Monday, March 25, 2013	Time: 90 minutes
Objectives: At the end of this lesson, students will be able to: <ol style="list-style-type: none">1. Differentiate nouns from adjectives2. Choose the correct option, <i>noun</i> or <i>adjective</i> to complete sentences	
Content: <ul style="list-style-type: none">• Nouns: definitions, identification practice, and use• Adjectives: definitions, identification practice, and use• Abstract Nouns vs. Adjectives	
Activities: <ul style="list-style-type: none">• Power point presentation (PPP)• Oral exercises in the presentation• Written exercises for identification• Reading for comprehension and identification• Game: What am I? Pictures of things (nouns) will be pinned on students' backs, and they will have to guess what they are by asking yes/no questions to classmates.• Journal writing by students (at home)	



- Students revision of PPP (at home)
- Students presentations of homework for active participation of class (next class)

Materials:

- In Focus and computer
- Worksheets 1,2 & 3
- Pictures and pins

Methodology:

Students will be given a power point presentation with the main concepts of the lesson. The presentation will include examples and exercises and will be posted in the virtual platform for students to go over later, outside the classroom, to review any specific details. Part of their homework will be handed in and part of it will be actively checked by the students themselves in the next class.

Strategies

Direct:

- Using imagery (memory strategy: applying images): in the power point presentation and game
- Placing new words into a context (memory strategy: creating mental linkages): when writing sentences with the abstract nouns and the adjectives
- Using formulas and patterns (cognitive: recognizing and using formulas & patterns): i.e. when recognizing the right-headed structure formula (adj. + n).
- Reasoning deductively (cognitive strategy)



- Analyzing contrastively across languages (cognitive strategy: analyzing and reasoning): different structure from Spanish (adj. + n)
- Taking notes (cognitive strategy)
- Translation (cognitive strategy: analyzing and reasoning)

Indirect:

These will be observed during the development of the class (I will use tally charts and record results in my journal)

- Paying attention (metacognitive strategy: centering learning)
- Students' journals (affective strategy)
- Self-monitoring (metacognitive strategy)
- Self-evaluating (metacognitive strategy)
- Asking questions (social strategy)
- Cooperating with partners (social strategy)

Evaluation:

A short quiz (Quiz 1) will be given to students the following class.

Students will be asked to self-evaluate and self-monitor their learning of the topic by answering to a few questions about it (Questionnaire 1).

Lesson Plan 2	
Topic: Suffixes to form nouns	
Date: Tuesday, March 26, 2013	Time: 90 minutes
Objective: Students will be able to identify nouns by their suffixes	
Content:	



- Fourteen suffixes to form nouns, with examples
- Reading to practice identification of nouns with suffixes

Activities:

- PPP
- Contrasting adjectives and abstract nouns with suffixes
- Written exercises for identification and use of nouns with suffixes
- Reading for identification of nouns with suffixes in context
- Journal writing by students (at home)
- Students revision of PPP (at home)
- Students reading of homework to share with the class (next class)

Materials:

- In Focus and computer
- Worksheets 4, 5 & 6
- Tally chart for observation

Methodology:

Students will be given a power point presentation with the main concepts of the lesson. The presentation will include examples and exercises and will be posted in the virtual platform for students to go over later, outside the classroom, to review any specific details. Students will be observed in class for the indirect strategies, such as *paying attention*, *cooperating*, etc. Homework will be shared with classmates next class.

Strategies

Direct:



- Association (memory strategy: creating mental linkages): students will associate new nouns with suffixes to the ones they have learned as models.
- Using formulas and patterns (cognitive: recognizing and using formulas & patterns): i.e. when recognizing the formulas $adj/v/n + suffix = n$.
- Placing new words into a context (memory strategy: creating mental linkages): when writing sentences with the abstract nouns and the adjectives
- Reasoning deductively (cognitive strategy)
- Taking notes (cognitive strategy)
- Translation (cognitive strategy: Analyzing and reasoning)

Indirect:

- Paying attention (metacognitive strategy: centering learning)
- Asking questions (social strategy)
- students' journals (affective strategy)
- self-monitoring (metacognitive strategy)
- self-evaluating (metacognitive strategy)
- asking questions (social strategy)
- cooperating with partners (social strategy): homework shared in class

Evaluation:

A 10-minute quiz (Quiz 2) will be given to students the following class.

Students will be asked to self-evaluate their learning of the topic by answering to a few questions about it (Questionnaire 2).

**Lesson Plan 3****Topic: Compound nouns (N + N)****Date:** Wednesday, March 27, 2013**Time:** 90 minutes**Objectives:**

At the end of the class, students will be able to

1. Identify compound nouns
2. Make compound nouns
3. Decode compound nouns in reading by answering to questions and translating

Content:

- What is a compound noun?
- Structure
- Practice identifying, making, and decoding compound nouns

Activities:

- PPP
- Inductive definitions
- Exercises for identification of compound nouns
- Reading for comprehension and identification of compound nouns in context
- Journal writing by students (at home)
- Students revision of PPP (at home)
- Home reading for identification and decoding of compound nouns through questions and some translation

Materials:



- In Focus and computer
- Worksheets 7, 8 & 9
- Cards
- Tally chart

METHODOLOGY:

Students will be given a power point presentation with the main concepts of the lesson. The presentation will include examples and exercises and will be posted in the virtual platform for students to go over later, outside the classroom, to review any specific details. Students will be observed during their class performance. Homework will be checked in class tomorrow.

Strategies***Direct:***

- Association (memory strategy: creating mental linkages) to identify compound nouns by comparing new compounds to a list of models.
- Reasoning deductively (cognitive strategy: analyzing and reasoning) to identify new compounds by comparing them to the list of models (related to former).
- Reasoning inductively: when giving definitions from examples
- Placing new words (phrases) in a context (memory strategy: creating mental linkages)
- Reviewing (memory strategy: reviewing well)
- Repeating (cognitive strategy)
- Recognizing and using the pattern or formula (cognitive strategy: practicing): (N + N)



- Analyzing contrastively (cognitive strategy: analyzing and reasoning)
- Taking notes (cognitive strategy)
- Translating (cognitive strategy: Analyzing and reasoning)

Indirect:

- Paying attention (metacognitive strategy: centering your learning)
- Asking questions (social strategy)
- Self-monitoring (metacognitive strategy)
- Self-evaluating (metacognitive strategy)
- Writing a diary (affective strategy: taking your emotional temperature)
- Working with partners (social strategy: cooperating with others)

Evaluation:

A 10-minute quiz (Quiz 3) will be given to students the following class.

Students will be asked to self-evaluate their learning of the topic by answering a short questionnaire about it (Questionnaire 3).

Lesson Plan 4

Topic: Categories for interpretation of compound nouns

Date: Monday, April 1st – Wednesday 3rd, 2013 **Time:** 4 hours, 30 minutes

Objective:

At the end of this unit, students will be able to decode compound nouns applying the twelve categories for interpretation of compound nouns proposed by Levi (1978).

Content:

Twelve categories to decode compound nouns by Levi



- CAUSE1 flu virus CAUSE2 snow blindness
- HAVE1 college town HAVE2 company assets
- MAKE1 honey bee MAKE2 daisy chains
- USE water wheel
- BE chocolate bar
- IN mountain lodge
- FOR headache pills
- FROM bacon grease
- ABOUT adventure story (Levi, 1978 (as cited in 'O S'eaghda, 2008, p. 17))

Activities*:

- PPP
- Written exercises for identification of categories of compound nouns
- Group activity: Compound grouping according to categories: students in groups will create a poster with their own compounds and will post it on the wall for the class to look at all of them.
- Group activity: Students in groups will create another poster by drawing pictures representing compound nouns belonging to the different categories (1 for each). Then they will post it on the wall for their classmates to go around writing the compound they think each picture represents.
- Reading for categorization of compound nouns and comprehension
- Journal writing by students (at home)
- Students revision of PPP (at home)
- Homework



*Monday: PPP and Worksheet 10; homework

Tuesday: Group work with posters; homework

Wednesday: Reading practice: homework: prepare for a quiz next class

Materials:

- In Focus and computer
- Worksheets 10, 11, 12 & 13
- Paper for posters
- Markers
- Some tape for posting the papers on the wall
- Tally chart for observation

Methodology:

Students will be given a power point presentation with the main concepts of the lesson. The presentation will include examples and will be posted in the virtual platform for students to go over later, outside the classroom, to review any specific details. Also, students will be handed out worksheets for exercises and material for group work to practice the structure. Then they will practice reading comprehension of texts containing the compound nouns covered in the unit. Some exercises will be given as homework. During the process, students will be observed in class for the indirect strategies, such as *paying attention, cooperating, etc.*

Strategies

Direct:



- Grouping (memory strategy: creating mental linkages): exercises to learn the possibilities of decoding compounds by grouping them according to their categorizations for further comprehension in practice
- Using imagery (memory strategy: applying images): in one of the group activities
- Placing new words into a context (memory strategy: creating mental linkages): when using the compound nouns to write sentences
- Using formulas and patterns (cognitive: recognizing and using formulas & patterns): i.e. when recognizing the model formulas in new compounds.
- Reasoning deductively (cognitive strategy)
- Analyzing contrastively across languages (Cognitive strategy: Analyzing and reasoning): different compound noun structure from Spanish
- Taking notes (cognitive strategy)
- Translation (cognitive strategy: analyzing and reasoning): for decoding the compounds in some exercises, using the twelve categories covered in the unit.

Indirect:

These will be observed during the development of the class (I will use tally charts and record results in my journal)

- Paying attention (metacognitive strategy: centering learning)
- students' journals (affective strategy)
- self-monitoring (metacognitive strategy)



- self-evaluating (metacognitive strategy)
- asking questions (social strategy)
- cooperating with partners (social strategy): group work

Evaluation:

A short quiz (Quiz 4) will be given to students the following class.

Students will be asked to self-evaluate their learning of the topic by answering to a few questions about it (Questionnaire 4)

Lesson Plan 5

Topic: Categories for interpretation of compound nouns by Nastase and Szpakowicz (2003).

Date: Thursday, April 4 – Tuesday 9, 2013

Time: 4 hours, 30 minutes

Objective:

At the end of this unit, students will be able to decode compound nouns in reading applying the relations for interpretation proposed by Nastase and Szpakowicz.

Activities*:

- PPP
- Written exercise to match compounds to categories and to apply the analysis to translation
- Game: Students in groups will match compounds with categories from two piles of cards. In turns, students will take one card from each pile and see if the cards match (compound and category). If the cards match, the student gets 1 point. The whole group has to decide if the



cards match or not based on the analysis of the relations. The first student to make five matches (in each group) wins the game and will get a prize.

