

**UNIVERSIDAD INTERNACIONAL DE LAS AMÉRICAS
VICERRECTORIA ACADÉMICA**

SCHOOL OF EDUCATION AND FOREIGN LANGUAGES

**ANALYSIS OF PROCEDURES AND METHODS USED TO
TRANSLATE SOME DOCUMENTS FROM ENGLISH TO
SPANISH AND OTHERS FROM SPANISH INTO ENGLISH FOR
UNIVERSIDAD NACIONAL DE COSTA RICA**

Thesis Submitted to Obtain the Licentiate Degree in English with Concentration in Translation

ANDREA FELIU GONZALEZ

THESIS MENTOR: M. Sc CATALINA GUERRERO TROYO

**SEDE ARANJUEZ
MARZO, 2020**

Acknowledgements

I want to express my gratitude to my thesis tutor, Catalina Guerrero Troyo, for her continuous support throughout this project as well as to the English Department Dean, Dinier Amador, whose support I have always had the opportunity to count on. Also, I would like to recognize the invaluable assistance that all my professors provided during my study. Finally, to Roxana Piedra, librarian of the Universidad Nacional de Costa Rica whose support and assistance were crucial to execute this investigation.

Dedication

I want to dedicate this investigation to my mother, whose endless support and love I can always count on. Also, I want to express my deepest gratitude to my dear friend Martin Gallagher, whose company always brightens the day.

Abstract

This research paper was executed to find out the effect of the applying technical translation methods and techniques in the translation of the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” from English to Spanish and “Escenarios para un nuevo régimen internacional de cambio climático” from Spanish to English for Universidad Nacional de Costa Rica.

To answer this question and consequently to get the results, the researcher analyzed the documents and based on the analysis, selected the best translation methods and translation techniques to apply to the documents. Also, the researcher created two glossaries, one for the text translated to Spanish and another one for the text translated to English, both of them include terminology that the researcher considers it is difficult or serves as an aid for the understanding of the texts.

Finally, the results, which were achieved through the application of the instruments: text analysis, color-coding, and glossaries, showed the effect of the translation method and techniques have on the target texts.

Resumen

Esta investigación se realizó con el fin de conocer el efecto que tienen los procedimientos y métodos de traducción utilizados para traducir los documentos “Technology in Language Use, Language Teaching, and Language Learning” y “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” del inglés al español y “Escenarios para un nuevo régimen internacional de cambio climático” del español al inglés para la Universidad Nacional de Costa Rica.

Para poder llevar a cabo esta investigación, y con el objetivo de obtener resultados, el investigador analizó los documentos y con base a este análisis, seleccionó los mejores métodos de traducción y las mejores técnicas de traducción para aplicarlas a los documentos, y así, analizar por qué una técnica específica es la ideal para lograr darle sentido al texto. Asimismo, el investigador creó dos glosarios, uno para el texto que se tradujo al español y otro para el texto que se tradujo al inglés.

El investigador logró alcanzar los objetivos por medio de la aplicación de los instrumentos del análisis de los textos, el código de color y los glosarios y así, demostró los efectos que tienen los métodos de traducción y las técnicas de traducción en los textos finales.

Table of Contents

Chapter I	15
<i>Introductory Framework</i>	15
<i>1.1 Problem Statement</i>	15
<i>1.2 Objectives of the Investigation</i>	17
<i>1.2.1 General Objective</i>	17
<i>1.2.2 Specific Objectives</i>	18
<i>1.3 Justification of the Study</i>	18
<i>1.4 Antecedents</i>	20
<i>1.5 Scope</i>	23
Chapter II	24
<i>Theoretical Framework</i>	24
<i>2.1 Text Analysis</i>	24
<i>2.1.4 Translation Methods</i>	33
<i>2.2 Translation Procedures</i>	35
<i>2.3 Glossaries</i>	45
Chapter III	49
<i>Methodological Framework</i>	49
<i>3.1. Research Approach</i>	49
<i>3.1.1. The Quantitative Approach</i>	50
<i>3.2. Research Design</i>	53
<i>3.3. Information Sources</i>	54
<i>3.4. Analysis of Categories</i>	55
<i>3.5. Data Collection Instruments</i>	57
<i>3.6. Collection Data Process and Data Analysis</i>	61
Chapter IV	63
<i>Translated texts</i>	63
<i>4.1 Translation of the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” from English to Spanish</i>	63

<i>4.2 Translation of the document “Escenarios para un nuevo régimen internacional de cambio climático” from Spanish to English</i>	<i>114</i>
<i>Chapter V</i>	<i>165</i>
<i>Data Analysis</i>	<i>165</i>
<i>5.1 Analysis and Interpretation of the Results</i>	<i>165</i>
<i>5.1.3 Glossary</i>	<i>201</i>
<i>Chapter VI</i>	<i>205</i>
<i>Conclusions and Recommendations</i>	<i>205</i>
<i>References</i>	<i>212</i>
<i>Annexes</i>	<i>215</i>

Table of Tables

Table 4 Text Analysis 1	166
Table 5 Color Coding 1	168
Table 6 Glossary from English to Spanish 1	201
Table 7 Glossary from Spanish to English 1	203

Chapter I

Introductory Framework

In this chapter, the researcher aims to provide background information, historical facts related to the topics of the investigation as well as explain the problem statement, the justification of the study, the general and specific objectives, the antecedents, and the scope of this research.

1.1 Problem Statement

Since ever, communication has been an essential aspect of humanity, and the field of translation aims to achieve it faithfully. It was commonly believed that word for word translation was the correct way to transmit ideas; in addition, other experts believed that translation had a different approach, that is, sense for sense. This approach helped the translator create more aesthetic texts full of details, which transmit the intended message with more accuracy. After the intervention of many scholars from different continents and throughout many decades, it was determined that a translator should not follow only one approach.

Different kinds of texts require different translational processes. According to Newmark (1988), a translator can be an interpreter or an intruder, a messenger or a carrier, a source modifier or can even possess an invisible identity; furthermore, the translator must use a combination of methods and procedures to convey meaning, preserve the original ideas from the source text, and adapt them into the target language culture. This research aims to demonstrate that the translation field is complex and interdisciplinary, furthermore, proper training, practice, and skills are crucial

to render the message in reliably and appropriately. I.A.Richards in his book *Toward a Theory of Translating* (1953) expressed that the translation process “may very probably be the most complex type of event yet produced in the evolution of the cosmos” (Nair, p. 32).

The general objective of the researcher is to analyze the effect of the translation procedures and methods on the translated documents; this objective will be achieved through the investigation of such translation methods and procedures, as well as with the investigation of text analysis theories and the actual analysis of the translated texts. This will help to determine which process is the more adequate one to create a truthful and high-quality translation.

A problem statement aims to present the problem in context; it describes the precise issue the researcher will address, also it shows the relevance of the study and the objectives to be pursued in the investigation. Therefore, in order to achieve the general objective of this study, the researcher has written down the specific objectives, which will be an aid to define the focus of the study. According to Open University (2017), the specific objectives aim to identify the variables to be measured, as well as to indicate the various steps involved in the study and to avoid the collection of any unnecessary data that do not serve the main objective of the research. The first specific objective is the translation of the texts, the researcher will translate from the source language (SL) into the Target Language, this objective will be accomplished by analyzing the texts using a text analysis chart.

The second objective is to apply various technical translation techniques to the documents to achieve semantic texts. Once the two texts are translated, a thorough revision is needed in order to verify style, formality, tone, coherence, and make sure the intention of the author and text content have been transmitted. The third objective is to evaluate the effect of the technical translation techniques applied on the documents. This objective will be achieved by selecting

fifteen paragraphs from each text in order to analyze and identify the translation procedures with a color code designed for this study. Finally, the fourth to create a glossary with the most relevant terminology found in both texts. This is significant for the researcher since the glossary will help to keep track of important terminology which is necessary to achieve a coherent translation.

Through the development of this research and by using the general and specific objectives as means to create a coherent study, the researcher will be able to answer the research question proposed for this investigation, A research question identifies, not only the general idea of the topic, but also what the researcher is trying to discover and share with the audience. For this investigation, the researcher will be able to answer the following question: What are the effects of applying technical translation techniques in the translation of some documents from Spanish to English and others from English to Spanish for a public university?

1.2 Objectives of the Investigation

The Cambridge Dictionaries Online (2015) defines an objective as something an individual or organization aims to achieve in a certain amount of time using different resources. In a research, it all comes down to putting all the efforts together to present a solution for a problem, hence accomplish a general or specific goal. The general objective is broad and the specific ones will help meet the general.

1.2.1 General Objective

To analyze the effect of translation procedures to translate some documents

1.2.2 Specific Objectives

- To translate the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” from English to Spanish and “Escenarios para un nuevo régimen internacional de cambio climático” from Spanish to English
- To apply various technical translation techniques to the documents in order to achieve semantic texts
- To evaluate the effect of the technical translation techniques applied to the documents
- To create a glossary with the most relevant terminology found in both texts

1.3 Justification of the Study

The purpose of this study is to analyze the effect of the translation methods and procedures of the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” from English to Spanish and “Escenarios para un nuevo régimen internacional de cambio climático” from Spanish to English for the organization, which provided the texts to the investigator who worked on the application of the methods and techniques to deliver a final job to benefit the organization and its audience.

The first main reason this investigation is beneficial is that it helps the library of the Universidad Nacional, which requires documentation in both languages (Spanish and English) to be translated, so the information can be transmitted and shared with students, professors and researchers. For UNA, it is crucial to expand and have available their library content available in both languages, specifically documentation related to the division of natural and exact Sciences, which is the primary focus of this institution. Moreover, the information will grant knowledge to

those readers who are unable to understand one language or the other. They will be helped with a translated version in their native tongue, which can be used for any particular purpose.

Secondly, this investigation will benefit the students and professors of the English Department of Universidad Internacional de las Américas because it will be submitted and available for research purposes to the university's library. Finally, future translators and investigators will be able to consult this research and learn about the application of the translation methods and procedures on different types of texts, also this investigation can be used as a reference for their own translation investigations and thesis.

Translation studies are often misunderstood, it is commonly discussed that a person who possesses knowledge in two languages is capable of doing a translation, however translation is a field of study that deals with theory, procedures, and methods; it requires subject knowledge, as well as cultural comprehension and sensitivity to convey the message adequately into the target language, so it can be perceived naturally to speakers and readers. Furthermore, translation can be understood as an interdisciplinary field that interacts with other fields of study including history, linguistics, social studies, philosophy, technology, computer sciences, and semiotics. This investigation aims to clarify such misconceptions and enrich the study of the translation field.

Today's society is multicultural and multilingual, this creates demand for effective, efficient and clear communication. The translation of words and ideas is not limited to the correspondence or transference of such words or ideas into a target language, in many cases, that correspondence is unavailable or nonexistent, instead the translation involves the expression and culture of a specific society, which then makes the translation studies of great significance to expand knowledge and ideas in an empathetic and effective manner, so it appeals to the speakers

and their cultures. The correct use of translation methods and procedures, as well as the expertise and skills of a translator, are key to achieve communication objectives effectively.

1.4 Antecedents

The aim of this research is to apply translation techniques and methods to the given texts, so the message is effectively conveyed into the target language; furthermore, clear communication will be achieved. According to Munday (1995) the English term translation first attested in around 1340, and derives from the Latin *translatio* ('transporting') that comes from the participle of the verb *transfere* ('to carry over'). In the field of languages, the process of translation involves two different written languages, the process entails the changing of an original written text, known as the source text or ST into another written text, known as the target text or TT in a different verbal language or target language or TL.

According, to Newmark (1988) a translator “Attempts to replace a written message and/or statement in one language by the same message and/or statement in another language” (p.7). Translation is a field of study that contributes to the expansion of information, knowledge, and ideas in an empathetic and relatable manner among different languages and cultures. Translation; therefore, is critical for social harmony as it enables effective communication among people around the world.

The practice of translation dates back far in time in recorded history as this field was crucial to spread religious texts and concepts. Two of the pioneers of the translation studies are Roman scholars Horace (Quintus Horatius Flaccus) and Marcus Tullius Cicero (first century A.C). Their contributions to the translation practice discussed the "word-for-word" translation process which refers to literal translation and "sense-for-sense" that refers to a free translation. On his translation works, Cicero stated that he did not translate as an interpreter, but as an

orator, he kept the same ideas and the forms in a language that appealed to his audience; he did not necessarily hold to the word-for-word translation, instead he aimed to express and keep the general style and the force of the language (Cicero 46 BCE/1960 CE, p. 364 in Reza, 2012, p. 77). Horace, as well, pointed out the importance of achieving the goal of producing an aesthetically pleasing and creative poetic text in the target language; furthermore, avoid holding into word-for-word translation which was perceived, according to McElduff (2009: 136) as inelegant and limited. The contributions of these scholars, their writings, and their influence have been the basis on translation studies until the twentieth century.

In the fourth century B.C, St. Jerome translated the Greek Septuagint Bible which was a translation of the Hebrew Bible into Latin, and as per Rajak (2009), it was regarded as the first major translation in western culture. The Greek Septuagint Bible translation was a commissioned work by Pope Damasus in 382 AC who aimed to have a standardized version of the Scriptures available in churches; His translation of the Old Testament was controversial because he returned to the original Hebrew Scripture, this offended the Christians that accepted the translated Greek version (Rebenich 2002: 53–4 in Munday, 2001 p. 31) He compared the Greek Septuagint Bible translation with the Hebrew original Scriptures and he noted the two versions differed. St Jerome referred to Cicero's approach to word-for-word translation and negates it to justify his Latin revision and translation; St. Jerome (395 CE/ 1997, p. 25, in J. Munday, 2001, p. 32) writes: “Now, I not only admit but freely announce that in translating from the Greek—except of course in the case of the Holy Scripture, where even the syntax contains a mystery – I render not word-for-word but sense-for-sense.”

St. Jerome's translation affected later translations of the Bible, (Munday, 2001, p. 31) It was the official source version for many of the current translations of the Bible. The first

translation of the Bible into English was written by John Wycliffe between 1380 and 1384 and in 1611 the most influential version, which is also known as the Authorized Version was undertaken by William Tyndale. This version was translated directly from Greek and Hebrew. The first complete translation of the Bible into Spanish was done in 1569 by Casiodoro de Reina.

The practice of translation dates long back in time, but it is only in the latter part of the twentieth century that it developed into an academic discipline (Munday, 2001 p. 13). Before that period, the field was regarded as a learning technique for language acquisition; however, with the rise of innovative language learning approaches, such as the Direct Method and the Communicative Approach (Cook 2010: 6–9, 22–26), translation then was approached in high-level education language and translation courses.

In the second half of the 20th century, major contributions to the translation theory were made by scholars. In 1969, in the theory and practice of translation, the well-known linguist and influential translator of the Bible, Eugene Nida, made a distinction between the equivalence of the form of a text and the content, including cultural elements. Nida characterized translation and the process of equivalence as one on which a translator must analyze, transfer and restructure.

All these studies carried out by scholars were the base of many other studies that are base for current translation studies. Translation studies have become an academic interdisciplinary that includes many fields of study (comparative literature, history, linguistics, philology, philosophy, film, semiotics, terminology, computational linguistics). Students also choose a specialty (legal, economic, technical, scientific, or literary translation) in order to be trained accordingly.

Translation is an ancient profession that has been evolving over the years, and as in most professions, technology has helped it to complete the task easier; however it is commonly discussed that technology will take the place of the translators. Despite the omnipresent MT

(machine translation) and CAT (computer-assisted translation) tools created to speed up the translation process, human interventions are always required to translate accurately. As Nida (2006) highlights, one difficulty for the presentation of a theory of translation is the fact that all languages reflect the culture of which they form part (p.13). For this reason, technology cannot replace translators because learning behaviors and customs from a specific language and put them into practice in any translation is only a human skill.

1.5 Scope

The main purpose of the scope of the research refers to the parameters under which the study will be operating. According to Bruno (2018), it delineates the level of the object of study that will be covered by the particular research work so that both the reader and writer have a perspective of what is aimed at and what is to be expected.

At the end of this investigation, the researcher expects to conclude the translation of the documents in order to analyze the effect of the procedures and methods applied throughout the translation processes of such documents. Additionally, the investigator will apply various technical translation techniques to the documents to achieve an accurate translation of the texts. In addition, a glossary with the most relevant terminology found on both texts will be created. Finally, the investigator will answer the question: What are the effects of applying technical translation techniques in the translation of some documents from Spanish to English and others from English to Spanish for a public university?

Chapter II

Theoretical Framework

The theoretical framework is developed to explain the relevant theories, key concepts, and bases that serve as a guide to this investigation. The main purpose of this section is to provide the readership with information that facilitate the understanding of the translation processes. In this chapter, the investigator will explain the text analysis theories as well as the translation procedures and techniques. The last section of this chapter is focused on glossaries; in other words, the relevance they have to the translator, the translation process, the readership, and how a glossary is created.

2.1 Text Analysis

The translation process begins by reading the source text or original text to understand its content and to understand its the main idea. By analyzing the text from a translator's point of view, it is possible to identify any possible difficulties, such as technical vocabulary, metaphors, or idiomatic expressions that might require special attention. Also, it will help to determine the author's intention and purpose of the text; therefore, once this analysis is concluded, the translator will be able to select the most appropriate translation method and procedures to render the translation naturally and accurately.

According to Newmark (1988), understanding the text requires a general reading and a close reading. The general reading will give the reader the essence of a text, at this stage, it might be necessary to consult other sources of information, such as textbooks or encyclopedias to

understand the subject and its key concepts. Once the general reading is completed, a close reading will be required. The close reading purpose is to identify any words, expressions, or information that does not make sense or have equivalence in the target text context, for example, acronyms or neologisms.

On the other hand, Nord (2005) states that it is not necessary to perform the whole text analysis before every single translation task (p. 81), instead, it is proposed to use a translation-oriented mode of text analysis. The translation process is described by Nord as a looping model and it is based on the Skopos theory that was first introduced by Katharina Reiss and Hans Vermeer, in which translation is seen as a “variety of the translational action which is based on a source text” (Vermeer 1989: 173 in Kalliomäki (2007)). Skopos is the Greek word for ‘aim’ or ‘goal’; furthermore, the purpose of the translation is what matters the most.

According to Nord's model, the first step is to define what the desired target text is like. The second step, corresponds to the source text analysis in which the function of source texts is examined; here the translator analyzes the elements that are important for the production of the target text. If the subject matter is focused on a cultural context and indicates some of the readers’ presuppositions, the translator has to make a balance in the level of explicitness and can take advantage of the translation’s procedures. After the source text analysis is finished, these translation-relevant source text features are matched with the corresponding target text elements with the help of the Skopos. The final structuring of the target text is the last step, closing the circle (Nord 2005: 36-37 in Kalliomäki (2007)). The process can be summarized in different steps. First, the analysis of the skopos based on the given instructions. Second, the analysis of the source text starting from the source culture elements, in which the functions of the source text are determined. Third, the comparison of the functions of the source text and the target text, and

their relationship. Fourth, the selection of the translation strategy. Fifth, the synthesis of the target culture elements, and finally, checking the functionality of the translation by comparing it to the skopos.

2.1.1 Text styles

For translators, it is crucial to identify and know the style of the source text for a number of reasons. First, it helps to search for the intention of the text, which represents the writer's attitude towards the subject of the text; furthermore, the translator is able to make decisions that will reflect the intention and writer's attitude in the target text or adapt the message if the target text's audience requires it. Second, by knowing the text style the translator is able to identify the readership, which helps the translator to make an appropriate selection of words to render the message accurately without losing its sense so it is understandable to the target text audience. According to Newmark (1988, p.13), there are four types of literary or non-literary text styles following Nida's study: the narrative, the description, the discussion, and the dialogue.

The narrative text style refers to a dynamic sequence of events, in which the author's emphasis resides on verbs, verbs plus verb-nouns or phrasal verbs. This type of text style is found in novels, fables, poetry, short stories, legends, fiction, and nonfiction stories because they describe through the use of verbs a series of events performed by the characters.

The second text style is the description, which is static, with emphasis on linking verbs, adjectives, and adjectival nouns. Through the use of these grammatical units, the author is able to qualify a person or an object, furthermore, the author is able to describe the character's physical and emotional traits and by doing so, the readership is able to create a mental image of these characters or objects in their minds. The purpose of this text style is to describe.

The third text style is the discussion, which is a treatment of ideas, with emphasis on abstract nouns (concepts), verbs of thought or mental activity, logical arguments, and connectives. The purpose of this text style is to expose ideas and thoughts to provoke discussions and arguments. The purpose of this text style is to expose ideas and thoughts through the use of verbs, such as argue, emphasize, consider, and think among others, and adjectives to defend or expose a point to provoke or generate a discussion. This type of text style is usually found in speeches, articles of opinion, and essays. Finally, the fourth text style is the dialogue which emphasizes on colloquialisms and phaticisms that social function in a communicative setting. This type of style is found in formal or informal conversations.

2.1.2 Stylistic Scales

The stylistic scale provides insight into the type of content of the text and whether it is formal, neutral, colloquial. Newmark (1988) establishes that stylistic scales can be evaluated under various aspects, for instance: vocabulary, grammar structure, the use of words, the environment of the speech, and so forth. Newmark based his classification based on theories formerly expressed by Martin Joos and Strevens (1962). Based on the stylistic scale, the translator will be able to evaluate the source text in order to recognize the readership and the vocabulary that appeals to those readers. According to Newmark, (1988) the stylistic scales are the scale of formality, the scale of generality or difficulty, and the scale of emotional tone.

2.1.2.1 Scale of formality

According to Newmark, the scale of formality is divided into eight categories: the first category is the officialese, which is found on official documents issued by governments and official institutions. According to Garner (2009), the officialese language aims to impress the

listener or reader and increase the authority of the user. Newmark (1988, p.14) suggests as an example of this scale of formality the following sentence: “The consumption of any nutrients whatsoever is categorically prohibited in this establishment.”

The second category is formal, which is used as the correct or proper way of speaking and writing. The formal language is used in meetings, discourses, and formal settings while remaining neutral and explanatory, so it can be accessible for educated and non-educated people. As per Newmark (1988, p.14), an example of a formal language is found in this sentence: “The consumption of nutriments is prohibited”.

The next category is neutral, which uses everyday language spoken or written forms and that it is neither formal or informal. This type of language is understood by all people regardless of their level of education. Newmark (1988, p.14) used this sentence to show the neutral scale of formality: "Eating is not allowed here". This category is followed by informal, which is the spoken or written language mostly used among families or friends, which can be identified in the following sentence proposed by Newmark (1988, p.14) “Please don’t eat here”. Then, the colloquial category that is usually spoken but rarely found in texts or in any written form. It is characterized by the use of simple and ordinary words, the following sentence uses this scale of formality: “You can't feed your face here” (Newmark, 1988, p.14). The previous category is followed by the slang, which is the form of the language in which an informal register is used; slang refers to the use of words and sentences in a vulgar way. An example provided by Newmark is (1988, p.14) is “Lay off the nosh”. The final category is the taboo, which uses culturally prohibited vocabulary. For instance: “Lay off the fucking nosh” (Newmark, 1988, p.14).

2.1.2.2 Scale of Generality or Difficulty

Similarly, to the scale of formality, Newmark (1988) also categorizes the scale of generality of difficulty. The first category is simple, which uses non-complicated words, it is understandable and polite. This category can be easily identified in this sentence “The floor of the sea is covered with rows of big mountains and deep pits” (p.14). The popular category uses colloquial and common words. As well-exemplified by Newmark (1988) in the following sentence: “The floor of the oceans is covered with great mountain chains and deep trenches” (p.14). The next category is neutral, which uses basic or everyday use vocabulary. This allows people to understand the message easily. An example of this scale proposed by (Newmark, 1988, p.14) is: “A graveyard of animal and plants remains lied buried in the earth’s crust”.

The following category is educated, which is directed to an audience with a certain level of education, its formal sense is commonly used in documents and books. (Newmark, 1988, p.14), proposes the following sentence to exemplify this category: “The latest step in vertebrate evolution was the tool-making man”. Finally, there is a technical scale divided into two types of scale: the technical and the opaquely technical. The technical which is intended for scholars specialized in a specific subject matter; an example of this category proposed by Newmark (1988) is “Critical path analysis is an operational research technique in management” (p.14), and finally, the opaquely technical, this scale is comprehensible exclusively to a topic expert. Newmark (1988) exemplified this scale with the following quote by Kirk (1984) “Neuraminic acid in the form of its alkali- stable methoxy derivative, was first isolated by Klenk from gangliosides”.

2.1.2.3 Scale of Emotional Tone

Newmark (1988, p.14) suggests that the tone used by an author is classified in four kinds of emotional tone: intense, warm, factual and understatement. The intense emotional tone uses a profuse use of intensifiers such as, Hot! Absolutely wonderful! Superb! The following is warm, which can be found in expressions, such as gentle, soft, heart-warming melodies. The factual emotional tone where the text is more real and there is no need for vast descriptions or emotions, and finally the last scale is the understatement, characterized by not expressing intentionally what is written, it is exact and direct.

2.1.3 Text function

The main purpose of the text function is to provide the reader with the subject matter and to understand what the author intends to transmit, in other words, the main objective of the text. For translation purposes, it is crucial to understand the function of a text, what it is about and what the author intends to transmit. By identifying the text function, the translator is able to make the appropriate translation decisions to be able to transmit the original message faithfully into the target text. According to Newmark (1988), he adopted the theory of the text types from Karl Bühler's functional theory of language, which was first stated by Jakobson, Firth and Wandruszka (p.39). As per Bühler, the three main functions of language are the expressive, the informative, and the vocative functions: these are the main purposes of using language. (Newmark 1988, p.39).

2.1.3.1 Informative

Following the work of Reiss (as quoted from Munday, 2012), an informative text consists of a text that contains plain communication of facts, information, knowledge, and opinions. The language used is logical or referential and the topic is the main focus of the communication. In the translation process, the translator should avoid omissions and it is even better if additional explanations are added, if required. As stated by Newmark (1988), the core of the informative function of language is the external situation, the facts of a topic, which includes reported ideas or theories. (p.40).

As per Nemark (1988), the informative text function is characterized by four points on a scale of language varieties. The first one, formal or non-emotive technical style for academic papers, characterized in English by the use of passive, present, and perfect tense. The next one, neutral or informal style with defined technical terms, which is usually written in first person. The third one is an informal warm style for popular science and art books, which are characterized by simple grammatical structures; the last one, a familiar non-technical style for popular journalism characterized by short sentences. Newmark (1988) added that these types of texts are usually found in textbooks, technical reports, articles in a newspaper, a scientific paper, a thesis, and in minutes or agenda of a meeting (p.40).

2.1.3.2 Expressive

In Munday (2012) and following the works of Reiss (1970), the expressive function of the language is a creative composition, in which the author uses the aesthetic dimension of the language. The author and the message are foregrounded in the expressive type of text. As per Newmark (1988), the core of the expressive function is the mind of the speaker, the writer or the

originator of the utterance. The text is focused on expressing the writer's feelings irrespective of any response. For the purpose of translation, Newmark divides the expressive function text into three text types.

The first one is serious imaginative literature, which is contained in lyrical poetry, short stories, novels, and plays. Within these texts the most intimate expressions, emotions, and feelings are expressed by the author. In translation, it is entitled to some assistance with cultural expression.

The second one is the authoritative statements, in which texts of this nature derive their authority from the high status of the reliability and linguistic competence of their authors, in other words, they have the stamp of their authors. Examples of typical authoritative statements are political speeches, documents written by ministers or party leaders, as well as legal documents, scientific, philosophical and academic works written by acknowledged authorities. The third one is the autobiography, essay, and personal correspondence. These are expressive because they contain personal effusions, characterized by the expression of feelings like sadness, melancholy, and happiness.

Additionally, for Nida & Taber (1969) the target readers should not only understand, but also feel the author's message in an expressive text. In the expressive text and for translation purposes, the translator should aim to recreate the effect that the author of the source text is striving to achieve, furthermore the most relevant accomplishment is that the translator should be able to convey the author's feeling, opinion or personal discomfort in the target text.

2.1.3.3 Vocative

The main purpose of the vocative text function is to call upon the readership, in other words, to provoke through the text to make the readers act, think or feel. In Newmark (1988) he stated that vocative text is addressed to a readership rather than a reader. Additionally, he explained two factors embedded in the vocative text function. The first factor corresponds to the relationship between the writer and the readership, which is mainly characterized by the use of "you" and infinitives, imperatives, subjunctives, indicatives, impersonal, passives, titles, hypocoristic names, such as "please". All of them play a role in determining asymmetrical or symmetrical relationships, relationships of power or equality, command, request or persuasion.

The second factor is that these texts must be written in a language that is immediately comprehensible to the readership. In Nida & Taber (1969), this function is called imperative, it urges, persuades, and commands the reader. For the purpose of translation, the cultural level of the source text has to be reviewed in detail before it is given a pragmatic impact. Furthermore, the translator should analyze carefully the word selection to maintain the vocative function of the text in the target text. Some examples of vocative texts are notices, instructions, publicity, propaganda, persuasive writing, and popular fiction whose main objective is to sell the book or entertain the reader.

2.1.4 Translation Methods

Newmark (1988) stated that the central problem of translating resides in the decision of translating literally or freely. It has been augmented since the beginning of the nineteenth century, whether the message should be translated word for word or if the translator should translate the spirit, or in other words, the sense of the message. For research purposes, semantic and communicative translation will be explained as stated by Newmark (1988) because these methods accomplish the two goals of translation, which are accuracy and economy.

2.1.4.1 Semantic translation

This type of translation is related to the semantic and syntactic structures of the target language; in other words, semantic translation attempts to render, as closely as the semantic and syntactic structures of the second language allow, the exact contextual meaning of the original. Newmark (1981 p. 39), he indicated that semantic translation differs from literal translation in that it 'respects context', interprets and even explains metaphors (p. 63). Furthermore, the translated version of the text using this method is more likely to be more complex, awkward, detailed and concentrated. It is author-centered, which means that what matters the most is the author's thoughts as an individual, the author's idiolect and peculiar form of expression. As it follows as much as possible semantic rules and norms, sometimes there could be loss of meaning resulting in an inferior version of the original text (Newmark, 1988). The purpose of semantic translation is to create precise flavor and tone of the original and preserve the author's idiolect. The suitable texts conclude quotations, autobiography, private correspondences, minor literature, definitions and explanations (Fengling 2017).

2.1.4.2 Communicative translation

Following Newmark (1981), communicative translation attempts to produce on its readers an effect as close as possible to that obtained on the readers of the original, furthermore, this translation method aims to render the exact contextual meaning of the original in such a way that both content and language are readily acceptable and comprehensible to the readership. It is, then, understood as per Newmark's theory, that communicative translation is social, concentrates on the message and the main force of the text, tends to under-translate, to be simple, clear and brief, and is always written in a natural and resourceful style. (p.39).

Communicative translation as explained by Fengling (2007) addresses itself solely to the second reader and would expect a generous transfer of foreign elements into his own culture as well as his language where necessary. But the translator has to respect and work on the form of the source language text as the only material basis for his work. The texts in which the communicative translation method can be applied are most non-literary writings, journalism, textbooks, scientific and technological writings, public notices, serious literature and informational texts. (p.33).

2.2 Translation Procedures

In contrast to translation strategies that refer to the translator's global approach to a given text, translation procedures are used for sentences and smaller units of language within that text. Vinay and Darbelnet (1995) first proposed the translation procedures. They stated that the translator must attempt to follow the way our mind works consciously or subconsciously when it moves from one language to another and record its progress. The study of these mechanisms of translation are the basis to derive working methods of translation and beyond these methods discover the mental, social and cultural attitudes which inform them. (p.10). For Delisle (1999), translation procedures are methods applied by translators when they formulate an equivalence for the purpose of transferring elements of meaning from the source text to the target text.

2.1.1 Transposition

According to Vinay and Darbelnet (1995), transposition is the change of one of the speeches for another without altering the sense. This technique consists of a translation procedure that involves a modification of the words category, grammatical structure, words that can be changed and will not modify the meaning of the target text (Newmark 1988). Also, following the work of Vázquez-Ayora (1977), he stated that transposition avoids the use of the

literal translation which is a much-limited method and the oblique translation moves away from the direct translation. (p.266). He proposes that the finality of transposition is to achieve naturalness in the target language expression at all its levels: lexical, structure, and the context. The transposition procedure can be recognized as the method in which parts of speech of the source text are substituted in the target language, by carrying over the semantic content of the source language (p.268).

Newmark (1988) showed different kinds of examples of transposition, such as the change from singular to plural: *furniture* to *mueble*. Also the change of the position of the adjective: *La casa blanca* to *The white house* (This kind of transposition is automatic and provides the translator no choice). Also, when a source language grammatical structure does not exist in the target language (neutral adjective as subject): *Lo interesante es que* to *What is interesting is that* change of gerund to a verb-noun: *Working with you is a pleasure* to *El trabajo contigo es un placer* (p.55).

Vázquez-Ayora explained different varieties of transposition and proposes a vast list of examples to demonstrate the transposition method. For the purpose of this investigation, five of them will be explained: Transposition from noun to verb, for example, *There's a reason for life!* to *¡Hay una razón para vivir!* From adverb to verb: *He was never bother again* to *Nadie volvió a molestarlo*. From adverb to noun: *Early last year* to *A principios de año*. From verb or past participle to noun: *Organization has been made by man* to *La organización es obra del hombre*. From verb to adverb: *As you may have observed* to *Como ustedes tal vez lo han observado*.