- Reading for identification of compound nouns in context, categorization and comprehension
- Journal writing by students (at home)
- Students revision of PPP (at home)
- Homework

*Thursday: PPP and written exercise to match compounds; homework

Monday: Game for practicing; Reading exercise; homework

Tuesday: Reading practice; homework: prepare for a quiz next class

Materials:

- In Focus and computer
- Worksheets 14,15 & 16
- Cards
- Tally chart for observation

METHODOLOGY:

Students will be given a power point presentation with the main concepts of the lesson. The presentation will include examples and will be posted in the virtual platform for students to go over later, outside the classroom, to review any specific details. Also, students will be handed out worksheets for exercises and cards to play a matching game on the topic. Then they will practice reading comprehension of texts containing the compound nouns covered in the unit. Some exercises will be given as homework. During the



process, students will be observed in class for the indirect strategies, such as *paying attention, cooperating, etc.*

Strategies

Direct:

- Grouping (memory strategy: creating mental linkages): matching exercises to learn more possibilities of decoding compounds by matching them according to their categories
- Placing new words into a context (memory strategy: creating mental linkages): when using the compound nouns to write sentences
- Using formulas and patterns (cognitive: recognizing and using formulas & patterns): i.e. when recognizing the model formulas in new compounds.
- Reasoning deductively (cognitive strategy)
- Analyzing contrastively across languages (Cognitive strategy: Analyzing and reasoning): different compound noun structure from Spanish
- Taking notes (cognitive strategy)
- Translation (cognitive strategy: analyzing and reasoning): for decoding the compounds in some exercises, using the categories covered in the unit.

Indirect:

These will be observed during the development of the class (I will use tally charts and record results in my journal)

- Paying attention (metacognitive strategy: centering learning)
- students' journals (affective strategy)



- self-monitoring (metacognitive strategy)
- self-evaluating (metacognitive strategy)
- asking questions (social strategy)
- cooperating with partners (social strategy): group work

Evaluation:

A short quiz (Quiz 5) will be given to students the following class.

Students will be asked to self-evaluate their learning of the topic by answering to a few questions about it (Questionnaire 5).

Lesson Plan 6

Topic: Compound nouns (N+N+N) and (N+N+N+N)

Date: Wednesday, April 10, 2013

Time: 90 minutes

Objectives:

At the end of the class, students will be able to

1. Identify (N+N+N) and (N+N+N+N) compounds
2. Decode these compound nouns in reading

Content:

- Structure
- Reading texts

Activities:

- PPP
- Exercise for decoding of compound nouns
- Reading for identification and decoding of compound nouns in context, and for comprehension



- Matching game
- Journal writing by students (at home)
- Students revision of PPP (at home)

Materials:

- In Focus and computer
- Worksheets 17 & 18
- Cards to match 3 and 4- noun compounds
- Tally chart for observation

Methodology:

Students will be given a power point presentation with the main concepts of the lesson. The presentation will include examples and exercises and will be posted in the virtual platform for students to go over later, outside the classroom, to review any specific details. Students will also do some practice decoding compounds in a written exercise and a reading comprehension exercise. The game will be used as a relaxing activity where students will have to stand up and move around a little looking for appropriate nouns to complete their compounds. Students will be observed during their class performance.

Strategies

Direct:

- Association (memory strategy: creating mental linkages) to identify compound nouns by comparing new compounds to models.



- Reasoning deductively (cognitive strategy: analyzing and reasoning) to identify new compounds by comparing them to the models (related to former).
- Reviewing (memory strategy: reviewing well)
- Recognizing and using the pattern or formula (cognitive strategy: practicing): (N+N+N); (N+N+N+N).
- Analyzing contrastively (cognitive strategy: analyzing and reasoning)
- Taking notes (cognitive strategy)
- Translating (cognitive strategy: Analyzing and reasoning)

Indirect:

- Paying attention (metacognitive strategy: centering your learning)
- Asking questions (social strategy)
- Self-monitoring (metacognitive strategy)
- Self-evaluating (metacognitive strategy)
- Writing a diary (affective strategy: taking your emotional temperature)
- Working with partners (social strategy: cooperating with others)

Evaluation:

- A 10-minute quiz will be given to students the following class (Quiz 6).
- Students will be asked to self-evaluate their learning of the topic by answering to a few questions about it (Questionnaire 6).



Lesson Plan 7	
Topic: Adjective/s + compound nouns	
DATE: Monday, April 15 – Tuesday 16, 2013	TIME: 3 hours
Objective: Students will be able to identify and decode compound nouns within longer modified right-headed phrases formed by adjective(s) placed in front of the compounds.	
Content: Structures: <ul style="list-style-type: none">• Adjective/s + N+N• Adjective/s + N+N+N• Adjective/s + N+N+N+N	
Activities: <ul style="list-style-type: none">• PPP• Written exercises for identification and decoding• Reading for decoding, and comprehension• Journal writing by students (at home)• Students revision of PPP (at home)	
Materials: <ul style="list-style-type: none">• InFocus and computer• Worksheets 19, 20, 21 & 22• Tally chart for observation	
Methodology:	



Students will be given a power point presentation with the main concepts of the lesson. The presentation will include examples and exercises and will be posted in the virtual platform for students to go over later, outside the classroom, to review any specific details. Students will be observed in class for the indirect strategies, such as *paying attention*, *cooperating*, etc.

Strategies

Direct

- Association (memory strategy: creating mental linkages) to identify compound nouns by comparing new compounds to models.
- Reasoning deductively (cognitive strategy).
- Using formulas and patterns (cognitive: recognizing and using formulas & patterns): i.e. when recognizing the right-headed structure formulas (Adj. + Ns).
- Reviewing (memory strategy: reviewing well)
- Analyzing contrastively across languages (Cognitive strategy: Analyzing and reasoning): different structure from Spanish (Adj. + Ns)
- Translation (cognitive strategy: Analyzing and reasoning)
- Taking notes (cognitive strategy)

Indirect:

These will be observed during the development of the class (I will use tally charts and record results in my journal)

- Paying attention (metacognitive strategy: centering learning)
- students' journals (affective strategy)
- self-monitoring (metacognitive strategy)
- self-evaluating (metacognitive strategy)



- asking questions (social strategy)
- cooperating with partners (social strategy)

Evaluation:

A short quiz will be given to students the following class (Quiz 7).

Students will be asked to self-evaluate their learning of the topic by answering to a few questions about it (Questionnaire 7).



Appendix F

Worksheets

Worksheet 1

No: _____

Date: _____

Nouns and adjectives

Write the nouns and adjectives in the sentences in the correct columns.

1. Do you like Italian food?
2. We sat at the kitchen table and ate dinner.
3. Grammar is an interesting subject.
4. I have a red grammar book.
5. We bought a beautiful rug in China.
6. She has an important job in the police department.

	Adjectives	Nouns
1.	<i>Italian</i>	<i>Food</i>
2.		
3.		
4.		
5.		
6.		



Nouns and Adjectives

Complete the sentences. Choose the correct word from the word pool and write it in the blank space. Then complete the table below.

bare (desnudo/a)

care (cuidado)

generous (generoso/a)

pot (olla)

simple

successful (exitoso/a)

tin (de lata)

1. When you get the result you want, you are _____.
2. Parents take _____ of their children.
3. Something that is easy to do is _____.
4. A person who is willing to give time, money, or things to others is a _____ person.
5. You cook food in a _____.
6. Cans with food in them are _____ cans.
7. The sun burned his _____ skin.

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Worksheet 2

Reading: Johnny Appleseed

Read the passage. Then answer the questions on the next page.

Johnny Appleseed



Johnny Appleseed was an American pioneer* and a legend. He loved apples. He grew apple trees and traveled around many places in the United States of America to bring apple trees to the people. Many people think that Johnny Appleseed was an imaginary character, but he was a real person. He was born in Massachusetts in 1774 and lived for 70 years.

Johnny had good farming skills. He planted apple trees and took good care of them. He supplied apple seeds to the early settlers in the Mid-west of the USA, the large part of the land in the middle of the country, far from the oceans. He owned tree farms in several states. He sold many trees, but gave away many, too. He was very successful, but he lived a simple life. He was kind and generous and friendly to everyone. And he did funny things! He liked to walk in his bare feet, and he wore his tin cooking pot on his head as he traveled.

His real name was John Chapman, but people called him Johnny Appleseed because of his great love for apples and their seeds. Johnny spent 50 years growing apple trees and spreading them successfully all over the land.

*The people who traveled west in the United States and made their homes in new places were called *pioneers*.





Circle True if the sentence is true, and False if the sentence is false, according to the passage about Johnny Appleseed.



- 1. Johnny Appleseed was a real person. True / False
- 2. He traveled in the eastern part of the USA. True / False
- 3. He grew vegetables and sold them. True / False
- 4. He was unsuccessful. True / False
- 5. He was generous and nice. True / False
- 6. He always wore shoes. True / False
- 7. He wore a hat that was really a pot. True / False
- 8. He spread apples and apple trees all over the country. True / False

B. Complete the table below with five adjectives and five nouns from the reading.

ADJECTIVES	NOUNS



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Worksheet 3

(Homework)

Nouns and adjectives

Complete the sentences. Choose the correct words from the word pool and put it in the blank spaces. Use one word for each space. You may want to use the mini-glossary below.

**bookstore car chemistry dishes electric
favorite university Vietnamese**



This car can run on a battery. It has enough energy from the battery to go for 40 miles or 64 kilometers. It is an

_____ .



2. Tonight we are going to my _____ restaurant. I like it because they always serve delicious vegetarian

_____ from Vietnam. That's

good for me because I am a vegetarian.



3. Kate works in the _____
 _____. She knows every book
 in the store. Within two minutes, she can find the history
 texts, the engineering texts, the poetry books, the
 _____ texts, the reference books — everything a student
 or professor needs.

battery = an object that supplies electricity

energy = power from electricity, coal, oil, etc.

vegetarian = a person who doesn't eat meat

within = inside of

Note. Adapted from "Vocabulary Worksheets," by R. S. Koch, 2014, *Azar Grammar Series: Basic English Grammar* (4th ed.), *Chp. 14*(Worksheet 2), p. 1. Copyright © 2014 Pearson Education, Inc. All rights reserved. Permission granted to reproduce for classroom use.

Worksheet 4

No: _____

Date: _____

Noun-forming suffixes

linkage	happiness	payment	insurance
bandage	thickness	requirement	tolerance
shortage	foolishness	basement	grievance
rancher	laziness	action	dependence
dancer	longevity	deduction	difference
dictator	clarity	transaction	excellence
conductor	charity	commotion	friendship
motorist	spirituality	reputation	membership
artist	pleasure	neighborhood	racism
activist	composure	motherhood	perfectionism



Fourteen suffixes have been used to form the nouns in the preceding list.

Write the fourteen noun-forming suffixes in the boxes below. Remember that these suffixes can often serve as signals that a word is a noun.

Below, write **five sentences** that use some of the nouns in the list above.

Write **N** above all the words in your sentences that are **nouns**.

1. _____
2. _____
3. _____
4. _____
5. _____

Worksheet 5

No: _____

Date: _____

Reading

Read the following article from a newspaper. Then, in pairs, find at least ten (10) nouns that have any of the suffixes studied and write them on the lines below. You have 10 minutes to do it. Then different volunteer students will translate those words.

Bolshoi Ballet director in acid attack (20th January, 2013)



The artistic director of Russia's Bolshoi Theater is in hospital because someone threw acid in his face. Sergei Filin, 42, was attacked outside his apartment building as he was going home from work. Moscow police say the attacker was wearing a mask and that there were no witnesses. Mr. Filin has severe burns on his face and doctors are battling to save his eyesight. A hospital spokesperson said Filin may have to go to a hospital in Belgium for more treatment. The police believe the attacker works for the Bolshoi Ballet. Filin has to make many decisions about who dances and who doesn't. Many performers and staff have criticized him for his tough management style.

The Bolshoi is a world-famous ballet company that was founded in 1776 by Moscow prosecutor Prince Pyotr Urusov. Russia's Empress Catherine II gave the Prince permission to organize theatre performances, masquerades, balls, and other forms of entertainment for ten years. It rose to fame in the early 20th century because of the amazing technique and athleticism of its dancers. Today, it is the largest company in the world, with around 220 dancers. Mr. Filin became the Bolshoi's principal dancer in 1990 and stayed in the position for nearly two decades. He became the company's artistic director in 2008. He won many awards, including the People's Artist of the Russian Federation award in 2001.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____



7. _____
8. _____
9. _____
10. _____

Note. Adapted from "Bolshoi Ballet," 2013, *Breaking News English ESL*.

Worksheet 6

(Homework)

No: _____ Date: _____

A. Complete the sentences with the correct form of the word on the right.

Example: Who made the arrangements for the meeting? (arrange)

1. We had a very heated _____ in class today. (discuss)
2. I think _____ is very important. (punctual)
3. The _____ of the festival was excellent. (organize)
4. Who won the _____? (elect)
5. Their _____ is all that matters to me. (happy)
6. The _____ between them is incredible. (similar)
7. Has there been much _____ lately? (improve)
8. Have they got all the _____ they need? (inform)
9. This animal only appears during the hours of _____. (dark)

Nouns with suffixes vs. adjectives

B. Write the highlighted nouns and adjectives in the sentences in the correct columns below.



1. He was known throughout the community for his **kindness** and **generosity**.
2. My friend always gives me presents. He is very **generous**.
3. Karina enjoys helping people. She's very **kind**.
4. The girl was very **weak**, but she wouldn't accept her **weakness**.
5. **Sincerity** is the foundation for a good friendship.
6. My best friend is a **sincere** person.
7. There are some methods to develop your **intelligence** and become more **intelligent**.

NOUNS	ADJECTIVES



Worksheet 7

No: _____

Date: _____

A. Check (✓) only the compound nouns (N+N) you can identify in the following list.

1. bare feet _____
2. apple tree _____
3. football game _____
4. university students _____
5. in front _____
6. sincere man _____
7. sincerity problem _____

B. Check all possible completions.

1. Mom baked a delicious apple _____.
 tree pie farm
2. I bought a new battery at a place that sells automobile _____.
 parts licenses accidents
3. My aunt and uncle have 1,200 chickens on their chicken _____.
 soup farm salad
4. John is a famous football _____.
 game player field
5. We bought a new kitchen _____.
 table sink bush
6. I read about the university _____.
 buildings students professors



7. There are serious problems with the city _____.

streets traffic government

8. I like summer _____.

weather vacation rivers

9. Yes, I know the office _____.

building manager farm

10. Do you have a new computer _____?

problem desk screen

Worksheet 8

No: _____ Date: _____

A. Read the following article from a British newspaper and underline five compound nouns in it.

U.K. Students in University Fees Protest

Tens of thousands of students across the U.K. took part in protests on Wednesday against their government's increase in tuition fees. They were speaking out against the three-fold rise in the prices universities can charge, and voicing their opposition to the reduction of benefits that will harm poor students. The nationwide protest was organized by the National Campaign Against Fees and Cuts. High school and university students, teachers and lecturers took to the streets to demonstrate. Around 10,000 protestors rallied in London, where there were arrests after ugly clashes left a police officer with



a broken arm. The protests were largely trouble-free, unlike those two weeks earlier in which the ruling Conservative Party headquarters was attacked.

Britain's ruling coalition government have made many cuts to university education, while at the same time allowing universities to increase tuition fees from \$5,624 a year to \$14,400. They say these measures are necessary to reduce the country's budget deficit. Most of the public fury is directed at the junior coalition partner, the Liberal Democrats, whose election pledge earlier this year was to abolish tuition and maintain transport benefits for students from low-income families. Their leader has done a total U-turn and broken these promises. Until the late 1990s, British students did not need to pay tuition, and many poorer students received weekly living allowances from the government. Many protestors believe this will kill opportunities for the poor. They carried banners saying: "R.I.P. My Degree."

B. Translate the sentences or meaningful parts containing those compound nouns.

1. _____

2. _____

3. _____

4. _____

5. _____



Note. Adapted from "UK Students," 2010, *Breaking News English ESL*.

Worksheet 9

(Homework)

No: _____

Date: _____

Look for a reading of your interest on the Internet. Underline all the compound nouns (N+N) you find there, write 3 - 5 sentences containing compound nouns and translate them into Spanish.

Worksheet 10

No: _____

Date: _____

Select as many compound nouns as you can from the list below and group them under the corresponding category in this chart. Continue using the chart during this course as you learn new compounds.

CAUSE1	CAUSE2	HAVE1	HAVE2	MAKE1	MAKE2	USE	BE	IN	FOR	FROM	ABOUT
flu	snow	college	company	honey	daisy	water	candy	city	pain	bacon	love
virus	blindness	town	assets	bee	chains	wheel	bar	hotel	pill	grease	story



18. activity spectrum	53. theater director
19. antibiotic regimen	54. road competitions
20. transportation system	55. government buildings
21. concert appearances	56. government intervention
22. sea animals	57. cell membrane
23. welfare agencies	58. terrorist activities
24. computer catalog	59. mystery novels
25. alpha particle	60. car odor
26. television director	61. country music
27. anatomy professor	62. food industry
28. vehicle industry	63. music theory
29. machinery operations	64. family tradition
30. warfare equipment	65. city population
31. country estate	66. crime novelist
32. river valleys	67. money policy
33. battery technology	68. policy makers
34. football player	69. ancestor spirits
35. cancer production	70. poultry products

Note. Categories taken from "Learning compound noun semantics," by D. Ó Séaghdha, 2008, *Technical Report*, p.17; List taken from "Designing Statistical Language Learners: Experiments on Noun Compounds," by M. Lauer, 1995, p. 205-211.

Worksheet 11

(Homework)

No: _____

Date: _____

Try to understand the new compounds in the list below by comparing them to the samples in the table in Worksheet 10. Then do the following.

A. Look at how some of them have been used in the following sentences and definitions.

1. Proteins that are not broken down properly clump together inside **brain cells**.
2. San Francisco is pushing for **wage cuts** that would save \$76,223 over the next two fiscal years, which would start July 1.
3. A **motor vehicle** or road vehicle is a self-propelled wheeled vehicle that does not operate on rails, such as trains or trolleys



4. **Cell culture** is the complex process by which cells are grown under controlled conditions, generally outside of their natural environment.
5. Corruption in the **justice system** indicates how weak the **law enforcement** in our country is.

B. Can you use some others in other sentences and write them on the lines below?

brain cell

carbon particles

law enforcement

blood pressure rates

personality disorder

staff member

bone cell

thyroid function

office worker

cell culture

body fat

guard shacks

cell membrane

personality disorder

labor shortage

blood cell

artery disease

smoke explosion

nerve cell

quality control

justice system

cell phone

policy guidelines

nerve function

wage cuts

government report

heat reactions

family pride

water supply

engine parts

heart failure

community members

air conditioner

music therapy

drug dealer

vehicle fire



health professional

motor vehicles

ocean water

music therapist

city council

arthritis treatments

arthritis patients

computer system

mountain range

SENTENCES

1. _____

2. _____

3. _____

4. _____

5. _____

Worksheet 12

No: _____

Date: _____

Reading Exercise

I. New words: Read the definition and try to give the translation in Spanish.

(Except for*)

faculty = group of professors in a college or university =

renewable = that can be made new or as new again =

availability = the condition of being ready for use =

reliability = the condition of being able to be trusted =



utility company = a company that provides services such as electricity, water, etc. _____

grant = an amount of money that is donated for a specific purpose = _____

*plug-and-play = capable of detecting the addition of a new input or output device and automatically activating the appropriate control software

II. Read and do the exercises below.

Research to Better Manage Renewable Energy

A new faculty member at the University of California, Riverside's Bourns College of Engineering has recently received a grant to develop an energy management system that can adapt to changes in electricity prices, renewable energy availability and risks to electric system reliability, with minimal cost to utility companies.

Hamed Mohsenian-Rad, an assistant professor of electrical engineering, received a five-year, \$400,000 grant from the National Science Foundation. His plan is to design plug-and-play energy consumption scheduling devices that control the amount of energy used by consumers, whether to charge electric cars for residential users or to operate equipment for industrial users.

Then, Mohsenian-Rad will build mathematical tools to investigate and optimally shape the operation of such energy consumption scheduling devices to encourage consumer cooperation, support renewable energy integration, minimize generation cost and maintain electrical power quality.

A. Decide which of the categories studied so far you think each of the following compounds taken from the reading belongs to, and write it on the line.

Example: faculty member HAVE2



1. management system _____
2. electricity prices _____
3. energy availability _____
4. system reliability _____
5. utility companies _____
6. Science Foundation _____
7. consumer cooperation _____
8. energy integration _____
9. generation cost _____
10. electrical power quality _____

B. Circle the letter of the correct answer to these questions about the reading above.

1. The *new faculty member* mentioned in the first line of the first paragraph refers to
 - a. a new professor
 - b. a new college
 - c. a new ability or aptitude to bring members to the university
2. The first paragraph states that the money received as a grant is going to be used to develop
 - a. a new system of energy
 - b. an organized method to control energy
 - c. energy to control the system
3. The first paragraph states that the system to be developed can adapt, among others, to changes in
 - a. the accessibility to energy that can be renewed



- b. the way to renew energy
 - c. the new energy that is going to be discovered
4. When the first paragraph says that the new system can adapt to risks in *electric system reliability*, it means that
- a. there is no risk of problems in the electric system
 - b. people have to adapt to the possibility of risks in the electric system
 - c. the system of electricity can be trusted because any possible dangers will be under control.
5. The *utility companies* mentioned at the end of the first paragraph are companies that
- a. provide basic services, such as electricity, water, etc., to the communities.
 - b. can be used to help people in trouble.
 - c. make a lot of profit out of their business operations.
6. According to the context, the *energy consumption scheduling devices* mentioned in the second paragraph would most probably be
- a. some kind of machines that control the utilization of energy.
 - b. machines to plan the time.
 - c. some kind of machines that give a strict schedule for the use of energy.
7. One of the objectives of this project, mentioned in the last paragraph, is to minimize *generation cost*. What does that mean in the context?
- a. To diminish the importance of the cost of energy
 - b. To reduce, as much as possible, the price of the production of energy
 - c. To decrease the generation of energy at any cost.

Note. Text taken from “Research to Better Manage Renewable Energy,” by S. Nealon, 2013, *UCR Today*.



Worksheet 13

(Homework)

No: _____

Date: _____

A. VOCABULARY

heart failure = paro cardiaco

chest = pecho

pump = bombear

pain = dolor

wear and tear = uso y desgaste

take a toll = cobrar un precio

artery = arteria

valve = válvula

disease = enfermedad

(blood) vessel = vaso (sanguíneo)

coronary = coronaria

lipids = lípidos

build up = residuos

muscle = músculo

B. Read and circle the answers to the questions below.

Heart Failure

1 All of us lose some blood-pumping ability in our hearts as we age, but heart failure results from the added stress of health conditions that either damage the heart or make it work too hard. All of the lifestyle factors that increase your risk of heart attack and stroke –smoking, being overweight, eating foods high in fat and cholesterol and physical inactivity –can also contribute to heart failure. Learn more about what you can do to reduce your risk for heart failure by making lifestyle changes that last.