Newmark (1988) concluded, that transposition is the only translation procedure concerned with grammar, and most translators make transpositions intuitively. However, it is

likely that comparative linguistics research, and the analysis of the text and their translations, will uncover a further number of serviceable transpositions. (p.88).

2.2.2 Modulation

Another kind of translation procedures is modulation, which according to Vinay and Darbelnet (1977) is a variation through change of viewpoint, of perspective, and very often of category of thought which introduces a clarification with respect to the original formulation, which used whenever the translated text tends to be too literal, unsuitable, unidiomatic or awkward in the target language. As per Newmark (1988), modulations are used when the target language rejects literal translation. For instance, in an English speaking context when someone sneezes, people say "God bless him" the literal translation can be achieved in Spanish, however, the meaning is different, and if translated literally, the expression will be lost in translation since culturally in a Spanish speaking context when someone sneezes, the right expression to be used in "*Salud*". Stated by Vinay and Darbelnet (1977 and quoted by Munday p.58), modulation is fundamental in a good translation. Modulation at the level of message is subdivided along the following categories: abstract for concrete, cause-effect, part-whole, reversal of terms, negation of opposite, active to passive, passive to active, space for time, rethinking of intervals and limits, and change of symbol, which includes fixed and new metaphors. (p.58). As per Vázquez-Ayora (1977), modulation is, then, the translation process in which the translator's effective use reflects the translator's experience, sensibility and imagination, and which requires great cleverness and expressive power(.p293).

2.2.3 Omission

The omission translation method concentrates or suppresses elements in the target language text. Molina & Hurtado (2002) stated, that a reduction suppresses information from the source text in the target text. The original message remains the same but with fewer words to go straight to the point. Even though the translator applies this technique in both languages, it is very common when translating from Spanish into English. Vázquez-Ayora (1977) stated that an omission obeys to the translation principle of economy. As mentioned before, this author considered that the reason a translator uses this technique the most is that when translating from Spanish into English is that English is a concrete, profiled aerodynamic and straightforward language.

Nida & Taber (1969) termed this technique as subtraction and it is used in order to avoid repetitions, conjunctions, adverbs, and so forth, that are present in the source text but are unnecessary in the target text. Vázquez-Ayora explained different types of omission, for purpose of this investigation four will be further explained: Omission of abusive redundancies: *The discussion was of a violent and sensitive character* to *La discusión fue violenta y sensible*. The next one is omission of auxiliary can: *This problem can be solved in two days* to *This problem can be solved in two days*. Next, omission of prepositions in idioms *Hurry up* to *Apresúrate*, and omission of articles and other determiners: *He has a secretary* to *Tiene secretaria*.

2.2.4 Amplification

The amplification technique consists of amplification or explanation of the meaning of a segment of the text. Newmark (1988) stated, that this process is practiced intuitively by the translator and it varies according to syntactical and grammatical structures of the target language. Vinay and Darbelnet (1977) stated, that amplification is the process in which more monemes are used, including

lexemes and morphemes in the target text to express the same idea. For Molina & Hurtado, (2002), the translator introduces details that were not formulated in the original text. The objective is to explain through a paraphrase a situation that may not be clear for the target culture. It is usually used from English into Spanish because English possesses the advantage of being a concrete and direct language, Spanish translations are more extensive than English translations.

Vázquez-Ayora explained different cases of amplification, for the purpose of this investigation five will be explained: amplification of the adverb: *To speak aloud* to *Hablar en voz alta*. The next one is amplification of the verb: *To endanger* to *Poner en peligro*. Then, amplification of the adjective: *The combination made him conspicuous* to *El conjunto le daba aspecto notorio*. Next, amplification of the pronoun: *I intend to discuss the economy of your programs* to *Deseo discutir la economía de los programas que ustedes dirigen*. Lastly, amplification of prepositions: *Within two weeks* to *En el curso de dos semanas*.

2.2.5 Explication

The explication translation method consists on expressing an implicit idea from the source text into the context of the target text. This method pursues an explicative and specific finality for semantic reasons mainly. The first definition of this technique was provided by Vinay and Darbelnet, quoted from Baker (1998). The authors stated that even though the message is implicit in the source text, the meaning can be extracted from the context of the situation.

As per Vázquez-Ayora (1977), such elements are implicit due to individual linguistic habits, due to the characteristics of a language, or due to cultural familiarity because it allows the target audience understand what the author implied in the text that may not be clear in the target culture. Vázquez-Ayora continued explaining that the explication is practiced when a subject needs to be highlighted

to clarify an idea or to solve ambiguities. For instance, in the case of English, passive sentences with a tacit agent or to specify a complex relation unexpressed by the original reader who is familiar with the extralinguistic situation, for instance: *We have seen great art* to *Hemos visto grandes obras de arte*.

2.2.5 Literal Translation

Literal translation intends to render the primary meaning of each individual word while keeping all the syntactic features of the source language text. As per Newmark (1981), in communicative as in semantic translation provide that equivalent effect is secured, the literal word-for-word translation is not only the best, it is the only valid method of translation (p.39). However, above word level, literal translation becomes increasingly difficult. Continuing with Newmark, he stated that literal translation ranges from one word to one word (chair to silla) through group to group (a beautiful garden to un bello jardín) to sentence to sentence (The man was in the street to El hombre estaba en la calle) (p.70).

For Vinay & Darbelnet (1995), the translator is limited to observe the correct adherence to the linguistic servitudes of the target language. This technique is commonly used between two languages of the same family or when both languages share the same culture. The use of this technique is not always recommended and the translator is the one that must analyze whether to be strictly faithful to the source text (grammatical structures). Also, Vázquez-Ayora (1977) pointed out that literal translation is a procedure in which the translator needs to include a parallel structure and concept.

2.2.7 Punctuation Changes

When translating, this aspect can be easily overlooked and it as important as the author's intention, tone, and style. Also, punctuation provides a semantic indication of the relationship between sentences and clauses (Newmark, 1988). Punctuation is an essential aspect of discourse analysis since it gives a semantic indication of the relationship between sentences and clauses, which may vary according to languages (p.58). For example, in Spanish, question marks are used at the beginning and the end of a question, while in English the question mark comes at the end of the question only. Exclamation points are used in the same way as question marks are except to indicate exclamations instead of questions. In regular text, the period is used essentially the same as in English, coming at the end of sentences and most abbreviations. However, in Spanish numerals, a comma is often used instead of a period and vice versa. The comma usually is used the same as in English, that it is used to indicate a break in thought or to set off clauses or words. One difference is that in lists, there is no comma between the next-to-last item and the y, whereas in English some writers use a comma. For example, *Compré una camisa, dos zapatos y tres libros* to *I bought a shirt, two shoes, and three books*.

In the use of quotation marks, the main difference between the English and Spanish uses of quotation marks is that sentence punctuation in Spanish goes outside the quote marks, while in American English the punctuation is on the inside.

Capitalization differences between both language are explained as follows: in English, the days of the week, months, holidays, languages and nationalities are capitalized but in Spanish, the rule applies to holidays only. The names of most religions, their adjectives, and their adherents are capitalized in English but not in Spanish. In a title, a book, a movie, or song will have each content word capitalized, but in Spanish just the first word or proper names. For

translation purposes, the translator must be aware of these changes in punctuation to render the message accurately while following the proper punctuation rules of each language.

2.2.8 Compensation

As per Newmark (1988), compensation occurs when the loss of meaning, sound-effect, metaphor, or pragmatic effect in one part of a sentence is compensated in another part, or in a continuous sentence. Stated by Vázquez-Ayora (1977) the theory of compensation is based on two facts or problems: the difficulty to find the accurate and natural equivalence, and content lost. As an example from English to Spanish: *And the gamblers stood, and clawed at the handles of the machines as if they hated what they were doing* the translated version with a compensation applied would be: *Y los jugadores, de pie ante las máquinas, tiraban de sus manivelas con tanto furor como si la odiasen*. The translator by compensating con tanto furor has expressed the natural phenomena only, and lost the figurative effect. (Vázquez-Ayora 1977, p.379).

2.2.9 Equivalence

Vinay and Darbelnet (1995) referred to equivalence as a translation process where languages describe the same situation by different stylistic or structural means.

Equivalence is particularly useful in translating proverbs, idiomatic expressions, proverbs, a cliché, a greeting formula, and slangs.

According to Newmark (1988), he described three types: cultural equivalent (a cultural word is translated by a cultural word), functional equivalent (a culture free word is translated by a new specific term), and descriptive equivalent (a description is added to describe function). An

example of an equivalence from English into Spanish is: *It's raining cats and dogs* to *Está lloviendo a cántaros*. Following Nida & Taber, (1969) they added that the technique involves a comparison in the way the original receptors understand and appreciate the text and the way the receptors of the translated text understand and appreciate the translated text. The target text should fulfill the functions of the original text: expressive, cognitive, interpersonal, informative, imperative, performative, emotive, and aesthetic.

2.2.10 Adaptation

As stated by Newmark (1988), adaptation is the freest form of translation. It is mainly used for plays and poetry, in which theme, characters, and plots are usually preserved, while the source language culture is converted to the target language culture, and the text rewritten (p.46). In Vinay and Darbelnet (1995) they suggested adaptation involves changing the cultural reference when a situation in the source culture does not exist in the target culture. To this Vázquez-Ayora added, that adaptation is more about the content than to the expression, it allows us to avoid a cultural calque that can lead to confusion or obscurity. (p.324). Nida (as quoted by Vázquez-Ayora, 1977) exemplified the adaptation process as follows. The expression *Blanco como la nieve* lacks relevance in a town in which snow is remote or non-existent; furthermore, that comparison is not understood. In such case, the translator must adapt the expression to that context, for this, Nida proposed *Blanco como las plumas de airon*, because the communication is more relevant and significant, for that town the comparison makes sense in their experience. (p.324) In other words, adaptation is the process of translating to a particular vision of a language.

2.2.11 Borrowing

Stated by Vinay & Darbelnet (1995), borrowing happens when the source language word is transferred directly to the target language (p.33). In other words, the original term is not translated and remains the same. It can be pure (without any change), for example, the use of the English word lobby in a Spanish text or words that are naturalized to fit the spelling rules in the target language, for example: “leader” to “líder” or “football” to “fútbol”. Naturalized borrowing corresponds to Newmark’s naturalization technique. This procedure succeeds transference and adapts the SL word first to the normal pronunciation, then to the normal morphology (word-forms) of the target language (Newmark 1988, p.82). For translation purposes, the translator is advised to avoid borrowing as much as possible.

2.2.12 Calque

As per Venuti (2000), calque is a special kind of borrowing whereby a language borrows an expression form of another, but then translates literally each of its elements, which can lead to two results: a lexical calque, in which it respects the syntactic structure of the target language, while introducing a new mode of expression (p.85). For example, “weekend” into “fin de semana” or the calque can be structural, in such cases, it introduces a new construction into the language, for example: from “science-fiction” into “ciencia ficción”. Following Guix & Minett (1997) they provide four types of calque: the lexical calque (is a false cognate), the orthographic calque (usually in the transliteration of names of people, places, and ethnicities), the topographic calque (use of capital letters, italics, and quotation marks from the source language) and the syntactic calque (product of erroneous connection between the elements of a sentence or phrase).

2.2.13 Sentence Inversion

As per Molina & Hurtado (2002) the inversion process consists on moving a word or phrase to another place in the sentence or paragraph to achieve naturalness in the target source.

The technique is similar to transposition with the distinction that the sentence inversion is a change in order, and the transposition changes the type of word in the target language.

2.3 Glossaries

In this last section of the present chapter, the researcher will explain the relevance glossaries have for the translator, the relevance for the translation processes and finally, the researcher will explain how glossaries are created. A glossary is a specialized list of words, terms, and definitions created to respond to businesses and organizations' needs to compile such data for a specific area. According to Merriam Webster, a glossary is a collection of textual glosses (difficult or obscure word or expression) or of specialized terms with their meanings. To this, Swisher (2014) added that the words in a glossary can be standard words most likely to be found in a dictionary. However, a glossary can also contain non-standard or made-up words that are used exclusively in an area, field of study or business. As per Lionbridge (2013), a glossary is a tool or document that serves as an aid to mitigate consistency problems. It is also referred to as a lexicon, termbase, and terminology collection; glossaries can be simple as a spreadsheet or can require more automated or sophisticated tools to manage all their terms and translations. The words in a glossary are selected based on the contents of books, documents or texts, and they usually found at the end of the documents.

For the purpose of this research, and as stated previously in Chapter III: Methodological Framework. The researcher will create two glossaries: one from English into Spanish and the second, from Spanish into English with a column for the English term, the Spanish term, the grammatical

category (to specify if it is used as a verb, noun, and so forth in the text) and a definition to have a better understanding of the word, as the explained terms and words are based on the translations that will be created. The glossaries in this research will serve as a data collection instrument. Moreover, it is crucial to further explain the relevance glossaries have for the translator. First, the use of a glossary will enable the translator to remain consistent in the terminology used, which ensures a degree of uniformity in style, making the translated text easier to read. Also, there is a productivity and cost reduction relationship associated with the implementation of glossaries for the translator.

According to Austermühl (2001), translators are required to search for terms, expressions and words, the search involves, however, more than finding a term in the source language and its equivalent in the target language. Also, it involves finding all the necessary information to grasp the meaning of the concept and to use it adequately, which compromises up to 75 percent of a translator's time, that it is a time-consuming and exhausting task, but it is inevitably. This is one of the main reasons translators are encouraged to create their own glossaries, besides, they might be working on a long text with a lot of technical terminology or with difficult terminology, expression, word, and so forth. The glossaries will include the terms in both languages and the definition of the word should keep the concept clear; the translator can also include a synonyms part, where different ways to refer to the same term can be found. This is an advantage as it helps to avoid redundancy.

While glossaries are relevant and highly important for translators, they are also relevant to the translation process. Translation studies are interdisciplinary. They are joint to other fields of study and disciplines, such as philosophy, social studies, anthropology, linguistics, psychology, teaching, technology, among many others. For this, and in terms of the overall translation process, a glossary is a tool that guarantees quality improvement at a linguistic level.

When a glossary is created during the translation process, book or a text there will be much more attention paid to details, such the use correct term according to the specific field. On the other hand, a glossary will be an aid to avoiding the use of neologisms or anglicisms, or ultimately words and even expressions and sentences, that although exist and have correspondence in the target language, are not suitable for the target culture, target language, or target readership. Rigby (2014) mentioned that a glossary will help translators easily immerse themselves into the company and provide translations that accurately reflect the company's voice (para.2).

This means that a glossary can serve as a database for standardizing the terminology for a business or organization; furthermore, when a new translation is required by such entities, the translator can use the already in place glossary as a base for the translation in progress. Once the new translation is completed, the translator can add new terms and eliminate obsolete terms from the previous glossary.

The researcher has explained so far the importance and relevance for creating glossaries for translators, as well as, their relevance for the translation process. Now, it is key to point out how to create a glossary. Once the information is gathered and stored, the next step is to create the glossary according to the requirements of the translation project.

According to Gapper (2008), in order to create a glossary, it is important to define the content and format of the glossary. When considering these aspects, the translator has to analyze the microstructure which refers to the general structure of the glossary and the macrostructure, which refers to the aspects of the organization of each input.

As per Gapper (2018), the microstructure of a glossary refers, to the general structure of the desired project. The author explained that the writer or translator for this matter, must make decisions about the general organization of the glossary. When designing the macrostructure, the translator will decide if it is important to include a preface, user indications, abbreviations or an appendix. Gapper (2018)

explained that the translator must consider whether the glossary should be divided into sections such as English to Spanish and Spanish to English or categorize the glossary by topics.

In regards to the microstructure of the glossary, Gapper (2018) explains that the microstructure refers to the design of each entry, that is, the term itself and the information next to it. The author advises that prior to designing a glossary to meet the specific demands of an organization or entity, it is necessary to examine the documentation that serves as a base to the researcher for the creation of the glossary.

Following the work of Gapper (2018), the author proposes to revise and identify the next points: What will be the purpose of the glossary? The translators must determine the particular needs of the organization, business or project.

Next, under what circumstances will it be used? The translator must identify in which context the glossary will be consulted. Then, what type of terminology is relevant for the customer and for the translation research process? The translator must be able to identify which terms, words, sentences are relevant for the translation project.

Followed by the decision of the terms content, the translator must consider if terms of a specific field, terms that do not appear in general dictionaries, or simply terms needed to understand the topic, as well as isolated words, expressions, acronyms, and so forth. Then, the translator decide which mechanism or system should be included in order to collect the data, and finally determine the elements the glossary will contain.

The investigator will take into account the information has been previously explained to create the glossaries for the translation projects that are part of this study, the glossaries will be included in Chapter V: Data Analysis, as part of the analysis and interpretations of the results of this investigation.