2 If you have heart failure, chances are you have (or had) one or more of the conditions mentioned below. Some of these can be present without you knowing it. Typically, these conditions cause the “wear and tear” that leads to



heart failure. Having more than one of these factors dramatically increases your risk.

3 One of them is coronary artery disease. When cholesterol deposits build up in the heart's arteries, less blood can reach the heart muscle. This build-up is known as atherosclerosis. The result may be chest pain or, if blood flow becomes totally obstructed, a heart attack. Coronary artery disease can also contribute to having high blood pressure which, over time, may lead to heart failure.

4 Another condition is high blood pressure or hypertension. Uncontrolled high blood pressure increases your risk of developing heart failure by two or three times. When pressure in the blood vessels is too high, the heart has to pump harder than normal to keep the blood circulating. This takes a toll on the heart, and over time the chambers get larger and weaker.

5 Abnormal heart valves also may lead to heart failure. Heart valve problems can result from disease, infection, or a defect present at birth. When the valves do not open or close completely during each heartbeat, the heart muscle has to pump harder to keep the blood moving. If the workload becomes too great, heart failure results.

6 Finally, diabetes increases the risk for developing heart failure. People with diabetes tend to develop hypertension and atherosclerosis from elevated lipid levels in the blood –both of which have been linked to heart failure.

1. Which of the following is true according to the first paragraph?
 - a. Heart attack and heart failure are exactly the same.
 - b. The danger of a possible heart failure can be reduced by permanently adopting a different way of life.



- c. Heart failure is always the result of becoming old.
2. According to paragraph 3, *Coronary artery disease* can be best described as
 - a. sickness that involves problems in important arteries that carry blood to the heart.
 - b. uneasiness about an artery.
 - c. chest pain.
 3. Paragraph 3 states that when a person has coronary artery disease,
 - a. his blood flow automatically becomes obstructed.
 - b. he will necessarily have a heart attack.
 - c. his chest may hurt.
 4. High *blood pressure* is described in paragraph 4 as
 - a. uncontrolled blood pressure.
 - b. a synonym of heart failure.
 - c. excessive pressure in the blood vessels
 5. According to paragraph 5, a person's heart can fail when
 - a. a woman is giving birth
 - b. the valves in his heart are not functioning well
 - c. the heart valves close but do not open completely.
 6. From paragraph 6, we can understand that the level of lipids in the blood increases
 - a. as a result of hypertension
 - b. because of atherosclerosis
 - c. when a person has diabetes

Note. Taken from "Causes of Heart," 2015, *American Heart Association*.



Worksheet 14

No: _____

Date: _____

Look at the examples taken from the original chart and use them as guides to do the matching exercise below: Match the compound nouns with the corresponding categories.

A. CAUSALITY

CAUSE flu virus

EFFECT exam anxiety

PURPOSE concert hall

DETRACTION headache pill

1. CAUSE _____

a. tennis shoes

2. EFFECT _____

b. pollution agent

3. PURPOSE _____

c. arthritis treatment

4. DETRACTION _____

d. home sickness

B. QUALITY

CONTAINER film music

CONTENT apple cake

EQUATIVE player coach

MATERIAL brick house

MEASURE saturation point

TOPIC weather report

TYPE oak tree

1. CONTAINER _____

a. assistant manager

2. CONTENT _____

b. importance degree

3. EQUATIVE _____

c. classroom environment



4. MATERIAL _____

d. history research

5. MEASURE _____

e. lesson plan

6. TOPIC _____

f. country house

7. TYPE _____

g. cotton dress

C. TEMPORALITY

FREQUENCY daily exercise

TIME AT morning exercise

TIME THROUGH six-hour meeting

1. FREQUENCY _____

a. afternoon coffee

2. TIME AT _____

b. 4-day trip

3. TIME THROUGH _____

c. routine task

D. PARTICIPANT

AGENT student protest

BENEFICIARY student discount

INSTRUMENT laser printer

OBJECT metal separator

OBJECT PROPERTY sunken ship (no)

PART printer tray

POSSESSOR group plan

PROPERTY novelty item

PRODUCT plum tree

SOURCE olive oil

STATIVE cell division

WHOLE daisy chain

1. AGENT _____

a. water extinguisher



2. BENEFICIARY _____	b. girl reputation
3. INSTRUMENT _____	c. apple tree
4. OBJECT _____	d. customer complaint
5. PART _____	e. bacon grease
6. POSSESSOR _____	f. employee promotion
7. PROPERTY _____	g. wage cut
8. PRODUCT _____	h. computer screen
9. SOURCE _____	i. paper flower
10. STATIVE _____	j. tin pot
11. WHOLE _____	k. technology appliance
E. SPATIAL	
DIRECTION exit route	
LOCATION home town	
LOCATION AT desert storm	
LOCATION FROM country butter	
1. DIRECTION _____	a. bank robbery
2. LOCATION _____	b. beach road
3. LOCATION AT _____	c. plantation cotton
4. LOCATION FROM _____	d. beach house

Note. Taken from “Exploring noun-modifier semantic relations,” by V. Nastase and S. Szpakowics, 2003, *Proceedings of the 5th International Workshop on Computational Semantics*, p. 13.

**Worksheet 15**

(Homework)

No: _____

Date: _____

Following is the chart containing the thirty relations proposed by Nastase and Szpakowics (2003) to interpret compound nouns. They are grouped under five super categories: CAUSALITY, TEMPORALITY, SPATIAL, PARTICIPANT and QUALITY.

A. Check it and compare it to Levi's (1978).

CAUSALITY

CAUSE flu virus

EFFECT exam anxiety

PURPOSE concert hall

DETRACTION headache pill

QUALITY

CONTAINER film music

CONTENT apple cake

EQUATIVE player coach

MATERIAL brick house

MEASURE saturation point

TOPIC weather report

TYPE oak tree

TEMPORALITY

FREQUENCY daily exercise?

TIME AT morning exercise

PARTICIPANT

AGENT student protest

BENEFICIARY student discount

INSTRUMENT laser printer

OBJECT metal separator

OBJECT PROPERTY sunken ship

PART printer tray

POSSESSOR group plan

PROPERTY novelty item

PRODUCT plum tree

SOURCE olive oil

STATIVE cell division

WHOLE daisy chain

SPATIAL

DIRECTION exit route

LOCATION home town



The best quality of olive oil available is described as 'extra virgin'. Extra virgin is the highest quality and most flavorful olive oil classification. It must be produced entirely by mechanical means without the use of any solvents, and under temperatures that will not degrade the oil (less than 86°F, 30°C). In order for an oil to qualify as "extra virgin" the oil must also pass both an official chemical test in a laboratory and a sensory evaluation by a trained tasting panel recognized by the International Olive Council. The olive oil must be found to be free from defects while exhibiting some fruitiness.

Since extra virgin olive oil is simply pressed fruit juice without additives, the factors influencing its quality and taste encompass the countless decisions, ethics and skills of the producer. Olive oil tasters describe its positive attributes as fruity, bitter, and pungent, creating a mostly pleasant acrid flavor sensation in the mouth.

A. Underline all the compound nouns you find in this reading.

B. List them, give them a category either by Levi or Nastase and Szpakowics, and translate them. **Example:** olive oil: (from) = aceite de oliva

C. Answer the following questions.

1. An olive tree as mentioned in the first paragraph, is

- a. a tree that produces olives.
- b. three olives.
- c. an olive in a tree.

2. Paragraph 1 says that

- a. all olives are different.
- b. there are olives that change a lot when they produce oil.
- c. there are many types of olives that produce oil.



3. Paragraph 2 says that extra virgin oil
 - a. is classified as having the best flavor
 - b. has many classifications
 - c. is the most classified.
4. According to paragraph 3, olive oil is
 - a. juice from a fruit
 - b. a fruit with juice
 - c. juice and fruit
5. Olive oil tasters mentioned in paragraph 3 are
 - a. tests to describe the quality of the oil.
 - b. people who try the oil to test its quality.
 - c. oils that taste as olives.

Note. Text taken from "All about Olive," 2010, *Olive Oil Market*.

Worksheet 17

No: _____

Date: _____

Circle the letter of the correct definition for the compound noun. Then translate the compound noun.

1. ***Law enforcement authorities*** are

- a. laws for enforcement of authorities
- b. enforcement of the laws for the authorities
- c. authorities for the enforcement of laws

Translate:

2. A ***neighborhood watch group*** is



- a. a group that watches the neighborhood
- b. watches for the group in the neighborhood
- c. a neighborhood that watches the group

Translate:

3. **Quality control measures** are

- a. qualities that control the measures
- b. measures for the control of quality
- c. control that measures the quality

Translate:

4. A **relation inventory tradition** is

- a. a tradition of inventories based on relations
- b. a relation of inventories with tradition
- c. an inventory of relations based on tradition

Translate:

5. A **pill box timer** is

- a. a pill in a box that has a timer
- b. a box with a pill and a timer
- c. a timer incorporated in a box for pills

Translate:

6. **Energy consumption scheduling devices** are



- a. consumption of energy according to the schedules given by some devices
- b. machines that control de consumption of energy
- c. energy consumed according to the schedules of the machines

Translate:

7. **Olive oil skin care** is

- a. care of the skin based on oil from olives
- b. olive from oil for skin and care
- c. oil from olive for the skin of the careful

Translate:

Worksheet 18

No: _____

Date: _____

I. Vocabulary exercise: Look for these words as you do the reading below.

Try to understand them in the context. Then match the words to the definitions. Finally, write the correct number next to the Spanish translation below.

- | | |
|-------------------------|---|
| 1. enforcement _____ | a. the right or power to administer justice and to apply laws |
| 2. enforce _____ | b. the act of assigning a particular purpose |
| 3. rather than _____ | c. to give help |
| 4. non compliance _____ | d. to ensure observance of or obedience to (a |



- law, decision, etc)
- 5. allocation _____ e. to maintain
 - 6. refer _____ f. broad, covering an ample space
 - 7. boundary _____ g. the act of ensuring observance of or obedience to (a law, decision, etc.)
 - 8. wide _____ h. instead of, in the place of
 - 9. range _____ i. a limit, a border
 - 10. assist _____ j. the act of not doing something that must be done
 - 11. support _____ k. the act of taking away a person, usually for money
 - 12. jurisdiction _____ l. to send to another place
 - 13. kidnapping _____ m. a rank or series of items

asignación ____	amplio ____	ejecución ____	rango ____
jurisdicción ____	hacer ejecutar ____	enviar ____	límite
____	dar ayuda ____	en vez de ____	mantener (apoyar)
____	secuestro ____	incumplimiento ____	

II. Read the passage again and do the following:

A. Underline the compound nouns (N+N+N) and (N+N+N+N) that you find in the reading.

Law Enforcement Agency Jurisdiction

Law enforcement agencies which operate across a collection of countries tend to assist in law enforcement activities, rather than directly enforcing laws,



by facilitating the sharing of information necessary for law enforcement between law enforcement agencies within those countries, for example Europol has no executive powers.