Chapter III

Methodological Framework

This chapter consists on the development of the research methods, procedures, and the tools investigator is going to follow in order to achieve the general and specific objectives of this study. Furthermore, it explains a sample of the procedures that the investigator will apply to the translations as well as the instruments to be used to analyze and translate the texts. Additionally, the quantitative, qualitative and mixed approaches will be explained as it is crucial to understand why the of them is part of the study. In other words, this chapter sets the path for this investigation. According to Creswell J (2009), the methodological framework is the most concrete and specific part of the research, for this reason, it is important to use accurate methods and procedures to obtain the expected results.

3.1. Research Approach

Research is the process of collecting, analyzing, and interpreting data in order to understand a phenomenon (Leedy & Ormrod, 2001). The frameworks and guidelines provide researchers with an indication of what to include in the research, how to perform the research,

and what types of inferences are probably based on the data collected (William, 2007). Research methods provide researchers with a guideline on what should be included in the investigation, how to actually perform it, and how to select the best type of approach for the research.

The three common approaches to conducting research are Quantitative, Qualitative, and Mixed Methods. Depending on the investigation, the researcher will anticipate what kind of approach is best suitable. For instance, is the research question numerical, textural or both? Based on this question, the investigator will select the approach to conduct the research. The researcher selects the quantitative approach to respond to numerical data, the qualitative for questions whose nature is textural, and mixed methods for questions that respond to both approaches, numerical and textual data. The approaches will be explained more broadly on the following pages.

3.1.1. The Quantitative Approach

The Quantitative approach emphasizes objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. The quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon (Babbie, 2010). When conducting a quantitative research study, the goal is to determine the relationship between an independent and a dependent variable or outcome variable within a population. Its research designs are either descriptive or experimental. A descriptive study establishes only associations between variables while an experimental study establishes casualty.

The main characteristics on this method are that the data is usually gathered using structured research instruments; the research study can be replicated or repeated given its high reliability; the data are in the form of numbers and statistics, often arranged in tables, charts,

figures, or other non-textual forms; and the project can be used to generalize concepts more widely, predict future results, or investigate causal relationships. The aim of the quantitative research method is to classify features, calculate them, and construct statistical models in an attempt to explain what is observed. The social sciences found it challenging to measure human behavior using quantitative methods, therefore, qualitative research methods were developed in order to understand the social world.

3.1.2. The Qualitative Approach

The next method to be explained and the one in which this investigation is built on is the qualitative research method. Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied and the situational constraints that shape inquiry. Such researchers emphasize the value-laden nature of inquiry. They seek answers to questions that stress how social experience is created and given meaning. In contrast, quantitative studies emphasize the measurement and analysis of causal relationships between variables, not processes. The qualitative forms of inquiry are considered by many social and behavioral scientists to be as much a perspective on how to approach investigating a research problem, as it is a method (Denzin, 2000).

The purpose of qualitative research appeals to social scientists because it allows the research to investigate the meaning that people attribute to their behavior, actions, and interactions with others. The qualitative research is designed to reveal meanings, interpretations, symbols, and the processes and relations of social life. What this type of research produces is descriptive data that the researcher must then interpret using rigorous and systematic methods of transcribing, coding, and analysis of trends and themes (Crossman, 2017). The main

characteristics of this method are that it is concerned with opinions, feelings, and experiences; it describes social phenomena as they occur naturally; the data is used to help us to develop concepts and theories that help us to understand the social world, and the qualitative data is collected through direct encounters, for instance, through interview or observation.

Through the analysis of these different research techniques, the researcher concluded that that the most appropriate technique to be used in this research paper is the qualitative research method. The reason is that the qualitative method has been selected is because the application of translation procedures is required in order to translate correctly and accurately the original text in order to obtain a precise translated target text. In other words, the translation techniques will be analyzed based on observation. Furthermore, the qualitative research depends on the researcher's criteria and perception; these features that are required in this type of translation project.

3.1.3. The Mixed Method

Finally, mixed methods ideally include the benefits of both methods (Johnson, Onwuegbuzie, & Turner, 2007). The quantitative analyses employ descriptive and inferential statistics, whereas the qualitative analyses produce expressive data that provide descriptive details (often in narrative form) to examine the study's research objectives. Although the quantitative data may be collected via measures, such as self-reports and physiological tests, the qualitative data are collected via focus groups, structured or semi-structured interviews, and other forms (Creswell, 2013). Understanding that the qualitative method is concerned with analyzing opinions, feelings, and experiences, as well as to develop concepts and theories to

understand the texts, the investigator chose this method as it is the best fit to analyze a translation work.

3.2. Research Design

The structure and strategy created to obtain answers to a research question is called a research design, furthermore, a research design is a plan the investigator proposed in order to collect and analyze the data, and how the findings of the research will be communicated. The plan is the complete scheme or program of the research. It includes an outline of what the investigator will do from writing the hypotheses and their operational implications to the final analysis of data. (Kerlinger 1986: 279 in Kumar, R. 2008). A qualitative research describes the researcher's understanding of a social or cultural phenomenon. The qualitative research has four major research designs: phenomenology, ethnography, grounded theory, and descriptive research.

Phenomenology research is a method used to describe how human beings experience a certain phenomenon. The ethnographic research attempts to interpret data from the perspective of the population under study. The grounded theory which allows the theory of theories to emerge from the data that is collected while simultaneous collecting and analyzing data, and the descriptive research which defines an opinion, attitude, or behavior held by a group of people on a given subject.

This investigation will analyze and explain why a certain translation procedure is used, and the effects the procedures have on the translated text; furthermore, the qualitative research designs that will be applied are the descriptive research and the phenomenology research method. Punctually, the methods will be used in the analysis of a text sample. According to Bineham

(2006), in terms of research a sample is a group of people, objects or items take from a larger population for measurement. Furthermore, for the purpose of this research, the sample consists on two paragraphs from both texts containing from 100 to 125 words that will be selected in order to analyze each translation technique, through a color-coding chart designed by this evaluation.

3.3. Information Sources

Literature records human history and its achievements; it is a foundation in which users can rely on informational needs as it is a source of information. According to (Kragh 1989) a source of information is anything that might inform a person about something to providing knowledge to somebody. Information sources can be documents, books, newspapers, research papers, speeches among many other sources. The information sources can be divided into three categories according to: the primary sources, the secondary sources and the tertiary sources (Kragh 1989).

The primary sources are the first published records of original research and the development of new applications or interpretations of an old theme or idea. They are important sources of information because when a subject becomes a discipline these sources of information are produced. In research terms, the investigator can produce new information through the study and consultation of primary sources. Examples of primary sources include books, research reports, thesis, web sites, and works of literature. The secondary sources of information are compiled and reorganized from a primary source of information. The original information has been modified and selected to serve a definite purpose or a group of users (Kragh 1989) The secondary sources are available due to its nature, as primary sources might be difficult to find. Therefore, secondary sources can lead the researcher to the primary sources. According to

(Bonn, George S. 1971), the secondary sources of information are divided into three categories.

They follow below:

Index Type: index, bibliography, indexing periodicals, abstracting periodicals

Survey Type: review, treatise, monograph

Reference Type: encyclopedia, dictionary, handbook, critical tables

The tertiary sources of information contain information distilled and collected from primary and secondary sources. The primary function of tertiary sources of information is to aid the searcher of information in the use of primary and secondary sources of information. Most of these sources do not contain subject knowledge. Due to the increase in literature, tertiary sources are becoming increasingly important. Out of various kinds of sources, tertiary sources are the last to appear. Some tertiary sources are bibliographies, directories, and yearbooks.

For this investigation, the research subjects are the translation of the source texts and the target texts. The primary sources of information that will be used are related to the translation theories and translation procedures and methods, which can be books, research papers, and thesis. Also, primary sources of information will be consulted to study and analyze the information contained in the documents that are subject to this investigation. The documents to be consulted can be related to specialized terminology or information to comprehend and become familiarized with the texts. For the secondary sources of information, the researcher will consult online dictionaries, language forums, and relevant online information.

3.4. Analysis of Categories

In order to create a qualitative research, the information should be classified, grouped or categorized. For this investigation, four categories are defined: (1) translation, (2) translation procedures, (3) glossary and (4) text analysis.

3.4.1. Translation

The etymology of the word “translate” comes from the Latin word “translatum” meaning to transfer from one point to another. As linguistic phenomena, translation refers to transfer a written message from one language to another language.

3.4.2. Translation Procedures

Translation procedures are methods applied by translators in order to transfer the message in the written text into a target text in the most natural way available. According to Vazquez-Ayora, the lack of translation methods and procedures condemns the empiric translator to constant struggles and leads the translator into literalism, which is the cause of all errors in translation.

3.4.3. Glossary

A glossary or clavis is an alphabetically arranged reference works that gives brief definitions of words related to a specific topic. They are also known as controlled vocabulary.

3.4.4. Text analysis

The previous analysis of a text helps the translator to determine how the text should be translated in terms of tone, style, stylistic scales of formality, generality and emotional tone as well as text function.

3.5. Data Collection Instruments

The data collection instrument is a measurement device that allows the investigator to put the findings together for proper observation and evaluation. According to the Faculty Development and Instructional Design Center from Northern Illinois University (2005), the data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The instruments selected by the researcher will contribute to achieving the general and specific objectives as well as to be able to provide conclusions about the process of translating and analyzing the texts selected. The three instruments to be used in this research are the text analysis chart, the glossaries, and the color-coding chart.

3.5.1 Text Analysis

The first instrument is the text analysis chart, this is a crucial instrument because it uses Newmark's elements of text analysis (these were reviewed in detail in Chapter II) According to Newmark, it is through the analysis of a text a translator is able to understand the concepts, find the equivalents, the author's intention and to accurately convey the message to the readership, in order words, the text analysis chart is important because it helps the translator review the target text to make sure all of these aspects are considered in it. Both source texts are included in the following table:

Table 1

--	--	--	--

Text Analysis Element	Text I	Text II	Text III
Text Style			
Stylistic Scale of Formality			
Stylistic Scale of Generality			
Stylistic Scale of Emotional tone			
Text Function			
Type of Translation			

Table 1 shows the instrument that the researcher will use to analyze the texts under study. Source: Researcher's own creation.

3.5.2 Glossaries

The second instrument is the glossary, which was explained in detail in Chapter II. The use of a glossary is an important part of the translation processes; one of the main reasons to create a glossary is to achieve accuracy through the texts, this helps the translator to avoid inconsistencies and keeps evenness throughout the translated text. Also, it helps the translator to keep the translation process at a good pace as it avoids researching for difficult terminology. Additionally, the glossary adds value to the translation because it works as an extra resource for the readership to understand difficult or technical terms, and finally, it is useful for the translator as it is a terminology database that can be used in future translations.

For the purpose of this research, the researcher has created two glossaries. The first one is an English to Spanish glossary which includes a column for each section: English term, Spanish term, the grammatical category, and the definition. The table to be used is the following:

Table 2

English Term	Spanish Term	Grammatical Category	Definition

Table 2 shows the instrument that the researcher will use to create the glossary from English into Spanish. Source: Researcher's own creation.

The glossary from Spanish into English will contain a column for the Spanish term, the English term, the grammatical category, and its definition in Spanish. The table to be used is the following:

Table 3

Spanish Term	English Term	Grammatical Category	Definition

Table 3 shows the instrument that the researcher will use to create the glossary from English into Spanish. Source: Researcher's own creation.

3.5.3 Color-Coding

The third and last data collection instrument is the color-coding chart. The researcher will design and use a color-coding chart that will encode the translation techniques used in fifteen paragraphs, each of approximate 100 - 125 words retrieved from both of the translations. The chart will register the number of times a specific technique is used to translate the texts from Spanish to English and from English into Spanish, also it helps to identify the trends, and it will help the researcher to gather data to conclude the research.

For the purpose of this research, the investigator will use 13 different translation techniques, and in the color-coding chart, each technique will be assigned a specific color.

The color-coding chart which will be used is the following:

Table 4

Technique	Color
Modulation	
Transposition	
Omission	Red Font on Source Text
Amplification	
Explicitation	
Literal translation	
Compensation	Underlined Black Font
Equivalence	Highlighted Light Blue
Adaptation	<i>Italics</i>

*Table 4 shows the color that represents each technique in the color-coding instrument.
Source: Researcher's own creation*

3.6. Collection Data Process and Data Analysis

Translators should create a translation strategy prior to translating the texts to successfully render the message into the target language, this strategy is referred to as the translation process. First, the translator must read the text and throughout. The analysis of the text is as important as the attempt to render the ideas into a target language. There are two types of reading: the general and the close reading.

The first one is the general reading, in which the translator may need to consult other resources such as specialized textbooks or encyclopedias in order to comprehend the subject and key concepts. The second one is the close reading; this one pays particular attention to words in and out of context. As per Vazquez-Ayora, without previous analysis of the text, it is impossible to attempt translating it. By taking this precept into account, the translator must carefully read the text in order to identify the text' style, the intention, the scale of formality and generality, the scale of emotional tone and the text function. This will serve as an aid for the translator to select the appropriate translation techniques to convey the message accurately into the target language.

In the translation process, the translator might use different skills to render a work of quality; As stated by Newmark (1988) the translating activity can be compared to an iceberg in which the tip is the translation or that what is visible or what is written on the page, and the iceberg, the activity is all the work you do. This is the case of idiomatic expressions and cultural references that are commonly found in texts. The translator might need to extensively research the culture of the source text and the target text in order to convey the message in the most natural and comprehensive way available. As the translator translates ideas and not words, the translator will often consult articles, research papers, books and other sources of information in order to become familiarized with a particular subject.

Once the two texts are translated, a complete revision is needed in order to verify style, formality, tone, coherence, and make sure the intention of the author and text are transmitted. After that part of the process is completed, the translator will select the fifteen paragraphs to analyze the translation procedures with the color-coding designed for this specific study.

The color coding facilitates the identification of techniques, trends, and lack of procedures in a single unit text in order to provide a better understanding of ideas for translation.

Chapter IV

Translated texts

4.1 Translation of the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” from English to Spanish

La tecnología en el uso, el aprendizaje y la enseñanza de los idiomas

Este artículo ofrece una amplia perspectiva de los principios generales que relacionan a la tecnología con el uso, el aprendizaje y la enseñanza de los idiomas. La primera parte de este artículo aborda algunas de las formas en las que los medios tecnológicos influyen en los contextos y en las formas de expresión y comunicación. En la segunda parte, se propone una serie de preguntas heurísticas con el fin de brindar una guía de ayuda a profesores e investigadores de idiomas a determinar cómo incorporar la tecnología en sus prácticas docentes o en los programas de investigación; y así evaluar su impacto e idoneidad. Estas preguntas por sobre todo se basan en el objetivo de ayudar a los estudiantes a prestar especial atención a las conexiones culturales codificadas entre las formas, los contextos, los significados y las ideologías con las que ellos se enfrentarán y producirán en los diferentes medios, tanto los tradicionales como los nuevos.

En las últimas décadas, programas sólidos de investigación se han encargado de desarrollar diversas formas de enseñanza de idiomas asistida por computadora, estas a su vez, se acompañan del desarrollo de organizaciones profesionales dedicadas a la aplicación de la tecnología a la enseñanza de idiomas, tales como: CALICO, EUROCALL, y IALLT, además de revistas especializadas, entre ellas: *Language Learning & Technology*, *ReCaLL*, *Call System*, *Journal of Computer-Mediated Communication* y *CALICO Journal*; lo constituye en una evolución muy positiva. Por otra parte, al definir la tecnología en términos estrictos de computadoras y otros servicios digitales, en lugar de un amplio espectro de recursos mediacionales, no es difícil olvidar cómo los educadores dependen, en gran medida, de muchas otras formas de tecnología, desde la escritura hasta las grabaciones de audio, las imágenes y las películas. Una consecuencia es que la mayoría de la erudición técnica actual se arriesga a limitar su vida útil a programas y componentes informáticos que aparecen y desaparecen con rapidez. Este artículo plantea una amplia perspectiva para hacer un balance de los principios generales referentes a la tecnología y el uso, la enseñanza y el aprendizaje de los idiomas con la esperanza de que dichos principios se puedan emplear no sólo en las tecnologías actuales sino también en aquellas que aún están por inventarse.

A menudo, los profesores de idiomas se encuentran atrapados entre discursos contradictorios al tomar decisiones de cómo utilizar la tecnología en sus aulas. Por un lado, la tecnología se percibe con frecuencia como un medio para mejorar la capacidad mental y la creatividad; por otra parte, se presiona a los educadores cada vez más a utilizar la tecnología en la formación de los estudiantes para así prepararlos a vivir en un mundo globalizado y tecnológicamente interconectado (aunque del todo no es claro cuáles habilidades y destrezas el estudiante debe de tener para funcionar con eficacia en un mundo como tal.) Desde otra

perspectiva, la tecnología se describe como perjudicial para el pensamiento y la alfabetización de los jóvenes, ya que la ética del Siglo XXI permite el rápido acceso a trozos de información, lo que conlleva a una fragmentación de la experiencia que trae como resultado la incapacidad de prestar atención a otras personas, además de disminuir la habilidad de poseer un pensamiento crítico o discutir de una manera lógica. (Bauerlein, 2009; Carr, 2010). Otros observadores muestran preocupación porque la tecnología tiene un efecto negativo en el lenguaje en sí y consideran a las formas atípicas en ambientes digitales una traición, distorsión y debilitamiento del lenguaje (Thurlow, 2006). Por tanto, no es de extrañar que los profesores se preguntan con frecuencia si están o no tomando las decisiones apropiadas acerca de cómo utilizar la tecnología en sus aulas, sin embargo, lo que sí está claro es que no es posible excluirla, ya que la tecnología además de estar interrelacionada con la actividad humana, la domina; incluso si fuera posible enseñar idiomas sin alguna forma de tecnología se crearía un ambiente de aprendizaje muy limitado y artificial.

El punto de vista que se busca exponer aquí es que los profesores tienen que prestar atención a la tecnología no porque esta sea ni una amenaza ni tampoco una ventaja, si no, porque la tecnología inevitablemente afecta el uso del lenguaje inevitablemente. La tecnología moldea como las personas usan el lenguaje en instancias particulares, no como una fuerza autónoma y determinada, pero sí en interacción con una serie de factores que incluyen: la voluntad individual, las convenciones sociales, los contextos específicos y las limitaciones materiales (Kern, 2015). Es crucial que los profesores se refieran al uso del lenguaje entre los distintos medios materiales y las tecnologías, tanto en las viejas como en las nuevas formas, ya que una de las tareas claves de los profesores de idiomas es ayudar a sus estudiantes a entender cómo funcionan las normas lingüísticas y culturales. La primera parte de este artículo considerará

algunas de las formas en las que los medios tecnológicos influyen los contextos y las formas de comunicación. Después, propondremos una serie de preguntas heurísticas para ayudara guiar a profesores e investigadores de idiomas a determinar cómo incorporar la tecnología en sus prácticas pedagógicas o en sus programas de investigación, para así, evaluar su idoneidad e impacto. Nuestro propósito no es revisar a profundidad las investigaciones en estas áreas (Por esta razón referimos a nuestros lectores a la lista de publicaciones en este primer párrafo así mismo les recomendamos revisar Blake, 2013; Chapelle, 2009; Hubbard, 2009 y a la edición de diciembre 2009 de la revista MLJ que contiene un enfoque especial). Por el contrario, reflexionaremos sobre algunos de los problemas fundamentales y los procesos decisorios que relacionan el uso de la tecnología con el aprendizaje y la enseñanza de los idiomas a los cuales, por lo común, no se les hace referencia en la literatura investigativa; esto con la esperanza de extender el alcance a futuras enseñanzas e investigaciones.

La tecnología y la formación de contextos y formas

Desde la invención de la escritura hace algunos 5 000 años, el lenguaje y la tecnología se han interrelacionado a profundidad. La escritura permitió que el lenguaje fuera visible y preservable, lo cual le dio acceso a las personas a comunicarse a través de la distancia y el tiempo; además, la escritura también hizo posible que el lenguaje fuera objeto de análisis lo que conllevó al desarrollo de nociones metalingüísticas de las palabras, las partes del discurso y las reglas, las cuales se pudieron estandarizar en diccionarios y gramáticas y de esta manera poder enseñarse con claridad. La tecnología de la escritura le dio un nuevo poder al lenguaje, no solo al expandir las posibilidades de la expresión humana si no también al proveer un medio para que el conocimiento se pudiera grabar y acumular. En gran parte, la escritura es la base de nuestra la

base de nuestra comunicación electrónica actual y es importante recordar que se vincula intrínsecamente tanto a los sistemas tecnológicos como a los sistemas de signos.

Las herramientas que utilizamos para escribir (y leer) hacen la diferencia; cada una trae consigo sus propias propiedades físicas, toque y técnicas, su funcionamiento y limitaciones, y por tanto establecen una relación particular entre escritores (y lectores) y textos. Como Friedrich Nietzsche alguna vez escribió acerca de una nueva máquina de escribir: “Nuestros útiles de escritura participan en la formación de nuestros pensamientos” (Kittler, 1990, p.195) Al cambiarse la herramienta de escritura se cambian las posibilidades de comunicación, lo que es más que evidente en nuestra era de medios digitales.

El saber cultural necesitaba lidiar con las formas tecnologizadas del lenguaje -ya sea como productor o intérprete de los significados- porque son parte de la alfabetización o el concepto pluralista de la alfabetización, puesto que las tecnologías del lenguaje varían de manera drástica y ser alfabetizado en un modo no implica ser alfabetizado en todos los modos (Kern, 2015). Nosotros proponemos un planteamiento que se enfoca en cómo las prácticas de alfabetización siempre conservan algunas de las convenciones de las tecnologías más antiguas, en lugar de intentar distinguir entre “nuevas” y “viejas” tecnologías; por ejemplo: nos desplazamos en los textos electrónicos en las pantallas de nuestras computadoras, los cuales a menudo utilizan un diseño que asemeja a las “páginas de papel”. Al mismo tiempo se desarrollan novedosas convenciones con medios específicos; por ejemplo: los emoticones y el arte ASCII, este último se crea al utilizar los caracteres que poseen los teclados de las computadoras. Cuando “reparamos” los medios de comunicación más antiguos (Bolter y Grusin, 2000) influimos en el diseño de la comunicación, lo que nos lleva a expresar valores e ideas particulares acerca de lo que la es la comunicación (Gitelman y Pingree, 2003; Manovich, 2001). La implicación para los

estudiantes de idiomas es clara, además de desarrollar la gramática, el vocabulario y el conocimiento de pragmática y géneros también es necesario que desarrollen una disposición para poner atención crítica a las conexiones culturales que se codifican entre las formas, los contextos, los significados y las ideologías en una variedad de medios materiales.

El espacio, el tiempo y la presencia

Si en un principio, el discurso requería que los interlocutores estuvieran presentes al mismo tiempo y en el mismo lugar, con la tecnología de la escritura, el telégrafo, el teléfono y la radio fue posible la comunicación a larga distancia. Hoy en día, las tecnologías digitales les permiten a las personas hablar y escribir de forma sincrónica y asincrónica, ya sea que los participantes se encuentren lejos o a gran proximidad. Estos cambios hacen que la naturaleza del contexto espacial y temporal sea compleja en la comunicación por medios electrónicos (Baron, 2008). Las personas pueden utilizar los aparatos digitales en espacios físicos y simbólicos de manera simultánea; son capaces de realizar acciones físicas, por ejemplo: digitan, mueven el ratón de la computadora, deslizan la pantalla o el panel táctil o pueden hablar y moverse durante una videoconferencia, se personifican en el “aquí y ahora”, sin embargo, esas acciones siempre se transforman al proyectarse en espacios en línea, en los cuales las personas funcionan simbólicamente al nivel del aparato digital. En algunas ocasiones, cuando otros interpretan estas acciones, ellas adquieren nuevos significados simbólicos en la etapa final de salida, por ejemplo: deslizar un dedo podría provocar un error tipográfico, el cual se podría interpretar como una señal de descuido o ignorancia; o por ejemplo: un participante de una conferencia que mira en repetidas ocasiones a un amigo que está en el mismo espacio pero fuera de cámara, podría parecer nervioso para su interlocutor quien, desde su perspectiva, sólo puede mirar que los ojos del participante se alejan de la pantalla pero no sabe que hay otra persona en la habitación.

Aunque la presencia en la comunicación electrónica aún supone dimensiones espaciales y temporales, esas dimensiones funcionan de manera diferente que aquellas que se hacen en la comunicación cara a cara, por ejemplo, las personas que hablan por teléfono o por Skype comparten un “espacio interface” pero no un lugar físico, además podrían estar ocupando distintos marcos de tiempo psicológico o encontrarse diferentes zonas horarias de manera literal; lo mismo ocurre cuando las personas envían mensajes de texto o correos electrónicos o cuando usan Facebook o dejan un mensaje en un buzón de voz, en este último caso las personas asumen que la otra persona recibirá el mensaje en algún momento posterior, acá se produce lo que Clark (1999) denomina como “lenguaje incorpóreo”, esto significa que “el lenguaje no se produce por un hablante como tal al momento que este se interpreta” (p.43). En su análisis, Clark dice que todo uso del lenguaje incorpóreo exige la habilidad de lidiar con una superposición de operaciones “reales” y “virtuales”. Además, desde su perspectiva Clark establece que los textos en sí mismos no son actos comunicativos si no *accesorios que* les permiten a los lectores (o a los espectadores u oyentes) imaginarse actos comunicativos entre ellos mismos y los “agentes virtuales” que envisionan a través del texto. Entonces, algo que los estudiantes de idiomas necesitan experimentar es el movimiento entre las convenciones del uso del lenguaje corpóreo e incorpóreo, entre las operaciones “reales” y las “virtuales”. El uso de nuevas tecnologías - de ser desconocidas lo suficiente para los usuarios como para que esas novedosas convenciones les llame la atención de manera explícita- podrían ser de gran ayuda, en particular, para elevar la consciencia de los estudiantes sobre cómo tales cambios reales y virtuales ocurren en todas las formas del uso del lenguaje tecnológico, estos cambios incluyen aquellos que hoy son normales y naturales al punto que no se les consideran tecnologías del todo, tal es el caso de la escritura (Kern, 2015).

En ambientes virtuales como los dominios multiusuarios basados en textos y orientados a objetos (MOO, por sus siglas en inglés), Second Life (es un mundo virtual creado por usuarios y que se basa en modelos tridimensionales) y los juegos masivos multijugador (Cornillie, Throne y Desmet, 2012; Sadler, 2019; Thorne, 2008) personas de diferentes partes del mundo se reúnen en espacios virtuales en común; dentro de esos espacios las personas utilizan el lenguaje para recrearse a sí mismas en una interacción con otros (en algunas ocasiones lo hacen de una manera muy distinta a quienes ellos son en realidad). En los MOO, los usuarios pueden diseñar sus habitaciones y artefactos a través de descripciones verbales, de esta manera ellos desarrollan signos lingüísticos que compensan la falta de signos visuales que, por lo normal, acompañan a la comunicación cara a cara. Los gráficos en los juegos multijugador y en Second Life son más ricos, esto permite que los participantes puedan diseñar avatares, pero con una identidad personal, por consiguiente, pueden formar relaciones personales, negociar normas comunes de conducta social y lograr actividades colaborativas, las cuales todas deben realizarse a través del lenguaje. En el proceso de interacción, los participantes fabrican una realidad textual que estimula la imaginación y trasciende la realidad misma de los individuos que se sientan en frente de los teclados y las pantallas luminiscentes.

Estos y otros entornos virtuales tales como los mensajes instantáneos, chat y los mensajes de textos permiten textualizar la presencia, lo que a su vez posibilita que el usuario “haga trampa”. Por ejemplo: en los mensajes instantáneos, al bloquear el correspondiente nombre de pantalla no deseado, el usuario puede configurar su estado para que este “parezca” estar desconectado, cuando en realidad no lo está; o por el contrario, el usuario puede aparentar estar en línea, cuando en realidad este solo no cerró la sesión al momento que dejó de utilizar la plataforma. En las salas de chat y en Second Life, los “bots” (avatares que controlan los

programas informáticos) se pueden programar para hablar cuando usuario está ausente, esto sin dar una pista evidente de que es un sustituto automatizado quien está respondiendo. La capacidad de hacer que las cosas parezcan lo que no son es una función clave de la comunicación electrónica; esto es algo para lo que los estudiantes de idiomas deben estar preparados, ya que es razonable esperar que mucho del uso de su segunda lengua (L2) se dará en entornos digitales.

Las nuevas tecnologías requieren de nuevas negociaciones de convenios mutuos a plazos estas negociaciones no son por fuerza universales; por el contrario, es más probable que tiendan a ser específicas de una institución, de un grupo y hasta de un individuo en particular. ¿Cuánto tiempo debe esperar una persona para responder un correo electrónico que incluye una petición? ¿Que constituye una respuesta rápida? ¿Que constituye un retraso excesivo? En todos los medios de comunicación las respuestas dependen, hasta cierto punto, de la naturaleza de la petición (lo que está en juego), quién es el solicitante, quienes se beneficiaran de la petición, a que hora del día o de la noche, en que momento del año, se recibió la petición, etcétera; sin dejar de lado las convenciones y las normas de la cultura y la comunidad. Sin embargo, el medio también afecta, por ejemplo: el hecho que una petición data llegue por medio de correo electrónico versus por correo postal sin duda afectará el “horizonte de la expectativa” de cuán rápido el remitente espera una respuesta. Asimismo, los tiempos de respuesta afectan el discurso en sí: en las mentes de los participantes la “frescura” del contexto comunicativo (o si puede esperarse que lo sea) afecta cuanta información se percibe para ser compartida, lo cual a su vez, tiene consecuencias por la información que se hace explícita en un mensaje dado, o como se le dirige al interlocutor, por ejemplo, puede resultar incómodo utilizar el antepuesto “Querido ___” en intercambios rápidos y recíprocos, etcétera. En tanto los estudiantes de idiomas se mueven de un contexto

cultural a otro deben estar al tanto de estas negociaciones y de cómo las reglas pueden cambiar de manera significativa.

En algunas formas de la comunicación por medios electrónicos, el medio en sí valora en gran medida a la rapidez; por ejemplo: las personas toman turnos en los chats, los mensajes de texto y la mensajería instantánea para mantener el contacto y ritmo comunicativo a un paso estimulante. En chats que involucran a múltiples participantes, es necesario leer y responder de una manera rápida, ya que a mayor cantidad de personas más acelerada es la rotación de los mensajes debido a que los mensajes pueden no ser retenidos en la pantalla por más de unos pocos segundos; la meta es decir tanto como sea posible en una cantidad de tiempo y espacio mínimo, lo que conlleva al uso de abreviaciones. En tales casos, la presión del tiempo puede tener consecuencias gráficas, tales como el uso del alfabeto romano en lenguas que se basan en caracteres, como el chino (Lotherington y Xu, 2004) o la introducción de numerales homofónicos con el objetivo de acelerar la escritura, por ejemplo: *a2ml* por *à demain*, que en francés significa hasta mañana. Los distintos idiomas pueden utilizar diferentes convenciones de abreviaturas; por ejemplo, en inglés se toma la primera letra de cada frase: *btw* = *by the way*, que en español significa por cierto o a propósito, mientras que en el alemán, algunas veces se toman el primer par de letras de cada palabra, quizás para mejorar su pronunciación, por ejemplo: *dubido* = *du bist doof* (eres tonto).

Sin embargo, la aceleración tiene sus límites debido a que el proceso cognitivo de procesar textos requiere tiempo, en especial para los estudiantes de idiomas. De acuerdo con Harris (1995) “la comunicación debe ser lo más lenta posible para que funcione” (p.42). Una de las características tradicionales de la escritura establece que esta permite más tiempo para procesarse que el que se permite para procesar el habla²; sin embargo, este no es siempre el caso en la era

de la comunicación electrónica. La comunicación sincrónica ocurre en tiempo “real”, en comparación con la comunicación asincrónica cuenta con menor tiempo para poder ser procesada; lo que en teoría provee tanto al escritor como al lector del tiempo necesario para pensar, buscar información y componer los mensajes de una manera premeditada. Por otra parte, el hecho que la escritura en línea deja rastros del mensaje que, por lo general, se pueden recuperar, significa que los usuarios tienen acceso a los comentarios que antes divulgaron, a diferencia de la mayoría de las formas de comunicación oral. Por ejemplo, en las conversaciones de chat, el presente, en efecto, se puede expandir al ser posible “rebobinar” los discursos interactivos de manera espontánea, lo que también permite un mayor tiempo de procesamiento cuando se compara con la comunicación oral, así como también volver a representarlo en nuevos contextos. Si bien esto puede ser de potencial ayuda para los estudiantes de idiomas, también puede significar que sus propios discursos podrían ser sacados de su contexto original y atribuirles significados indeseados.

La reformatión de los textos, los géneros y los roles del escritor/lector

A medida que aparecen nuevas tecnologías de alfabetización, estas agregan nuevas posibilidades para la producción y el consumo de textos. Las aplicaciones de edición de textos, las redes electrónicas y la visualización en las pantallas permiten que los textos se puedan modificar con facilidad, además de ser muy dóciles para la autoría colaborativa. Los programas informáticos ofrecen una extensa gama de herramientas para el diseño, la edición, y la revisión de la gramática y la ortografía, lo que ayuda a que algunos escritores se desempeñen más allá de su capacidad real. Además, los autores se involucran más en la toma de decisiones, no solo en lo que respecta al estilo de la escritura si no también al estilo visual, por ejemplo: la tipografía, el color, la proporción y la disposición. De igual manera, los lectores pueden reacomodar el tamaño del texto y en algunas ocasiones modificar el diseño para adaptarlas a sus preferencias

personales; además, pueden imprimir los textos en papel o leer mientras se “desplazan” a través de las páginas de los documentos en línea. Asimismo, los autores o los lectores pueden distribuir los textos a miles de personas alrededor del mundo con tan solo una pulsación.