Sometimes, a law enforcement agency jurisdiction is determined by the complexity or seriousness of the non-compliance with a law. Some countries determine the jurisdiction in these circumstances by means of policy and resource allocation between agencies, for example in Australia, the Australian Federal Police take on complex serious matters referred to it by an agency and the agency will undertake its own investigations of less serious or complex matters by consensus. Other countries have laws which decide the jurisdiction, for example in the United States of America some matters are required by law to be referred to other agencies if they are of a certain level of seriousness or complexity, for example cross state boundary kidnapping in the United States is escalated to the Federal Bureau of Investigation. Differentiation of jurisdiction based on the seriousness and complexity of the non-compliance either by law or by policy and consensus can coexist in countries.

A law enforcement agency which has a wide range of powers but whose ability is restricted geographically, typically to an area which is only part of a country, is typically referred to as local police or territorial police. Other law enforcement agencies have a jurisdiction defined by the type of laws they enforce or assist in enforcing. For example, Interpol does not work with political, military, religious, or racial matters. A law enforcement agency jurisdiction usually also includes the governing bodies they support, and the law enforcement agency itself.



B. Answer the questions

1. With your knowledge of compound nouns, **law enforcement agencies** would best be understood by you as
 - a. laws that enforce agencies = leyes que hacen ejecutar a las agencias
 - b. enforcement of agencies by law = ejecución de las agencias por la ley
 - c. agencies that enforce the law = agencias que hacen ejecutar la ley
2. According to the first paragraph, law enforcement agencies
 - a. tienden a ayudar en actividades relacionadas con la ejecución de la ley antes que ejecutarlas directamente
 - b. asisten a las actividades relacionadas con la ejecución de la ley
 - c. tienen la tendencia a asistir a las actividades para aprender a reforzar la ley
3. From what is said in the first paragraph, we can infer that Europol
 - a. is an example of a law enforcement agency.
 - b. directly enforces the law.
 - c. is an agency in the United States.
4. According to paragraph 2, the jurisdiction of an agency that enforces the law depends on
 - a. the complexity of the law.
 - b. how complex and serious the fact of people not complying with the law is.
 - c. the seriousness of the law.
5. The second paragraph says that *policy and resource allocation* between agencies in some countries serve to
 - a. give more money and resources to the police.



- b. establish contact between agencies.
 - c. establish the jurisdiction in cases of non-compliance with a law.
6. The example of cross state boundary kidnapping in the United States cited in paragraph 2 is
- a. a serious case of non-compliance with the law
 - b. a simple case of non-compliance with the law
 - c. a case that does need to be referred to another agency

Note. Text taken from "Law Enforcement," 2016, *Wikipedia, the free encyclopedia*.

Worksheet 19

No: _____ Date: _____

Read the passages and follow the directions below each. Check the vocabulary list before each passage.

I. Vocabulary:

fair = justo

hire = contratar

skills = destrezas

treatment = tratamiento

solely = solamente

The Competitive Civil Service System is designed to give applicants fair and equal treatment and to ensure that federal applicants are hired based on objective criteria. Hiring has to be based solely on candidates' knowledge, skills, and abilities (which you'll sometimes see abbreviated as *ksa*) and not on any external factors such as race, religion, sex, and so on. Whereas private sector employers can hire employees for subjective reasons, federal



employers must be able to justify their decisions with objective evidence of appropriate candidate qualifications.

A. Underline the phrases with the structure *Adjective(s) + N+N* in the paragraph above.

B. Translate the phrases into Spanish:

1. _____

2. _____

3. _____

II. Vocabulary:

insurance = seguro

sleazy = insignificante

portray = describir

scheme = confabulación

philandering = infiel

Although romanticized in fiction, the job of a private investigator is often actually boring. The real private investigator can spend hours or days looking into a not-particularly-lucrative insurance fraud scheme or sitting outside a sleazy motel waiting to catch some not-particularly-attractive philandering husband or wife of a client in the act. In fact, there would be very few private investigators in detective fiction if their jobs had to be portrayed realistically.

A. Underline the structure: Adj. + N+N+N in the paragraph above.

B. Translate the clause: “The real private investigator can spend hours or days looking into a not-particularly-lucrative insurance fraud scheme...”

C. What word is the phrase “a not-particularly-lucrative insurance fraud scheme” **talking about? Write the word.** _____

**III. Vocabulary:**

environment = medio ambiente

greenhouse = invernadero

instead of = en vez de

tax = impuesto

pollute = contaminar

wear and tear = desgaste

owner = dueño

unfair = injusto

outline = resumir

currently = actualmente

bridge = puente

highway = autopista

An American lawmaker has said cycling is bad for the environment. He also said cyclists should pay a tax to ride their bikes on the roads. Ed Orcutt, a Washington State representative, sent an e-mail to a local bike shop owner to outline his thinking. He wrote: "A cyclist has an increased heart rate and respiration. That means that the act of riding a bike results in greater carbon dioxide emissions from the rider. Since CO₂ is a greenhouse gas, cyclists are actually polluting when they ride. Mr. Orcutt said: "You can't just say that there's no pollution as a result of riding a bicycle... You would be giving off more CO₂ if you are riding a bike than driving a car."

Mr. Orcutt also believes cyclists should be taxed for road use. He said it was unfair that motorists have to pay all of the costs of road building and repairing. He wrote: "Currently motorists are paying to use their cars on the roads...so if cars pay for the roads they are using, it only makes sense that bicyclists would also be required to pay for the roads they use when they are actually biking on them." Dale Carlson, owner of the Tech Bike Shop said Mr. Orcutt's ideas were wrong. He wrote: "People who choose to ride a bicycle instead of driving a car actively reduce congestion." He added: "They save



wear and tear on our roads and bridges, and reduce the need for police to patrol our highways.”

A. Underline five phrases with the structures *Adjective(s) + N+N* and *Adjective(s) + N+N+N* in the paragraph above.

B. Translate the phrases into Spanish:

1. _____
2. _____
3. _____
4. _____
5. _____

C. How would you change the following phrases in the reading to use compound nouns instead?

- owner of the Tech Bike Shop
-
- need for police to patrol our highways
-

Note. Texts taken from 501 Reading Comprehension, 2006, p. 12, 19; “Cycling is Bad,” 2013.

WORKSHEET 20

No: _____ Date: _____

Read the article and do the exercises below. Check the vocabulary list first.

Vocabulary:

outsmart = ser más astuto que



bypass = evitar (paragraph 1)

wrinkles = arrugas (p. 1)

endorse = endosar, dar el nombre para apoyar algo (p. 2)

splurge = gastar demasiado dinero en cosas innecesarias (p. 2)

loan = préstamo (p. 2)

facelift = estiramiento de arrugas de la cara (p. 2)

affordable = pagable (p. 2)

yield = producir (p. 2)

debt = deuda (p. 2)

trial = prueba (p. 3)

attain = obtener (p. 3)

trust = confiar (3)

tighten = tensar (p. 4)

allow = permitir (p. 5)

layer = capa (p. 5)

remove = sacar, quitar (p. 5)

underneath = debajo (p. 5)

surface = superficie (p. 5)

moisturizing = humectante (5)

A Mom Outsmarts Botox Doctors with Her \$5 Trick to a Wrinkle Free

Face – Surprising 14 Day Results Revealed

1 Mary, an ordinary mom of three, is the perfect example of a smart consumer that bypassed the health risks and thousands of dollars of using Botox to erase her wrinkles and *“reverse the clock” on life.*



2 Like most people, Mary makes an average salary and doesn't have the extra cash to try every **celebrity endorsed Anti-Aging miracle cream** out there, let alone splurge on expensive medical procedures. At one time she considered taking out loans for injecting Botox and even contemplated getting a facelift, but became frightened after researching Botox and some **horrible facelift malpractice stories**. Mary was determined to find a safe and affordable solution that would yield real results and not leave her in debt.

3 After watching an **interesting television documentary** on cell revival, Mary discovered two apparently **effective beauty product trials** from **trusted skin care companies** Derma Juvenate & The Dead Sea Kit to unlock the secrets of anti-aging. Her results are comparable to what you might attain at Medi Spas and Doctor offices for £3000 or more, all the while using nothing but Derma Juvenate & **The Dead Sea Kit free samples**.

4 After finding Mary's **shocking success story** on the Internet, we thought it was important to share her story with our readers wanting to erase those wrinkles and "reverse the clock" on life. This solution has not only removed her wrinkles, but also tightened her neck and face instantly. It changed her life and we hope it can change yours too.

5 Mary discovered that the secret to cell revival is Polymoist-PS, an advanced formula that affects your skin at the cellular level. Polymoist-PS allows to lift off layers of dead or dying skin. After removing the top layer of skin, the soft, young skin from underneath is brought to the surface and hydrated. While researching **the best anti-aging skin care products**, she discovered celebrities had been using Polymoist-PS creams for years to stay and look young. A **prominent celebrity skin care doctor** also revealed that



using Derma Juvenate & The Dead Sea Kit with Polymoist-PS was the celebrity secret to success as it contains powerful antioxidants, vitamins, and moisturizing agents.

A. Only the compound nouns with adjectives have been highlighted.

Translate them into Spanish.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

B. Circle the letter of the correct response.

1. We can infer from the first paragraph that the use of Botox
 - a. takes you to the past.
 - b. is dangerous for people's health.
 - c. is for intelligent consumers.
2. The second paragraph says that most people
 - a. do not have enough money to buy creams sponsored by famous people to stay young.
 - b. use creams that make miracles and they become as young as the famous people.
 - c. want to look like celebrities and do not care about spending a lot of



money in creams.

3. According to paragraph 2, Mary did not get a facelift because
 - a. she could not get the loan she made to the bank.
 - b. she preferred to use Botox
 - c. she discovered some terrible stories about bad practice of facelifts and felt very afraid.
4. The documentary on television mentioned in paragraph 3 was about
 - a. the discovery of cells.
 - b. the restoration of cells.
 - c. the appearance of cells.
5. The anti-age products that Mary watched on television were from
 - a. companies that she could not trust.
 - b. companies that were responsible with the treatment of the skin.
 - c. unknown companies
6. Mary got
 - a. excellent results with the use of the products advertised on TV.
 - b. average results with the use of the products advertised on TV.
 - c. terrible results with the use of the products advertised on TV.
7. According to the context in the last paragraph, the word ***prominent*** in the phrase “A **prominent celebrity skin care doctor...**” most probably refers to
 - a. the celebrity
 - b. the doctor
 - c. the skin

Note. Taken from “A Mom Outsmarts,” 2012, *24 News*.



Worksheet 21

No: _____

Date: _____

Read the article and do the exercises below. Check the vocabulary list first.

Vocabulary:

crop = cultivo

pamper = mimar

flagging = que escasea

current = actual

harvest = cosecha

threaten = amenazar

survival = supervivencia

wildlife = vida salvaje

vineyards = viñedos

resources = recursos

volatility = variabilidad, impredecibilidad

gather = reunir

warmth = calor

rainfall = lluvia

undergo = experience

viticulture = viticultura (cultivo de uvas)

Scientists Question Impact as Vineyards Turn Up in New Places

1 For more than a decade, wine experts have discussed the impact of climate change on wine grapes, agriculture's diva, a crop nurtured and pampered around the world. Now scientists are raising a new question: when



grapes are transported to new areas, assuming warming weather and flagging rain make current regions unsuited to such harvests, what will the crop's arrival do to the animals and plants already in residence?