Además de estas nuevas formas de lidiar con los textos tradicionales, las tecnologías digitales hacen posible, nuevos tipos de texto que permiten que la escritura se pueda combinar con la voz, las imágenes, la música, los sonidos y el video en un solo documento; por el ejemplo: la narración digital de historias (Hull y Nelson, 2005; Lundby, 2008) es una de las formas de autoría multimedia en la cual la lengua es sólo un modo de significación, entre tantos otros.³ Hull and Nelson concluyeron al estudiar las respectivas lógicas de los diferentes modos y como funcionan en sinergia con la narración digital de historias que “parecería de gran importancia ampliar nuestra definición de escritura para incluir la composición multimodal como un nuevo medio disponible” (p.252). Es probable que en un entorno de aprendizaje de L2, se les pida a los estudiantes de idiomas participar en la narración digital de historias (ver Oskoz y Elola, 2014).

La tecnología digital, al ser una extensión de nuevos tipos de textos, permite nuevas formas de narración (Murray, 1997) en las cuales múltiples de los episodios alternativos y las conclusiones existen de forma paralela, lo que les otorga a los lectores un sentido de control sin precedentes sobre los acontecimientos de la historia y los desenlaces. Un excelente ejemplo de los primeros modelos de ramificación de la narrativa fue *À la rencontre de Philippe* (Furstenberg et al., 1993) el cual se diseñó de manera específica para estudiantes de francés. En la actualidad, los estudiantes pueden colaborar de forma colectiva para desarrollar una narrativa en línea a través de una página web colaborativa (conocidas como páginas wiki) o bien a través de un juego en línea, no con el propósito de que la narrativa sea de dominio público, si no para que los mismos estudiantes hagan uso de ellas, y en donde esas narrativas por el hecho de ser interactivas,

pueden ser fascinantes y emotivas (Bisell, 2010) además de ser satisfactorias a nivel educacional (Gee, 2003).

Si bien los textos digitales cubren todo el espectro desde las imágenes de los códices medievales hasta los mensajes cortos que se envían en la actualidad por plataformas sociales como *Twitter* (conocidos como “tweets”) es importante que no se confunda el medio con el tipo de texto o género. Es muy diferente escribir o leer un correo electrónico a escribir o leer un blog, a su vez, es muy diferente escribir un mensaje instantáneo a participar en una sala de chat; aun así, todos ellos se pueden realizar desde el mismo dispositivo digital. Por lo tanto, el género es un concepto clave al analizar las formas de uso de la tecnología; los géneros, como todas las demás convenciones del discurso, permiten y limitan la comunicación. En ocasiones, a los géneros se les asocia con ciertos medios en particular, asimismo se influyen por la función social y el contexto cultural en particular que se da en un determinado acto comunicativo. No obstante, es importante reconocer que las interferencias digitales pueden afectar los géneros; por ejemplo: considere los mensajes cortos por Twitter u otros sistemas de *microblog*; cuando por primera vez se desarrolló Twitter en el 2006, su página web lo describió como “Una comunidad global de amigos y extraños que responden a una simple pregunta: ¿Qué estás haciendo?” Sin embargo, la pregunta se modifica a un nivel leve en la interfaz de la página web al tener implicaciones sobre el género del mensaje que se envía por Twitter, debido a que esta cambia su enfoque atencional del ser individual a una perspectiva más enfocada hacia el exterior; este cambio es paralelo a la evolución de los blogs que van de los diarios personales de un único autor a una gama más amplia de contenidos y formatos, esto incluye a los sitios web de múltiples autores. Cuando se logra que los estudiantes consideren como los géneros interceden entre el lenguaje, el contexto

social y el medio de expresión, se les introduce a un nivel de abstracción necesario para el desarrollo de una conciencia crítica del lenguaje en la comunicación.

Los múltiples niveles de los contextos

Los profesores de idiomas están muy conscientes de lo que Firth (1964) llamó el contexto de una situación, así también del contexto lingüístico (o el contexto); sin embargo, en el uso del lenguaje a través de la tecnología también deben preocuparse por el contexto de la mediación, lo que se refiere al contexto del medio físico como tal, por ejemplo: el papel, la pantalla, el teléfono celular, componentes físicos y los programas de computadora, etcétera. Además, de cómo este interactúa con los otros tipos y las capas del contexto; por ejemplo: las “mismas palabras” en un medio impreso se pueden experimentar de una manera muy distinta a las que están plasmadas en otro medio, tales como los blogs, los audiolibros, las historias cortas que se leen desde un teléfono celular o los mensajes instantáneos. Por otra parte, el “mismo medio” podría funcionar de manera distinta en contextos diferentes; como señala Haas (1996), “estudios empíricos apuntan a entender el efecto que “la computadora” tiene en la redacción dentro de las aulas o en las corporaciones; sin embargo, se debe empezar con una conciencia que “la” computadora no existe, por el contrario, se instancia de muchas formas diferentes a través del uso que las personas le dan en las aulas, los hogares, las oficinas y las corporaciones” (p.31). De acuerdo con la investigación de Bell (2006), se demostró que esta variabilidad es mucho mayor si las diferentes culturas se toman en cuenta.

La comunicación mediada por computadora (CMC) se ha hecho una plataforma popular para proyectos telecolaborativos por al menos veinte años; sin embargo, en la literatura investigativa de la CMC aún no se ha explorado la interacción de los múltiples contextos en los que los participantes actúan: sus entornos físicos (y las interacciones que se integran en ellos), el

entorno informático, donde la acción principal se lleva a cabo en aplicaciones tales como el correo electrónico o Skype, pero también hay otras aplicaciones abiertas, como por ejemplo: Facebook o ventanas de chat; por consiguiente, todas estas interacciones se integran en estas ventanas (ver Holmes, 1995; Jones, 2004, Wasson, 2006). De conformidad con Jones (2004), las distinciones entre lo “real” y lo “virtual”, el “texto” y el “contexto”, la “actividad focal” y el “trasfondo”, el “emisor” y el “receptor” son, con frecuencia, difusos en situaciones de CMC; sin embargo, no siempre se les pide a los estudiantes de idiomas que reflexionen sobre estas distinciones no tan claras.

De acuerdo con Harris (2000), la computadora es “el dispositivo de contextualización más poderoso que se haya conocido” porque no solo integra el lenguaje con imágenes y sonidos donde es posible manipular las configuraciones de distintas formas, si no que también vincula la información a través de las lenguas y las culturas (p.242). Tales son los casos del collage, el fotomontaje y el hipertexto, cuyos textos o elementos originales se han separado de su contexto original, luego se han yuxtapuesto con nuevas combinaciones, o se han puesto en contacto con nuevos elementos para producir nuevos significados. La facilidad con la cual se puede realizar esas manipulaciones, la habilidad con la que se puede ocultar la presencia y el poder que tiene la computadora de recontextualizar, plantean una serie de interrogantes en relación con la cultura, los valores y la ética.

La cultura, los valores y la ética

En la actualidad, muchos jóvenes consideran lo que existe en el Internet como materia prima disponible para utilizarse con libertad y de la forma que mejor les parezca; asimismo, las herramientas para copiar y modificar esta materia prima son simples y abundantes. De esta manera, una de las preguntas que surgen tiene que ver con la cultura de la apropiación en el

Internet. Tal y como nos lo recuerda Bakhtin (1986), lo que es distintivo en los entornos digitales no es el préstamo en sí mismo, sino el sentido de que el préstamo no requiere ningún reconocimiento. En el mundo del Internet, la remezcla y la reutilización es en gran medida anónima y según parece, no tiene autor; por lo que no cabe duda que esta ética contribuye a los debates actuales sobre el plagio y su relatividad cultural, aun en ambientes no digitales (Chandrasoma, Thompson y Pennycook, 2004; Ivanic, 1998; Pecorari, 2003). Sin embargo, los textos multimodales llevan el debate a otro nivel, el cual no solo involucra al préstamo del lenguaje escrito, sino también involucra al diseño en un sentido más amplio, debido a que la imagen, el sonido y la emoción de un objeto digital se pueden copiar y pegar con la misma facilidad con la que se copia y pega el lenguaje escrito (Perkel, 2007, 2008).

De acuerdo con Wertsch (1998), nuestros principios con relación a la obra original son producto de la era de los derechos de autor; además que tenemos la tendencia a pensar que el acto creativo procede de la nada, que solo se le atribuye al genio de un individuo en particular, y que tendemos a no considerar a los medios de mediación y a los recursos culturales en los que el creador se basa para producir un trabajo (pp. 18-19). Todo esto es de gran provecho en las clases de idiomas donde las convenciones culturales se pueden examinar, analizar y comparar con el propósito de echarle un vistazo a los valores sociales que las subyacen. Sin embargo, lo que es crucial es que los estudiantes tengan una clara comprensión de los valores y las convenciones que operan en las culturas y sobre todo de las culturas académicas y profesionales donde estudian y trabajan, al igual que un cierto sentido de cómo esos valores y convenciones llegaron a existir.⁴

De este modo, surge otra pregunta que tiene que ver con la presentación personal en los entornos mediados por la tecnología, ya que los participantes en la comunicación textual en

línea tienen más control de su autoimagen y expresión personal que aquellos participantes en entornos cara a cara. Asimismo, Walther (1996) acuñó el término *comunicación hiperpersonal* para describir el fenómeno que explica que las personas se expresan de manera más plena o que experimentan el afecto de manera más intensa en entornos CMC que cara a cara. Esta curaduría del ser puede llevar a las personas a idealizar y sobreestimar las cualidades de los otros, y si bien, esto no tiene una implicación negativa, si es algo que los estudiantes de idiomas deben de estar al tanto al interactuar con amigos extranjeros claves ya que estas interacciones, con frecuencia, son una fuente importante de las impresiones y generalizaciones que el estudiante tiene acerca de la cultura meta. No obstante, el anonimato relativo y la distancia que se proporciona en la comunicación textual electrónica pueden incrementar el riesgo de malentendidos, tensiones interpersonales e incluso ataques verbales. En la literatura investigativa del aprendizaje de idiomas se han reportado pocos incidentes ataques verbales reales; para ejemplos se puede consultar Belz, 2003; Hanna & de Nooy, 2009; Kern, 2000; Kramsch & Thorne, 2002; Ware, 2005. Sin embargo, la prevalencia general de la violencia lingüística en línea sugiere que la potencialidad es mayor en las interacciones que no se organizan o se supervisan por los profesores; de esta manera los estudiantes deben tener en cuenta, como mínimo, que, si bien la anonimidad puede ser liberadora, también puede ser un arma de doble filo. De acuerdo con Zhao (1998), en el caso de la evaluación entre compañeros, la anonimidad lleva a revisiones más críticas, además el esfuerzo con que se realizan es menor que cuando se puede identificar a los evaluadores; se presume que se puede deber a que la anonimidad reduce el sentido personal de la obligación y la responsabilidad.

Una situación conexas es lo que Ware (2005) definió como “pérdida de comunicación”. En un estudio de intercambios en línea entre estudiantes alemanes del inglés y de estudiantes

estadounidenses del alemán, Ware descubrió que la naturaleza de la CMC se intercambia, lo que tiende a potenciar la rapidez y la brevedad sobre el discurso prolongado, lo que en ocasiones lleva a la desconexión, y por lo tanto, se pierden oportunidades para el aprendizaje intercultural. Kramersch and Thorne (2002) debatieron que no solo el medio tecnológico o los malentendidos lingüísticos los que pueden provocar que los intercambios interculturales en la CMC salgan mal, si no también los choques a los marcos culturales y las convenciones estilísticas de los géneros en particular, además de los sistemas del discurso a los que pertenecen los géneros. Hanna y de Nooy (2003, 2009) subrayan la importancia de los géneros comunicativo en su estudio monográfico en el que estudiantes de francés participaron en un foro en línea con el patrocinio del periódico Le Monde. Los estudiantes comprendieron que el género “discusión” no era universal, si no que varía según la cultura y el medio. En el contexto de los foros de discusiones en línea en francés, la cortesía y la exactitud lingüística eran mucho menos importantes que la voluntad de socializar y de seguir las reglas del discurso de la comunidad en línea; por consiguiente, el género y la cultura forman las condiciones y las limitaciones en los contextos comunicativos y por ende, la competencia comunicativa. Estudios acerca de la interculturalidad en la CMC señalan el hecho que el contacto en línea no produce un entendimiento intercultural de manera automática, debido a que se requieren las negociaciones continuas de las diferencias entre géneros, los estilos interactivos, las culturas institucionales locales y de la cultura en general.

Las alfabetizaciones siempre tienen dimensiones políticas y las digitales no son la excepción. De acuerdo con Marvin (1988), las nuevas tecnologías de comunicaciones ofrecen nuevos “espacios para negociar asuntos críticos del comportamiento social, entre ellos, quién está adentro y quién está afuera, quién tiene la palabra y quién no la tiene, y quién tiene la autoridad y

si se le puede creer” (p.4). Por supuesto, el Internet se ha convertido en un impulso para la difusión comercial y cultural; además de tener un enorme potencial para beneficiar la educación, la inclusión social y la participación política. Por el otro lado, el Internet puede ser también una herramienta para la manipulación, el dominio y la explotación, ya que si, bien facilita el diálogo intercultural, también facilita el imperialismo cultural. Es de incumbencia de los estudiantes de idiomas tener estas consideraciones, por ejemplo: los estudiantes deben de reflexionar sobre las representaciones de la culturas que escuchan y ven en Internet debido a que pueden filtrarse y estar en servicio de ciertos intereses en particular en lugar de los propios (Pariser, 2011). Además, deben de sensibilizarse con como otras personas que viven en culturas diferentes pueden percibir y valorar las tecnologías y las prácticas de alfabetización de una manera muy distinta a la de ellos y por sobre todo, deben de responsabilizarse por sus acciones en línea y darse cuenta que lo que puede parecer “virtual” en sus pantallas puede tener consecuencias muy reales y humanas para aquellos con quienes se están comunicando.

Preguntas Heurísticas

A continuación, con base en la discusión previa de cómo la tecnología ha cambiado y seguirá cambiando el espacio semiótico en el cual el aprendizaje se efectúa, ofreceremos una serie de preguntas heurísticas con la intención de ayudar a guiar a los investigadores y profesores de idiomas a determinar cómo incorporar, de la mejor manera, la tecnología a sus prácticas docentes o a sus agendas investigativas. Las siguientes cuatro preguntas se discutirán más adelante en este artículo.

P1. ¿Cuáles son los objetivos pedagógicos que tengo para mis estudiantes?

P2. ¿Qué idiomas, culturas y recursos educativos tengo a mi disposición?

P3. ¿Cómo se pueden utilizar estos recursos y combinarlos de la manera más efectiva para alcanzar los objetivos educativos establecidos?

P4. ¿Cómo evaluaré la eficacia del uso que los estudiantes le den a estos recursos en el alcance de los objetivos pedagógicos establecidos?

1. Objetivos Pedagógicos: ¿Cuáles son los objetivos pedagógicos que tengo para mis estudiantes?

En términos de los objetivos pedagógicos que tenemos para nuestros estudiantes de segunda lengua o lenguas extranjeras (L2), comenzamos con objetivos más generales de la capacidad de usar la lengua (L2) para comunicarse y producir significado. En diferentes grados, estos objetivos están en sintonía con los *Estándares para la Enseñanza de las Lenguas Extranjeras* del ACTFL (1996), el Mapa de Competencias del Siglo XXI del ACTFL (Theisen et al., 2001), la promoción de la *competencia translingual y transcultural* de la Asociación de Lenguas Modernas (MLA) (2007), el proyecto del Marco Común Europeo de Referencia y el subsiguiente enfoque en la *educación plurilingüe e intercultural* del Consejo de Europa (2001) (Zarate, Lévy, & Kramersch, 2008), además de los llamados a avanzar más allá de la competencia educativa, por ejemplo, la noción de la competencia simbólica de Kramersch (2006, 2009) la propuesta por parte del Grupo Douglas Fir (esta edición), y la noción de la *competencia educativa 2.0* de Lotherington and Ronda (2014), la cual se concibió para igualar las tendencias en los cambios tecnológicos y sociales, además para englobar la competencia multimedia, la comunicación colaborativa, la participación activa y la competencia de múltiples tareas (p.19).

Los conceptos más comunes que se proponen para abarcar estos objetivos son: *multialfabetizaciones, nuevas alfabetizaciones y alfabetizaciones del Siglo XXI*; por lo general,

se suelen utilizar, como así también lo sugiere el Consejo Nacional de Profesores de Inglés (2013), para sugerir que “la alfabetización es desde siempre una colección de prácticas comunicativas y culturales que se comparten entre los miembros de ciertos grupos, y que en la medida que la sociedad y la tecnología cambian, también cambia la alfabetización” (n.p.).