2 “One of the adaptation strategies for grape growers will be to move into areas that have a suitable climate,” said Rebecca Shaw, a scientist at the Environmental Defense Fund and an author of a new paper to be published Monday in the Proceedings of the National Academy of Sciences. “This adaptation has the potential to threaten the survival of wildlife.” Or, in the words of the new study, “Vineyards have long-lasting effects on habitat quality and may significantly impact freshwater resources.” In addition to introducing sterilizing chemicals and fertilizers, which remake the ecosystem, mature vineyards “have low habitat value” for native species “and are visited more often by nonnative species.”

3 A year ago, a Stanford climate scientist, Noah Diffenbaugh, did a study predicting that increased atmosphere heat would result in higher corn price volatility. But the wine industry presents a more refined target for study, given the crop's sensitivity and the generations of information that have been gathered on how much sunshine, rain and warmth will produce a grape with the ideal balance of sugar and acid.

4 The wine industry has undergone more than 15 years of climate-driven change. Nonetheless, it remains firmly centered in its traditional heartlands — Burgundy in France, Tuscany in Italy, California in the United States. But these traditional regions — particularly those that seemed to have the perfect blend of soil, sunshine and temperature — are facing an uncertain future.



5 In the new paper, the authors use 17 different climate models to anticipate which current wine areas will face increasing heat and loss of rainfall, and which areas will warm up sufficiently to be hospitable to viticulture. They predict that under most climate models, as much as 47 percent of land suitable for wine grapes will be lost in the areas of Chile that have a Mediterranean-like climate. They also indicate that 59 percent of wine country in western North America — mostly in California — will be severely stressed by heat and declining rainfall, and that 74 percent of such land in Australia will no longer be compatible with viticulture. The equivalent figure for Mediterranean areas of Europe is the most striking; 85 percent of currently suitable lands would become unfriendly to vineyards by 2050.

A. Vocabulary exercise. Find in the text the compound noun that corresponds to each definition below and write it on the line.

1. People who know everything about wine (paragraph 1)

2. A variation in the weather (p. 1)

3. Grapes that are used to make wine (p. 1)

4. Plans for adjustment (p. 2)

5. People who cultivate grapes (p. 2)

6. An institution for the defense of the environment (p. 2)



7. Kind of a territory or environment (p. 2)

8. Reserves of drinkable water (p. 2)

9. A scientist from Stanford that studies climate (p. 3)

10. A hot sensation in the atmosphere (p. 3)

11. Changes in the price of corn (p. 3)

12. A change controlled by the climate (p. 4)

13. Examples of weather (p. 5)

14. Territories where wine is produced (p. 5)

B. Write TRUE or FALSE on the line next to the sentences below.

1. According to paragraph 1, climate change would act as a chain, indirectly affecting many plants and animals. _____

2. From paragraph 2 we understand that vineyards do not have any negative effect on the resources of drinkable water. _____

3. According to paragraph 3, if the heat in the atmosphere increases, the production of corn would be higher. _____

4. According to paragraph 4, the changes in the industry of wine in the last 15 years have been caused by climate variations. _____



5. According to the models of climate mentioned in paragraph 5, the main areas where wine is produced today are not in danger of being affected by climate change. _____

Note. Text taken from "Scientists Question Impact as Vineyards Turn Up in New Places," by F. Barringer, 2013, *The New York Times*.

Worksheet 22

No: _____

Date: _____

Read the article and do the exercises below. Check the vocabulary list first.

Vocabulary:

release = lanzar, liberar

loss = pérdida

tax = impuesto

income = ingreso

per ton = por tonelada

decrease = reducir

point out = señalar

increase = aumentar

fuel = combustible

coal = carbón

unavoidable = inevitable

iron = hierro

broadly = ampliamente

steel = acero

ripple = propagarse

reliably = confiadamente

goods = bienes

preempt = evitar

rebate = reembolsar

scuttle = ahuyentar

offset = compensar

bill = proyecto de ley

proposal = propuesta

Gross Domestic Product (GDP) = Producto Interno Bruto



400,000 Lost Jobs by 2016 – Heritage Study of Boxer-Sanders Carbon Tax Proposal

1 Heritage Foundation analysts David Kreutzer and Kevin

Dayaratna yesterday released a study on the economic impact of carbon tax legislation (the Climate Security Act of 2013) sponsored by Senators Barbara Boxer and Bernie Sanders. The Boxer-Sanders legislation would establish a new tax that starts at \$20 per ton of carbon dioxide (CO₂) emitted and increases by 5.6% annually.

2 As Kreutzer and Dayaratna point out, hydrocarbon fuel supply 85% of all the energy Americans use, and “basic chemistry” dictates that CO₂ will be emitted when those fuels are burned to release energy. The economic implications of those facts are significant and unavoidable: a tax on CO₂ would be a tax on the 85 percent of energy derived from hydrocarbons and would increase energy costs broadly. The higher energy costs would ripple through the economy, driving up costs of production of virtually all goods and services. Faced with higher costs for energy and other goods, consumers would cut consumption, translating into a reduction in sales and a marked decline in employment. Though rebating the tax partially offsets these impacts, there would still be a net loss of income and jobs.

3 Using an energy model derived from the Energy Information Administration’s National Energy Model System (NEMS), the Heritage scholars calculate that, compared to a no-carbon tax baseline, the Boxer-Sanders proposal would:

- Reduce the income of a family of four by more than \$1,000 per year.
- Reduce employment by more than 400,000 jobs in 2016.



- Decrease coal production by 60% and coal employment by more than 40% by 2030.
- Decrease employment 10.4% and 20.9% in the iron and steel and aluminum industries, respectively, by 2030.
- Increase gasoline prices \$0.20 by 2016 and \$0.30 before 2030.
- Increase electricity prices 20% by 2017 and more than 30% by 2030
- Increase federal taxes by \$3 trillion through 2030.
- Reduce GDP (Gross Domestic Product) by \$92 billion in 2020 and \$146 billion in 2030.
- Decrease projected global warming by, at most, 0.11C by 2100 [probably too little to be reliably detected].

4 The Boxer-Sanders proposal exhibits the same old abysmal cost-benefit ratio that preempted U.S. ratification of the Kyoto Protocol and scuttled the Waxman-Markey bill. Boxers and Sanders must surely know that a carbon tax has no chance of passing as a stand-alone bill. The Climate Security Act is thus a messaging bill designed to move public debate in favor of including carbon taxes in “comprehensive tax reform.” The Heritage study is a valuable and timely antidote to the message Boxer and Sanders are promoting.

A. Vocabulary exercise. Find in the text the compound noun that corresponds to each definition below and write it on the line.

1. Specialists who make the analyses for the Foundation named Heritage (paragraph 1)

2. A set of rules to make people pay a tariff for carbon emissions (p. 1)



3. Laws made by Boxer and Sanders (p. 1)

4. Prices for the use of energy (p. 2)

5. People who make the studies for Heritage (p. 3)

6. The costs of gasoline (p. 3)

7. The net product that is generated inside a country (p. 3)

8. A law for the safety of climate (p. 4)

B. Write TRUE or FALSE on the line next to the sentences below.

1. The Boxer-Sanders legislation is a legislation that wants to impose a tax on the emissions of carbon dioxide. _____

2. Hydrocarbon fuel is the main source of energy in the U.S. _____

3. According to paragraph 2, a tax on CO₂ would not have a big impact on The economy of the United States. _____

4. We can infer from paragraph 3 that the Heritage scholars are more interested in having a healthy environment than in saving the economy of the United States. _____

5. The conclusion of the article in paragraph 4 is in favor of the Climate Security Act by Boxer and Sanders. _____

Note. Text taken from "400,000 Lost Jobs by 2016 – Heritage Study of Boxer-Sanders Carbon Tax Proposal," by M. Lewis, 2013, *Global Warming.org*.



Appendix G

Observation Sheet												
Class: _____			Topic: _____				Date: _____					
A. Students not paying attention during PPP												
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Notes:												
B. Students taking notes during PPP												
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Notes:												
C. Students that participated voluntarily												
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Notes:												
D. Students doing other things during tasks (speaking, using cell phones, etc.)												
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Notes:												
E. Students very engaged in written exercises												
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Notes:												
F. Students very engaged in reading exercises												
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Notes:												



G. Students very engaged in game

— — — — — — — — — — — — — —
— — — — — — — — — — — — — —

Notes:

H. Students who asked questions

— — — — — — — — — — — — — —
— — — — — — — — — — — — — —

Notes:

Note. Adaptation of Nunan's (1989).



Appendix H

Quizzes

Quiz 1

No: _____

Date: _____

A. Write *n.* (noun) or *adj.* (adjective) next to the words below.

legend _____

delicious _____

land _____

successful _____

skin _____

B. Complete the sentences with an appropriate word (noun or adjective)

1. Apples are _____. (give a description)

2. Kate works in a _____. (name the place)

3. A good friend is somebody who is _____. (give a description)

4. The virtue of being honest is called _____. (name the virtue)

5. A person who teaches in a school is called a _____. (name the person)

**C. Identify nouns and adjectives. What were the words you wrote in B?
Check (✓)**



- | | |
|---------------|-----------------|
| 1. noun _____ | adjective _____ |
| 2. noun _____ | adjective _____ |
| 3. noun _____ | adjective _____ |
| 4. noun _____ | adjective _____ |
| 5. noun _____ | adjective _____ |

Quiz 2

No: _____

Date: _____

A. The following list contains adjectives and nouns with suffixes. Check (✓) 6 nouns.

1. superficiality _____
2. superficial _____
3. responsible _____
4. evolution _____
5. judgment _____
6. computer _____
7. weak _____
8. formal _____
9. visitor _____



10. darkness _____

B. Choose an abstract noun or an adjective from each pair to complete the following sentences.

1. We need an _____ person to be our president. (honest / honesty)

2. _____ is the best quality to make friends. (sincere / sincerity)

3. _____ makes people smile. (happy / happiness)

4. People cry when they are _____. (sad / sadness)

5. _____ is necessary to be successful. (intelligent / intelligence)

QUIZ 3

No: _____

Date: _____

A. Check (✓) the compound nouns (N+N) in the following list:

1. glass window _____

2. large door _____

3. afternoon coffee _____

4. sing beautifully _____

5. night table _____

B. Make 5 compounds that make sense from the following list. Then choose 3 and use them in sentences.



apartment

table

basketball

movie

building

bathroom

director

curtain

lamp

player

COMPOUNDS

1. _____

2. _____

3. _____

C. Read the following paragraph and translate it.

This is my typical morning routine: each weekday morning I eat breakfast in the living room, while checking my email correspondence and reading news websites or some research papers. Unless it is a rest day in my training schedule, I pack some running clothes and shoes. If the weather looks bad, I'll take my rain jacket before leaving. By the time I begin my bicycle trip to the University Computer Laboratory, I have already found a lot of concepts that are best expressed by combinations of nouns.



Note. Text taken from "Learning compound noun semantics," by D. Ó Séaghdha, 2008, *Technical Report*, 715, p. 11.

QUIZ 4

No: _____

Date: _____

A. Write the number of each compound under the category that best describes it.

CAUSE1	CAUSE2	HAVE1	HAVE2	MAKE1	MAKE2	USE	BE	IN	FOR	FROM	ABOUT
flu	snow	college	company	honey	daisy	water	candy	city	pain	bacon	love
virus	blindess	town	asssets	bee	chains	wheel	bar	hotel	pill	grease	story

(Levi, 1978).

1. gas stove

7. glass window

2. stress agent

8. computer laboratory

3. influenza vaccine

9. detective story

4. school teacher

10. beach house



5. accident damage

11. dancer excellence

6. seafood

12. car manufacturer

B. Read the paragraph and circle the appropriate response to the questions below.

LIFESTYLE CHANGES FOR HEART FAILURE

In case of heart failure risk, there are three habits that you should avoid or limit in order to alleviate the symptoms, slow your disease progression and improve your everyday life. First, you should quit smoking. Each puff of nicotine from tobacco smoke temporarily increases heart rate and blood pressure, as less oxygen-rich blood circulates through the body. Smoking also leads to clumping or stickiness in the blood vessels feeding the heart. Avoiding alcohol is also advisable. If you drink alcohol, do so in moderation. This means no more than one to two drinks per day for men and one drink per day for women. Besides, you should avoid or limit caffeine. Consume only a moderate amount of caffeine per day, no more than a cup or two of coffee. People who quit these habits are more likely to have their heart failure symptoms improve.

1. *Heart failure risk* means
 - a. that the heart fails when we take risks
 - b. the dangerous possibility of a collapse of the heart clump
 - c. that a risk involves heart failure
2. The paragraph implies that the avoidance of the habits mentioned
 - a. will eliminate the disease
 - b. will make the heart failure disease progress



- c. will retard the evolution of the heart failure disease.
3. According to the paragraph,
- a. nicotine from tobacco smoke increases the pressure in the blood for some time.
 - b. nicotine from tobacco smoke increases the blood in the pressure for some time.
 - c. nicotine from tobacco smoke increases the pressure in the blood permanently.
4. The sentence *Smoking also leads to clumping or stickiness in the blood vessels feeding the heart* gives the idea of
- a. adherences and thickness of the blood inside the vessels preventing an easy flow of the blood into the heart.
 - b. the vessels sticking into the heart.
 - c. smoke adheres to the vessels and into the heart.
5. The conclusion of the paragraph that heart failure symptoms might improve if people quit these habits, in this context means that
- a. the symptoms of the disease will increase
 - b. the symptoms of the disease will disappear
 - c. the symptoms of the disease will become less severe.

Note. Categories taken from "Learning compound noun semantics," by D. Ó Séaghdha, 2008, *Technical Report*, p.17; Text taken from "Lifestyle Changes," 2015, *American Heart Association*.

QUIZ 5	
No: _____	Date: _____



Read the following article and do the exercises below.

Vocabulary:

pollination = polinización

candles = velas

aid = ayuda

source = origen

sticky = pegajoso

varnish = barniz

wax = cera

resin = resina

gland = glándula

comb = panal

glue = goma

swelling = hinchazón

furniture = mobiliario

seal = sellar

itching = picazón

polish = pulimento

hive = colmena

sting = aguijón, picadura

Honeybee Facts

Pollination

Agriculture depends greatly on the honeybee for pollination. Honeybees account for 80% of all insect pollination. Without such pollination, we would see a significant decrease in the yield of fruits and vegetables.

Pollen

Bees collect 66 lbs. of pollen per year, per hive. Pollen is the male germ cells produced by all flowering plants for fertilization and plant embryo formation. The Honeybee uses pollen as a food. Pollen is one of the richest and purest natural foods, consisting of up to 35% protein, 10% sugars, carbohydrates, enzymes, minerals, and vitamins.

Honey

Honey is used by the bees for food all year round. There are many types,



colors and flavors of honey, depending upon its nectar source. The bees make honey from the nectar they collect from flowering trees and plants. Honey is an easily digestible, pure food. Honey has antibacterial qualities. Eating local honey can fend off allergies.

Beeswax

Secreted from glands, beeswax is used by the honeybee to build honey comb. It is used by humans in drugs, cosmetics, artists' materials, furniture polish and candles.

Propolis

Collected by honeybees from trees, the sticky resin is mixed with wax to make a sticky glue. The bees use this to seal cracks and repair their hive. It is used by humans as a health aid, and as the basis for fine wood varnishes.

Royal Jelly

The powerful, milky substance that turns an ordinary bee into a Queen Bee. It is made of digested pollen and honey or nectar mixed with a chemical secreted from a gland in a bee's head. It is used by some as a dietary supplement and fertility stimulant. It is loaded with all of the B vitamins.

Bee Venom

The "ouch" part of the honeybee. Although sharp pain and some swelling and itching are natural reactions to a honeybee sting, "bee venom therapy" is widely practiced overseas and by some in the USA to address health problems such as arthritis, neuralgia, high blood pressure, and high cholesterol.



- A.** Underline at least 5 compound nouns you find in the reading.
- B.** Write these compounds below and translate them using the context for understanding.
- C.** Write TRUE or FALSE on the lines next to the sentences below.
1. Honeybees are the only insects that carry out pollination. _____
 2. Pollen is the feminine cell for reproduction in plants. _____
 3. The type, color, and flavor of honey depend on where it comes from. _____
 4. The wax produced by bees damages your furniture. _____
 5. Propolis is dangerous for your health. _____
 6. Royal jelly stimulates fertility in people. _____
 7. Bee Venom can cure some diseases, such as arthritis and high blood pressure. _____

Note. Text taken from "Honeybee Facts," n.d., *Back Yard Beekeepers Association*.

QUIZ 6

No: _____

Date: _____

I. Check the vocabulary:

whole = todo, el conjunto goods = bienes, cosas safety = seguridad

vary = variar currency = moneda enforcement = ejecución

counter = argumentar counterfeiting = falsificación powers = poderes



border = frontera head = presidente arrangements = arreglos

approach = estrategia

divisional = relacionado a una división de una organización

II. Read the following article and do the exercises below.

FEDERAL LAW ENFORCEMENT AGENCY JURISDICTION

When the country has a federal constitution, a whole of country law enforcement agency is referred to as a federal law enforcement agency. The responsibilities of a federal law enforcement agency vary from country to country. Federal law enforcement agency responsibilities are typically countering fraud against the federation, immigration and border control regarding people and goods, investigating currency counterfeiting, policing of airports and protection of designated national infrastructure, national security, and the protection of the country's head of state and of other designated very important people, for example the Protective Service of the Australian Federal Police, or the Protective Mission of the United States Secret Service, and the U.S. State Department's Diplomatic Security Service.

A federal police agency is a federal law enforcement agency which also has the typical police responsibilities of social order and public safety as well as federal law enforcement responsibilities. However, a federal police agency will not usually exercise its powers at a divisional level. Such exercising of power is typically via specific arrangements between the federal and divisional governing bodies.

Examples of federal law enforcement agencies are the Australian Federal



Police (Australia), the Central Bureau of Investigation (India), the United States Park Police (United States), and the State Security Service (Nigeria).

A federated approach to the organization of a country does not necessarily indicate the nature of the organization of law enforcement agencies within the country. Some countries, for example, Austria and Belgium, have a relatively unified approach to law enforcement, but still have operationally separate units for a federal law enforcement and divisional policing. The United States has a highly fractured approach to law enforcement agencies generally, and this is reflected in the country's federal law enforcement agencies.

A. Underline all the compound nouns (N+N+N and N+N+N+N) in the article.

B. Circle the letter of the correct answer.

1. Which of the following was **not** mentioned as a responsibility of a federal law enforcement agency?
 - a. immigration control
 - b. investigating the production of false money
 - c. student protests

2. How would you translate into Spanish the last phrase of the first paragraph ***the U.S. State Department's Diplomatic Security Service?***
 - a. Los Estados Unidos Estado Departamento del Diplomático de la Seguridad del Servicio
 - b. El Departamento de Estado de los Estados Unidos del Servicio Diplomático de Seguridad
 - c. El Servicio Diplomático de Seguridad del Departamento de Estado de



los Estados Unidos

3. Which one of the following sentences is **not** true for a **federal police agency** according to the second paragraph?
- a. It is a type of federal law enforcement agency.
 - b. It represents order for society and safety for the people.
 - c. It usually enforces the law at a divisional level.
4. How would you translate into Spanish the example mentioned in paragraph 3, **the United States Park Police**?
- a. Los Estados Unidos, el Parque y la Policía
 - b. La Policía parquea en los Estados Unidos
 - c. La Policía de Parques de los Estados Unidos
5. How would you translate into Spanish the example mentioned in paragraph 3, **the State Security Service**?
- a. El Servicio de Seguridad del Estado
 - b. El Estado, Seguridad y Servicio
 - c. El Estado del Servicio de Seguridad
6. The main idea of the last paragraph is that
- a. law enforcement agency organization in a country depends on the particular organization of the country.
 - b. law enforcement agency organization in a country does not depend on the particular organization of the country.
 - c. a federal organization of a country needs a federal organization of law enforcement agencies.

Note. Text taken from "Law Enforcement," 2016, *Wikipedia, the free encyclopedia*.



QUIZ 7

No: _____

Date: _____

I. Check the vocabulary:

moisturizer = humectante enhance = mejorar moist = humedad

serum = suero hydration = hidratación available = disponible

improve = mejorar seaweed = alga marina

II. Read the advertisement below.

Derma Perfect Cell Revival

If you are not happy with your regular skin care cream and moisturizers start using Derma Perfect Cell Revival serum. This anti-wrinkle serum is a quality formula that has been scientifically developed to improve cell growth and fight ageing signs on your skin.

This product claims to give you a smooth, ageless and radiant skin texture within a matter of seven days on applying this serum daily on your skin.

It is a natural skin lift formula that tightens your skin pores and reduces wrinkles. It also brings additional skin firmness and elasticity. It gives radiance to your skin and significantly enhances hydration because it retains the necessary skin moist and fights against dryness from your texture.

The product is composed of seaweed extracts, seed oil and rice protein. This moisturizing formula is very effective. It results in minimal wrinkle depth.



Use it regularly to get better results. This skin revitalizing formula is available in the online stores.

III. Underline the phrases Adjective(s) + N+N and Adjective(s) + N+N+N

IV. Circle the letter of the correct response.

1. A regular skin care cream is a
 - a. special cream for the treatment of your skin.
 - b. cream for the treatment of your skin that does not have anything special.
 - c. skin that is not used to very good creams.
2. The first paragraph is trying to
 - a. advertise a serum that provides an ideal renewal of the cells of your skin.
 - b. give a scientific formula to improve your skin.
 - c. develop a new formula to create a serum.
3. The result of the use of this serum for seven days is
 - a. a skin with age
 - b. a young appearance in your skin
 - c. to make you feel radiant
4. The product mentioned in this article contains
 - a. a natural formula to lift your skin.
 - b. natural pores.
 - c. a natural formula to produce wrinkles.
5. Which of the following is true according to paragraph 3?
 - a. moist is necessary for the skin



- b. moist is not related to hydration
 - c. dryness is necessary for a radiant skin
6. The serum advertised above has
- a. produced deep wrinkles
 - b. given minimal results
 - c. reduced wrinkles to a minimum

Note. Text taken from "Derma Perfect," n.d., *Derma Perfect Antiaging*.