Las nuevas tecnologías de comunicación emergen porque la alfabetización cambia y se transforma con rapidez; de esta manera, es necesario que los estudiantes (y los profesores) comprendan los nuevos tipos de discursos, las prácticas sociales y las habilidades necesarias para utilizar estas nuevas tecnologías (Baker, 2010; Lankshear & Knobel, 2006; Leu et al., 2014). Asimismo, debido a que las tecnologías disponibles están en constante cambio, la alfabetización no sólo es nueva hoy, si no que se renueva a diario; ya que surge con regularidad y rapidez (Ley, 2000). Esto contribuye a lo que Leu caracteriza como la naturaleza “deíctica” de la alfabetización, que, como consecuencia, resulta que el planeamiento y la predicción sean muy difíciles para los profesores. Por lo tanto, proponemos un enfoque, que, al concentrarse en el panorama general de la alfabetización, libere a los profesores de ser tanto “predictivos” como de ser “reactivos” y prepare a los estudiantes a lidiar con cualquier tipo de nuevas tecnologías que se encuentren en su vida. En concreto, y como se sugiere en la primera parte de este artículo, un objetivo crítico es que nuestros estudiantes al hecho que las relaciones tienen influencia cultural entre las formas semióticas, los contextos sociales, los medios materiales y los significados.

Además, en consonancia con el rumbo social de la educación de lenguas extranjeras y con las sugerencias por parte del Grupo Douglas Fir (esta edición), quisiéramos ver el aprendizaje de la alfabetización como un proceso en el cual se socializa al estudiante L2 para pertenecer a un grupo de afiliación en comunidades alfabetas específicas, como así lo sugiere Lam (2000). Asimismo, Lam cita que los nuevos objetivos de los Estudios de Nuevas

Alfabetizaciones (véase Gee, 1996) iluminan la naturaleza contextual tanto de la lectura como de la escritura y ve a la alfabetización muy vinculada a ciertos contextos socioculturales, instituciones y relaciones sociales; en otras palabras, los estudiantes de idiomas deben ser flexibles al moverse de un contexto cultural al otro sin importar el medio o la tecnología.

En el contexto de la pedagogía de lenguas extranjeras, sugerimos la compatibilidad de los enfoques que se basan en la alfabetización (véase Byrnes, 2005; Kern, 2004; Paesani, Allen, y Dupuy, 2015; Swaffar y Arens, 2005; Swaffar y Urlaub, 2014) con los usos de la tecnología y así, definir la alfabetización como la habilidad de lidiar con las formas tecnológicas del uso del lenguaje. Uno de los objetivos de la alfabetización que se basa la enseñanza de idiomas es reconciliar el enfoque verbal de la enseñanza comunicativa de la lengua (método comunicativo), y su interacción cara a cara, con ayudar a los estudiantes a desarrollar la habilidad de leer, discutir, reflexionar y escribir textos, de manera crítica, en todas sus modalidades. Así de este modo, en lugar de diferenciar entre las “viejas” y las “nuevas” tecnologías, buscamos tanto continuidades como también innovaciones en el tiempo y en los medios.

Asimismo, quisiéramos que los estudiantes crean o produzcan textos, tales como ensayos, chat escritos; además, visuales como glosarios pictóricos, fotos o gráficos entremezclados con texto; también audio, como, por ejemplo: grabaciones o chats de audio; y video, por ejemplo: videos cortos, chats de video y narraciones digitales. Con el propósito que ellos puedan criticar, analizar y evaluar tanto los significados que quieren transmitir como los que otros producen.

Por lo tanto, fomentar las habilidades que antes se señalaron, nos conduce a una pregunta conexa con cómo poder guiar a los estudiantes a ser conscientes de forma crítica y, de igual manera, reflexionar sobre las realidades virtuales y simbólicas de las tecnologías. Si bien

la generación milenial creció en conjunto con la utilización de las tecnologías, no significa que puedan ser capaces de una reflexión crítica; por ejemplo: deben estar conscientes que el material colaborativo (v.g. Wikipedia) podría ser la primera fuente de consulta, sin embargo, esta no debe ser la última. Asimismo, deben darse cuenta de que las palabras o imágenes que se utilizan en medio pueden experimentarse de manera distinta en otro medio; es así como, la reflexión profunda es necesaria para utilizar los diferentes medios tecnológicos.

De manera similar, Web 2.0 introdujo foros que abarcan casi todo tipo de temas, desde esoterismo hasta reseñas de productos y entretenimiento. Del mismo modo, el lenguaje de los foros varía mucho, y si se están utilizando en L2 como un aporte auténtico para los estudiantes, es imperativo que los estudiantes y los profesores puedan distinguir los diferentes registros del lenguaje que se encuentran en los distintos tipos de foros, por ejemplo: los foros académicos y profesionales se pueden utilizar en contextos interculturales formales, en comparación con sitios sociales informales como Facebook.

Una pregunta final con relación a establecer objetivos es cómo podemos decidir usar (o no utilizar) los nuevos géneros; por ejemplo: si los mismos profesores no usan Twitter, entonces, ¿Pueden enseñar esta habilidad o esperar que sus estudiantes utilicen esa plataforma? ¿Debemos también enseñar los protocolos y las normas para utilizar Twitter en diferentes idiomas? De igual forma, ¿Qué Importancia tiene que los estudiantes participen en nuevos grupos sociales, como las comunidades en línea, los foros o Facebook? ¿Que deben saber los estudiantes de L2 y sus profesores sobre la sintáctica y la pragmática de la comunicación en este tipo de comunidades? ¿Creemos que la participación activa es esencial en la enseñanza de los idiomas al impulsar a los estudiantes a acceder, unirse y participar en sitios de interés o al pedirles que accedan, crean, comparten y mezclen contenido determinado? (Lotherington & Ronda, 2014, p.

19) Entonces, ¿El desarrollo de las múltiples alfabetizaciones significa que los estudiantes deben tener acceso y dominar todos los medios de comunicación?

2. Idioma, cultura y recursos pedagógicos disponibles

Al hacer la pregunta “¿Qué idiomas, culturas y recursos educativos tengo a mi disposición?” implica que se consideren tanto los recursos tradicionales que los profesores vienen utilizando desde hace varias décadas como los que están disponibles a través de nuevos medios y recursos digitales, y lo que es aún más importante, es ser abiertos, flexibles y críticos con respecto a lo que estará disponible en el futuro, aquello que no podemos anticipar ni predecir.

El enfoque que proponemos se centra en cómo los diferentes medios y recursos pedagógicos influyen en la forma en la que diseñamos las tareas comunicativas para los estudiantes; asimismo, además de la forma en la que los aspectos lingüísticos tradicionales (p.ej. gramática y vocabulario) y el conocimiento del género, el cual se cambia y se expande en la medida que nuevos medios surgen, debemos reconocer también la importancia que tanto los estudiantes como los profesores estén al tanto, de una forma crítica, de las nuevas conexiones entre las formas, los contextos, los significados y las ideologías en la amplia y creciente gama de de los medios. Como docentes debemos pensar en cómo podríamos utilizar las nuevas tecnologías en las tareas educativas de la enseñanza de idiomas y culturas de una forma creativa e ir más allá del modo estándar, para así ayudar a los estudiantes a desarrollar los tipos particulares de competencias comunicativas que deseamos que aprendan.

En la primera sección discutimos que las tecnologías, a grandes rasgos, incluyen medios tradicionales y recursos pedagógicos, estos incluyen libros de textos, cuadernos de ejercicios,

literatura que, a su vez, incluyen palabras, textos, ilustraciones, gráficos y fotografías. Además, incluyen medios de audio (p. ej. grabadoras y reproductoras en los laboratorios de idiomas), medios visuales (p. ej. cortos y películas), medios escritos (papel y lápiz, máquinas de escribir), tecnologías en las aulas (pizarras, pizarras acrílicas, retroproyectores). Por otro lado, las nuevas formas de los recursos mediáticos se refieren, por lo general, a tecnologías informáticas (ahora se incluyen las móviles), muchas de las cuales se unen con el Internet de forma integral. La tecnología multimedia denota la habilidad de combinar texto, gráficos o visuales, audio y video de manera conjunta en un mismo programa educativo, una aplicación o una página web.

A lo largo de la historia, a las llamadas aplicaciones Web 1.0 se les describe con las siguientes cualidades: unidireccionales, estáticas, páginas de solo modo lectura; donde en su gran mayoría, los usuarios son consumidores de contenido e individuos o grupos, que son propietarios del contenido, es decir, son páginas web personales o de negocios. En contraste, las aplicaciones Web 2.0 se caracterizan por ser: de un usuario a muchos o bidireccionales, dinámicas, páginas para leer y escribir, “participativas”, donde en su mayoría, los usuarios son creadores de contenido y además, lo comparten; son “colaborativas”, “interactivas” con un componente social muy fuerte (p. ej. Facebook, YouTube, Vimeo). Además, muchas de las formas de la CMC: envío de mensajes de texto, mensajes instantáneos; conversaciones de chat (audio, texto y video); redes sociales (Facebook, Tuenti para los usuarios de habla hispana, renren para los chinos, Instagram, Twitter, Friendster, MySpace, Ello, Diaspora). Para los profesores de idiomas la etiqueta #langchat en Twitter es de particular relevancia debido a que marca tweets que se relacionan con la enseñanza y el aprendizaje de idiomas. Como antes se analizó, las líneas son difusas entre aquellos tipos de CMC que son *asíncronos* y aquellos que son *sincrónicos*.

Ahora, las características de la Web. 3.0 que se han predicho y están emergiendo son: personales y portables (¿Qué son los teléfonos inteligentes sino asistentes personales?), tienen un enfoque personal que lleva a las acciones previas de un usuario a interpretar y hacer conexiones con esa información; es una red semántica, posee contenido consolidado y realidad aumentada (p. ej. Google Earth, la aplicación de realidad aumentada London Underground que ahora se llama “London Tube”). En el entendimiento de las *funcionalidades* de estas diferentes formas de tecnología subyace el razonamiento para seleccionar las adecuadas para la enseñanza y el aprendizaje de los idiomas. Este es el caso tanto para las viejas como para las nuevas tecnologías, cualesquiera que estas sean.

Además de las tecnologías que antes se discutieron, existen diversos tipos de juegos digitales; desde los juegos individuales en los dispositivos móviles (p. ej. juegos para aprender vocabulario) a los juegos masivos en línea (p.ej. juegos para actuaciones, simulacros, deportes). Los ambientes virtuales y las realidades virtuales son tendencia en la actualidad. Asimismo, las herramientas como las tecnologías de reconocimiento automático de voz (ASR, por sus siglas en inglés) y las de la evaluación automatizada de la escritura (AWE, por sus siglas en inglés) están en continua mejora, como así también las aplicaciones de texto-a-voz. Se han recopilado corpus para muchos idiomas, tanto escritos como orales; además, se han desarrollado herramientas para que las utilicen estudiantes, profesores e investigadores por igual. Para estos actuales o futuros recursos, la pregunta crítica es cómo pueden adoptarse y adaptarse para que sirvan a la alfabetización que se basa en la enseñanza, el aprendizaje y la investigación de los idiomas; esto nos lleva a la próxima sección.⁵

3. El uso y la conjunción de recursos pedagógicos para lograr nuestras metas

El desarrollo de las multialfabetizaciones requiere de una comprensión del cómo los contextos, en los cuales la comunicación ocurre, se han modificado por la tecnología. En esta sección, examinaremos la pregunta heurística número tres: “¿Cómo se pueden utilizar estos recursos y combinarlos de la manera más efectiva para alcanzar los objetivos educativos establecidos?”. Además, se discutirán cómo se pueden utilizar los recursos tecnológicos tradicionales, los nuevos y los más recientes para alcanzar estos objetivos.

Al examinar algunas de las habilidades específicas del L2, en términos de las habilidades de conversacionales, si la meta es que los estudiantes hablen con nativos del idioma (u otros que hablen el idioma) entonces, se puede dotar a los estudiantes de las oportunidades que ofrecen las tecnologías de la CMC, con las que se puede acceder a más diversas opciones para conversar con hablantes nativos del idioma que se encuentren en una localización geográfica distante o diferente al aula o lugar de residencia. Sin embargo, los problemas técnicos, tales como el desfase de la transmisión o el hecho que el participante mire hacia la cámara en lugar del interlocutor, puede hacer que la experiencia conversacional sea menos natural e incómoda (Kern, 2014). De esta forma, se debe ejercer la cautela cuando emergen las nuevas tecnologías; por ejemplo: la nueva función de traducción en Skype (<http://www.skype.com/en/translator-preview/>) le permite, con la ayuda de un traductor virtual, al hablante de un idioma “conversar” con el hablante de otro idioma, en tiempo real. Asimismo, el solo hecho de poder conversar con otra persona desde cualquier parte, no mitiga la potencial incomodidad de hablar con un completo extraño o del intercambio de ciertos cumplidos. De igual manera, si la meta es comunicarse con eficacia e inteligencia, entonces es imperativo desarrollar con cautela las tareas que permitan aprovechar las potencialidades de las tecnologías, y al mismo tiempo, entender algunas de sus limitaciones.

Asimismo, si los objetivos de la destreza de la escucha se enfocan en comprender el discurso naturalístico, existen muchos recursos , ya disponibles en línea , para escuchar en cualquier momento y desde cualquier lugar; por ejemplo: los abundantes videos en línea (Youtube, Vimeo) ofrecen ejemplos de discursos en muchos idiomas, además de la variedad y dialectos de la misma lengua. Para conversaciones en tiempo real, las tecnologías de la CMC permiten video-audio conferencias; sin embargo, las mismas advertencias que se hacen con respecto al hablar deben hacerse con respecto a la escucha. Por ejemplo, ser capaz de entender lo que un interlocutor está diciendo en una videoconferencia, requiere ajustarse a la limitada calidad del audio, en comparación con las conversaciones cara a cara. Además, cuando se trata de interactuar con un extraño, por ejemplo, en el caso de las conversaciones en Livemocha, el cual es una comunidad gratuita de enseñanza de idiomas en línea que a través de su sitio web ofrece material didáctico y oportunidades para que los estudiantes interactúen entre sí, o en los mundos virtuales existe, sin duda, una necesidad de ajustarse al acento de cada individuo y a su discurso personal, que de seguro, contiene muchos coloquialismos y elisiones. Además, hay algunas investigaciones sobre los beneficios de utilizar programas informáticos para desacelerar el discurso como un ejercicio para que los estudiantes puedan practicar y mejorar su capacidad de escuchar (East & King, 2012; McBride, 2011). Sin embargo, el profesor tiene la última palabra para decidir si es o no una herramienta efectiva para el aprendizaje. Asimismo, como ya es habitual, se debe considerar el nivel de competencia del estudiante para decidir, si se debe o no, utilizar una tecnología en particular.

En cuanto a la destreza de la lectura en L2, una combinación de recursos tradicionales y de nuevos medios es acertada, si los objetivos van más allá de comprender escritos que incluyan textos y materiales multimodales. En la enseñanza de L2, ya es común que los estudiantes lean

material en el Internet, en parte se debe a la autenticidad de los intereses actuales y también porque la comprensión del contenido del internet es una parte esencial en la vida del siglo XXI. Sin embargo, el simple hecho de tener acceso a diccionarios o a herramientas de traducción cuando se lee en línea, no siempre promueve el aprendizaje a largo plazo de una palabra o su comprensión en general. Hay muchos profesores en gran desacuerdo con el uso de las herramientas de traducción en línea; pero si en lugar de prohibir el uso de estas herramientas a los estudiantes de forma rotunda, quizás sería prudente enseñarles a utilizarlas para que puedan producir un texto con mejor significado del que hubieran podido producir si utilizaran las herramientas y los métodos más tradicionales para la enseñanza de la lectura del L2. Como lo señala Blyth (2014), el proceso de la lectura en sí, se podría transformar de ser una práctica individual a ser una nueva práctica social; por ejemplo: los dispositivos de lectura, tales como *eComma*, el cual es un programa de lectura social que le permite a los lectores hacer anotaciones de un texto y compartirlas con otros; este es un típico ejemplo de la “cultura participativa” de la Web 2.0.

De igual manera, es esencial enseñarles a los estudiantes de L2 a comprender del todo y a apreciar los materiales multimedia; si bien los gráficos, las imágenes, las fotos y los videos que acompañan a los textos puede ser una ayuda en el proceso de comprensión, del mismo modo, también pueden distraer y confundir. Asimismo, los estudiantes deben de evaluar de manera crítica, si y de qué forma, el significado mejora o se debilita por la información multimodal. Además, un aspecto importante de los nuevos medios de las alfabetizaciones es convertirse en usuarios críticos de las herramientas tecnológicas y los medios, por ejemplo: algunos estudiantes se pueden beneficiar de los programas de texto-a-voz, los cuales les “leen” textos; otros pueden obtener ayuda de los hipervínculos, ya que les pueden llevar a otra información que sea de

relevancia para el texto. Sin embargo, en todos los casos, se debe de concientizar a los estudiantes de las formas en las que la multimedia les puede ayudar tanto con la comprensión como también de las formas en que podría ser perjudicial; en otras palabras, los estudiantes deben ser sensibles con la relevancia cultural del idioma y la información multimodal, por ejemplo: una foto inapropiada para la cultura del idioma puede darle al estudiantes un sentido falso al significado real de la palabra o el concepto.