Appendix I

Questionnaires

Questionnaire 1

No: _____

Date: _____

Give your personal opinion when answering these questions. You can answer in Spanish.

1. Do you understand better the difference between a noun and an adjective now?

YES _____

NO _____

2. What is not very clear yet?

3. What can *you* do to help yourself understand the difference better?

(Try to do it!)

Questionnaire 2

No: _____

Date: _____

Give your personal opinion when answering these questions. You can answer in Spanish.

1. Can you differentiate between an adjective and the noun with a suffix derived



from it, for example, *sad* vs. *sadness*?

YES _____

NO _____

2. If not, what is not very clear yet?

3. What can *you* do to help yourself understand the difference better?

(Try to do it!)

Questionnaire 3

No: _____

Date: _____

Give your personal opinion when answering these questions. You can answer in Spanish.

1. Can you identify a compound noun now?

YES _____

NO _____

2. If not, what is difficult about that identification?

3. What can *you* do to help yourself to identify compound nouns better?

(Try to do it!)

Questionnaire 4



No: _____ Date: _____

Give your personal opinion when answering these questions. You can answer in Spanish.

1. Can you interpret a compound noun better?

YES _____ NO _____

2. If not, what is difficult about that interpretation?

3. What can *you* do to help yourself interpret compound nouns better?

4. Has the practice on compound noun interpretation helped you understand better the parts of readings where they appear?

Questionnaire 5

No: _____ Date: _____

Give your personal opinion when answering this question. You can answer in Spanish.

Has the practice on compound noun interpretation helped you understand better the parts of readings where they appear? Can you explain?



Questionnaire 6

No: _____

Date: _____

Give your personal opinion when answering these questions. You can answer in Spanish.

1. Can you interpret the compounds (N+N+N) and (N+N+N+N) better?

YES _____

NO _____

2. If not, what is difficult about that interpretation?

3. What can *you* do to help yourself interpret compound nouns better?

4. Has the practice on compound noun interpretation helped you understand better the parts of readings where they appear?

YES _____

NO _____

Questionnaire 7

No: _____

Date: _____

Give your personal opinion when answering these questions. You can answer in Spanish.

1. Can you interpret the structures Adjective(s) + N+N+N and Adjective(s) + N+N+N+N better after the practice?



YES _____

NO _____

2. If not, what is difficult about that interpretation?

3. What can *you* do to help yourself interpret those structures better?

4. Has the practice with the structures Adjective(s) + N+N+N and Adjective(s) + N+N+N+N helped you understand better the parts of readings where they appear?

YES _____

NO _____

5. If you answered NO, could you explain why these structures are still difficult to understand when reading?



Appendix J

Posttest 1

(A & B measure awareness of the structure: identification of compound nouns)

(C: measures understanding of the way the structure functions: decoding compound nouns through translation)

A. Check (✓) 10 compound noun phrases (N + N), (N+N+N) or (N+N+N+N) in the following list.

1. flu virus _____
2. behind the door _____
3. microscopic life _____
4. community infrastructure needs _____
5. bacon grease _____
6. interesting story _____
7. Margaret's sister _____
8. solar system _____
9. cheese knife _____
10. rain jacket _____
11. goal statements _____
12. incredibly high heels _____
13. inventory style analyses _____
14. domestic energy _____
15. life skills section _____
16. organization intervention projects _____
17. technical schools _____
18. Food Policy Research Institute _____
19. for years to come _____
20. Earth's last unexplored frontiers _____

B. Underline ten compound nouns (N+N) or (N+N+N) in the following sentences.



1. The university authorities did not pay attention to the students' protest asking for more practice opportunities as language learners.
2. Real private detectives usually investigate not-particularly-lucrative insurance fraud schemes.
3. Why are you wearing a sweater? Didn't you listen to the weather report? It's going to be very hot by noon.
4. Somebody took the paper from the printer tray.
5. The U.S. Food and Drug Administration approves pump for heart failure patients awaiting heart transplant.

C. Translate the sentences below.

1. The university authorities did not pay attention to the students' protest asking for more practice opportunities as language learners.

2. Real private detectives usually investigate not-particularly-lucrative insurance fraud schemes.

3. Why are you wearing a sweater? Didn't you listen to the weather report? It's going to be very hot by noon.

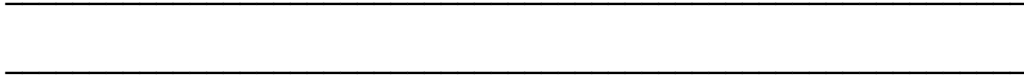
4. Somebody took the paper from the printer tray.

5. The U.S. Food and Drug Administration approves pump for heart failure



UNIVERSIDAD DE CUENCA

patients awaiting heart transplant.





Appendix K

Posttest 2

(Measuring reading comprehension taking into account a presumed understanding of the way the compound noun structure functions)

Read the passage and circle the letter of the appropriate response to each of the questions below.

E.P.A. Will Delay Rule Limiting Carbon Emissions at New Power Plants

- 1 The Environment Protection Agency said Friday that it would postpone the official announcement of a new rule limiting emissions of carbon dioxide and other greenhouse gases from new power plants after the electric power industry objected on legal and technical grounds.
- 2 The rule, proposed a year ago and scheduled to be finalized on Saturday, was going to implement the first restrictions on climate-altering gases from the power sector in the United States. Agency officials said it would be rewritten to address the concerns expressed by the industry, which said that strict new carbon standards could not be met using existing technology.
- 3 Newer power plants, burning natural gas already, easily meet the new standards, so the rule presents little obstacle for new gas plants. But the rule would have effectively killed any new coal-fired plants, because they emit nearly twice as much carbon per unit of electricity as natural gas plants and there is currently no available technology to bring their emissions under the limit.
- 4 Coal today provides about 40 percent of electricity generation in the United States and is the single-largest source of emissions associated with global



warming. Coal industry officials and coal-state politicians denounced the rule for new power plants as part of what they termed the administration's concerted "war on coal" and flooded the E.P.A. with hostile comments. Utility industry officials pointed out that the new rule broke with past agency practice by grouping together all types of power plants under a single emission standard, rather than adjusting the limits depending on location, fuel source, combustion technology and other factors. Industry officials said they expected the agency to rewrite the rule to provide more flexibility and to allow different limits for different types of plants.

5 David Doniger, the director of the climate and clean air program at the Natural Resources Defense Council, said that "Millions of Americans concerned about climate change sent in public comments demanding strong carbon pollution standards for both new and existing plants, and E.P.A. needs to act without further postponement."

("Energy Drinks," 2012).

1. The Environment Protection Agency mentioned in paragraph 1 is

- a. an environment that gives protection to an agency.
- b. protection of the environment and the agency.
- c. an agency for the protection of the environment.

2. The restrictions that were going to be implemented by the rule referred to

- a. gases that alter the climate and which are produced by the world power industry.
- b. gases that alter the climate and which are produced by the U.S. power



industry.

- c. the climate that alters the gases in the United States.
-
3. According to the context, the compound “agency officials” mentioned in paragraph 2 means
 - a. officials that work for the power sector.
 - b. officials that work for the Environment Protection Agency.
 - c. agencies with officials.

 4. We infer from paragraph 2 that according to the U.S. power industry,
 - a. if the new norms for carbon are strictly applied, all existing technology would have to disappear.
 - b. strict new carbon is standard.
 - c. the strict new norms for carbon could not be known by the technology that exists today.

 5. In the context of paragraph 3, gas plants are
 - a. plants that use natural gas to produce power.
 - b. plants that produce natural gas.
 - c. plants that produce emissions of dangerous gases.

 6. According to paragraph 3,
 - a. plants that burn natural gas emit more carbon than plants that burn coal.
 - b. plants that burn coal emit more carbon than plants that burn natural gas.
 - c. natural gas plants emit the same amount of carbon as coal-fired plants.



7. From paragraph 4, we infer that the production of electricity in the United States
- a. is the main contributing agent to global warming because it is practically based on coal.
 - b. is the only agent causing global warming in the world.
 - c. should not have much influence on global warming because it uses less than 50% coal.
8. Coal industry officials and coal-state politicians in the United States are against the new rule for new power plants because
- a. they are industries that officially use coal and states that use politicians to defend coal, respectively.
 - b. they are officials who make coal for the industry and state politicians that agree with the use of coal.
 - c. they are officials who work for the industry that uses coal and politicians that represent the states that produce coal, respectively.
9. The officials of the utility industry said that with the new rule,
- a. the agency practices with groups of power plant emissions.
 - b. the agency ended with the past practice of adjusting the limits depending on location, the origin of the fuel, the technology used for combustion and other considerations.
 - c. the agency ended with the past habit of grouping together power plants under one emission norm.



10. The last paragraph wants to give the idea that
- a. a lot of Americans are seriously worried about the change in climate and want strong norms against the pollution by carbon not only for new plants but for all of them.
 - b. millions of Americans do not really represent most of them.
 - c. millions of Americans are against carbon pollution standards.



Appendix L

Final Questionnaire

No _____ Date: _____

1. ¿Cómo evalúa usted su suficiencia en la lectura comprensiva del inglés en general? (Encierre en un círculo una opción)

Excelente Buena Regular Mala

2. ¿Podría explicar por qué?

3. ¿Cómo evalúa usted la suficiencia que experimentó en la lectura comprensiva del inglés en cuanto a los textos practicados en clase?

(Encierre en un círculo una opción)

Excelente Buena Regular Mala

4. ¿Podría indicar por qué?

5. ¿Ha mejorado su visión de cómo abordar la lectura comprensiva del inglés el hecho de conocer la estructura de los nombres compuestos? (Encierre en un círculo una opción)

Sí No

6. ¿Podría indicar por qué?

7. ¿Notó usted que tuvo que entender las frases con nombres compuestos de derecha a izquierda? (Encierre en un círculo una opción)

Mucho Algo Nada



8. ¿Qué texto(s) fueron los más difíciles de entender?

9. ¿A qué se debió esa dificultad?

10. ¿Cómo compararía usted la enseñanza de los nombres compuestos con la de vocabulario y otras estructuras del idioma inglés para propósitos de lectura comprensiva? (Encierre en un círculo una opción)

Más importante

De igual importancia

Menos importante



Appendix M

Interview

1. ¿Cree usted que puede reconocer los nombres compuestos cuando lee las oraciones?
2. ¿Cree usted que entiende cómo funcionan los sustantivos compuestos mejor ahora que al comienzo del curso?
3. ¿Le ayudó el análisis de los inventarios de nombres compuestos de Levi y de Nastase y Szpakowicz a entender mejor las posibles interpretaciones de los sustantivos compuestos?
4. ¿Es importante el conocimiento del mundo y del contexto para descifrar los sustantivos compuestos? ¿Cuándo y por qué?
5. ¿Ha mejorado su lectura comprensiva después de la práctica con los sustantivos compuestos? ¿Por qué?