Con respecto a la destreza de la escritura en L2, si los objetivos son que los estudiantes sean capaces de producir significado al utilizar todas las tecnologías disponibles, tanto las digitales como las análogas, entonces, de igual manera, se les debe enseñar sobre los diferentes estilos del discurso y los registros según el medio, el propósito y el contexto. Por ejemplo: primero, se les podría exponer a nuevos géneros a través de diferentes actividades de escritura, tales como los blogs, wikis, fanfics o relatos de ficción escritos por fans; y una vez que estas les sean familiares como lectores, se les puede pedir que creen su propio contenido (véase Sauro, 2014). Asimismo, uno de los desafíos como profesores es asignar actividades de escritura que combinen, tanto los medios tradicionales como los nuevos, con el fin de promover nuevas alfabetizaciones. Por ejemplo, como se mencionó antes, los profesores pueden discutir con sus estudiantes la práctica de “cortar y pegar” junto a cómo se podría utilizar de forma eficaz el traductor de Google, además, se les puede pedir crear sus propias historias digitales, no sólo de forma escrita si no también podrían ser orales o narradas y también, podrían incluir gráficos e imágenes para transmitir los mensajes y los significados.

Por otra parte, para la comprensión de una oración y de los niveles del discurso, si la lengua nativa del estudiante (L1) utiliza distintos tipos del discurso de la L2, es necesario que los estudiantes estén al tanto del discurso típico de la L1, antes de poder ser capaces de notar y

entender el discurso similar en la L2; por ejemplo, si se utiliza Facebook para la enseñanza de la L2, es entonces necesario que, tanto los profesores como los estudiantes, se familiaricen con las normas y su uso, tanto en la L1 como en la L2. Además, si bien los estudiantes se podrían beneficiar con el uso de Facebook, en términos de involucrarse en conversaciones con sus compañeros o en familiarizarse con las redes sociales de la L2, cabe la posibilidad que también podrían existir malentendidos (inesperados) si los estilos del discurso entre la L1 y la L2 son diferentes (Ware y Kramersch, 2005). Asimismo, el objetivo final de rectificar malos entendidos en lo que, de acuerdo Kramersch (2009) definió como competencia simbólica, la cual es “una habilidad de aprovechar la diversidad semiótica que proporcionan los múltiples idiomas para replantar las formas de ver eventos familiares” (p. 201).

Por último, desarrollar la competencia pragmática e intercultural de los estudiantes de L2 es un proceso largo, el cual requiere cultivar la conciencia cultural, la comprensión y los cambios en las actitudes y percepciones que un individuo tiene, tanto acerca de su propia cultura, como de otras. Además, algunas investigaciones sobre los cambios interculturales hallaron que los estudiantes avanzados si demuestran el uso de estrategias pragmáticas de forma correcta, mientras que otros con una competencia lingüística similar se desempeñan sin éxito en conversaciones en línea significativas (Chun, 2011). Si bien, las tecnologías pueden desempeñar una función en esta evolución, no hay una sola tecnología responsable para hacer que esto sea posible. De hecho, las tareas en línea, tales como: ver videos cortos o películas, o llevar a cabo diferentes intercambios interculturales, por ejemplo: usar chats, foros, correo electrónico o la creación de videos o blogs, se deben combinar con discusiones en clases presenciales, para permitir un seguimiento extenso y focalizado; y de esta manera, asegurar que los malentendidos se minimicen y no se creen nuevos estereotipos. Además, se debe prestar atención especial a

aquello que, en términos de tiempos de respuesta, se considere “puntual”; así como, al grado de confianza y confort que los estudiantes tienen en las discusiones en línea. En una investigación de Chun y Wade (2004), se demostró que los estudiantes de segundo año de alemán, quienes participaron de un intercambio en línea junto a estudiantes alemanes que estaban aprendiendo inglés, eran mucho más amables y diplomáticos sobre cómo percibían a sus compañeros de intercambio alemanes en sus publicaciones en línea que en sus discusiones en clase.

De esta forma, tanto la elección como la combinación de las tecnologías dependerán de nuestros objetivos generales y del enfoque pedagógico; asimismo, si se desean las multialfabetizaciones, se deben considerar las funciones de las diferentes tecnologías por su habilidad de enfocarse en el uso del idioma en contextos sociales particulares, además, los profesores deben integrar tareas que requieren de reflexión crítica sobre cómo se construyen ciertos discursos, como se utilizan para comunicarse y alcanzar los distintos fines sociales, y cómo se relacionan con la cultura o culturas a la que pertenecen.

4. La evaluación de los recursos pedagógicos en la enseñanza de idiomas y del uso por parte de los estudiantes

La evaluación del uso que los estudiantes le dan a los recursos digitales para cumplir los objetivos establecidos es un proceso exigente, multifacético y dinámico; ya que va más allá de la eficiente/ineficiente dicotomía que a menudo se presenta en las evaluaciones de los resultados del aprendizaje. Desde luego, los resultados del proceso de aprendizaje son medidas importantes del valor de la herramienta digital, sin embargo, debemos establecer que esos resultados se basan, al menos en parte, en el uso efectivo que los estudiantes le den a la herramienta que se está investigando. Antes que sea posible discutir sobre la evaluación del uso

de un determinado recurso por parte del estudiante, debemos abordar un problema aún mayor con respecto a la evaluación de la herramienta digital en general. De esta forma, si optamos por una herramienta digital debemos tener presente las heurísticas 1 y 3 , además, debemos de examinar (como mínimo) *las funcionalidades, las experiencias y las expectativas de ciertos estudiantes y el ambiente del aprendizaje del idioma* en sí, tanto dentro como fuera de las aulas. Solo así entonces, tiene sentido explorar cómo los estudiantes interactúan con una herramienta y determinar la medida en que esta interacción les ayudó a alcanzar sus propios objetivos del aprendizaje del idioma o los de sus profesores.

Las funciones de las herramientas digitales. Las herramientas digitales no son neutrales, por el contrario, tienen funciones específicas y limitaciones, como todas las herramientas, lo cual puede moldear de forma activa lo que los profesores pueden hacer con ellas; entonces, ignorar las funciones específicas y las limitaciones del aprendizaje de idiomas asistido por computadora, conocido como CALL por sus siglas en inglés, es probable que resulte en una incompatibilidad tanto entre los objetivos y las herramientas como entre la pedagogía y la tecnología, lo cual puede limitar con gravedad la eficacia de la tecnología como una herramienta educativa. De acuerdo con Álvarez-Torres y Zhao (2003), en un estudio sobre las funciones de distintas herramientas de comunicación asistida por computadora (CMC), se sugirieron cuatro cualidades que son fundamentales para distinguir una herramienta CMC de la otra: temporalidad, anonimidad, modalidad y espacialidad. En términos de temporalidad, la cantidad de tiempo que se puede esperar a que un mensaje llegue a su audiencia tiene un impacto considerable tanto en el discurso como en el comportamiento de sus participantes; por ejemplo: el discurso en la comunicación sincrónica asistida por computadora (SCMC, por su siglas en inglés) por medio de chats tiene patrones estructurales, interseccionales y participativos únicos (Kern, 1998; Smith,

2003; Zhao, 1998). Asimismo, la inmediatez de la transmisión de los mensajes tiene un efecto tanto en la manera como se exploran los temas como en la cantidad de la producción del estudiante y el profesor (Chun, 1994; Kern, 1995). Con respecto a la anonimidad, se ha argumentado que contribuye una atmósfera de receptividad crítica (Kern, 1998) y a su vez, a reducir la inhibición (Herring, 1996). Respecto a la modalidad, esta se caracteriza por incluir la disponibilidad de texto, audio, video y gráficos, lo cual, con certeza, influye en el potencial de alcanzar una meta en específico; por ejemplo, Chun y Plass (1996) encontraron un efecto significativo en los tipos de anotación de la retención léxica. Por último, las tecnologías de la CMC poseen diversas capacidades para manipular la distancia espacial durante la comunicación; por ejemplo, se ha demostrado que la cercanía entre los avatares afecta la apropiación conversacional entre los participantes, además, de nuestra interacción social en un ambiente de un mundo virtual (Krikorian et al., 2000).

Las experiencias y las expectativas de los estudiantes. La evaluación de la eficacia de los recursos educativos de idiomas (LLRs, con sus siglas en inglés), primero debe de comenzar con la pregunta ¿Para quién son eficaces? Para responder a esta pregunta debemos considerar las variantes del estudiantes, tales como: la edad, el nivel de competencia, la L1, las experiencias educativas, los intereses y la complejidad tecnológica. De acuerdo con Hubbard (2011), se ofrece un marco de evaluación flexible que abarca las nociones de las funcionalidades y toman en cuenta, de manera explícita, las experiencias y las expectativas tanto del estudiante como del profesor. Es así, que las rúbricas de Hubbard de la aptitud del estudiante y del profesor son clave para la discusión actual. En general, “la aptitud del profesor” es una combinación de su enfoque educativo de la enseñanza de idiomas junto con sus creencias sobre las computadoras como un sistema de entrega, en términos del contenido y la pedagogía; y así como, cuan compatible y

consistente es con estos dos elementos. Por ejemplo, si la presentación del idioma en un contexto es parte de las creencias que el profesor tiene sobre la enseñanza del idioma, entonces los recursos que se basan, sobre todo, en un enfoque de repeticiones no son idóneos. Con respecto a la “aptitud del estudiante”, se refiere al grado en el cual el recurso educativo es compatible con las variables del estudiante, que antes discutimos. Además, comprende los objetivos lingüísticos y las destrezas del idioma del curso meta, y así también, la medida en la que el recurso educativo es apropiado.

El entorno del aprendizaje de idiomas. En cuanto a la aptitud tanto del profesor como del estudiante, el hecho es que los profesores intentan alcanzar los objetivos del plan de estudios con los recursos que tienen a su disposición. En efecto, es posible que nuestros recursos y accesibilidad, para comenzar, puedan limitar la lista inicial de los potenciales recursos educativos; por ejemplo, si la escuela en la que un profesor trabaja no tiene un laboratorio de cómputo y por ende, incluso no tiene conexión a Internet, y en su lugar, tiene dos computadoras por clase, entonces no habría necesidad alguna de evaluar los recursos educativos de los idiomas que se basan en el Internet, tales como Mango Languages, el cual provee de lecciones, películas y otros materiales en línea, para utilizarlos en clase. Sin embargo, es una posibilidad que todos los estudiantes tengan teléfonos celulares, lo que podría ser útil para la evaluación de la aplicación móvil de Mango Languages. Asimismo, los estándares tecnológicos de la enseñanza del inglés a extranjeros (TESOL, por sus siglas en inglés), brindan metas, estándares e indicadores del rendimiento del uso de la tecnología para profesores y estudiantes (Healey et al., 2008). En particular, las viñetas que muestran ejemplos de cómo alguien podría alcanzar cada estándar en medios limitados y en contextos de alta tecnología son de gran ayuda; de igual modo,

los profesores deben tener en cuenta que incluso en el aula que cuente con la tecnología más avanzada, es posible que el mejor aprendizaje no provenga de las herramientas más sofisticadas.

La evaluación del uso que le dan los estudiantes a los recursos educativos de los idiomas (LLR). Si bien las funcionalidades hablan sobre el potencial éxito que los recursos educativos tienen para alcanzar de nuestras metas, en gran parte escoger los recursos educativos adecuados para un plan de estudio en particular, requiere evaluar cómo los estudiantes (y los profesores) gestionan con éxito el uso de los recursos tecnológicos, asimismo, para lograr llevar a cabo tal evaluación se necesita tener un claro y convincente récord de los datos reales del proceso; es decir, para capturar un record de lo que los estudiantes hacen mientras participan de un recurso educativo puede proveer evidencia más directa de la eficacia de los recursos educativos de los idiomas. Para la recolección de estos datos, se podrían registrar en un programa informático, en programas de video-capturas de pantalla, como por ejemplo: Camtasia; o en tecnologías de rastreo ocular. Estos datos pueden mostrarnos las decisiones que toman los estudiantes en la interacción con un programa o interlocutor por medio de un LLR, además, del efecto que tienen esas decisiones en su interlocutor; de igual forma, nos muestran *cuando* toman esas decisiones y, en cierta medida, el proceso en el que participan para llegar a esas decisiones; es así, que este proceso de datos es importante, ya que, confiar solo en los datos del resultado puede ser muy engañoso; por ejemplo, las calificaciones previas y posteriores, pueden proveernos de datos correlacionales importantes en la eficacia de un LLR en particular, sin embargo, los resultados obtenidos no nos suelen poder decir la medida en la que el LLR desempeñó un papel importante en los resultados que se observaron. Además, nos nos dicen nada sobre cómo los estudiantes interactúan, o no, con una herramienta, o por qué toman esas decisiones; si bien, los datos de autoinforme, tales como las encuestas a estudiantes, los cuestionarios y las entrevistas hacen un

buen trabajo para responder a la pregunta del ¿Por qué? Sin embargo, se ha demostrado que son muy limitantes con respecto a lo que hacen los estudiantes durante las interacciones de humano-humano y computadora-humano a través de una computadora (Fischer, 2007, 2012). Para responder a estas preguntas necesitamos emplear algún tipo de técnica de rastreo o seguimiento; en términos de la interacción humano- computadora, la investigación de rastro demostró que los estudiantes con frecuencia utilizan los programas informáticos de una manera distinta a la que los desarrolladores tenían prevista (Pujola, 2002), además, que existe mucha variabilidad en el aprendizaje individual en la interacción con los programas de aprendizaje de idiomas asistido por computadora (Chun, 2013; Chun & Payne, 2004; Collentine, 2000; Heift, 2007).

Las capturas de pantalla. El seguimiento del comportamiento de un usuario por medio de los programas informáticos de captura de pantalla permite a los investigadores, en realidad, ver cómo los estudiantes interactúan con un programa o entre sí; por ejemplo, como se discutió antes, los programas de chat le permiten a los estudiantes la posibilidad de “rebobinar” durante discusiones sincrónicas; sin embargo, si los estudiantes, de hecho hacen esto, es una pregunta empírica; según Smith (2009), para que los estudiantes se inclinen a utilizar esta funcionalidad depende del tipo de tarea que estén realizando. Además, con respecto al uso el programa de captura de pantalla Camtasia, los investigadores demostraron que depender solo de los registros del chat no es suficiente en las exploraciones de las construcciones importantes sobre la adquisición de una segunda lengua, tales como la auto-reparación por parte del estudiante (O’Rourke, 2008, 2012; Smith, 2008). Además, se ha demostrado el efecto que la auto-reparación en la complejidad subsecuente de la producción del aprendizaje (Sauro y Smith, 2010; Smith y Sauro, 2009).

El rastreo ocular. Si bien el rastreo ocular se ha utilizado por muchos años en la interacción humano-computadora; sin embargo, solo en los últimos años, se ha comenzado a utilizar en las investigaciones académicas del aprendizaje de idiomas asistido por computadora. Según los investigadores, se ha explorado la relación entre de la técnica de reformulación en la L2 (profesores), la observación y el aprendizaje durante las tareas que se basan en la comunicación sincrónica asistida por computadora (Smith, 2010, 2012; Smith & Renaud, 2013); con base a este trabajo, se han brindado nuevos conocimientos acerca de la naturaleza y la eficacia de la reformulación en los ambientes de la CMC. Por ejemplo, Stickler y Shi (2015) combinaron el rastreo ocular con la técnica de entrevistas estimuladas por recuerdos para investigar los tutoriales de idiomas en línea; y para observar no solo los procesos de lectura en línea de los estudiantes si no también las interacciones orales con otros estudiantes y el profesor.

En la selección de los mejores recursos educativos de idiomas para cubrir las necesidades de los estudiantes, los profesores deben tener en cuenta las funcionalidades de las herramientas, la aptitud del estudiante y el profesor, los recursos institucionales disponibles y el acceso a Internet. Además, deben evaluar el potencial uso de los estudiantes y, en términos del alcance de los objetivos, adoptar los recursos educativos de idiomas; la mejor manera para lograr esto es emplear los marcos existentes para la evaluación de los LLR; si bien lo último, se puede alcanzar por medio de una combinación de las medidas subjetivas y objetivas de la palatabilidad y la eficacia de los recursos educativos de idiomas junto con las medidas que se orientan en procesos, tales como el rastreo ocular. De esta forma, nos es posible evaluar tanto el recurso educativo de los idiomas como el uso que los estudiantes le dan a estos recursos para alcanzar los objetivos pedagógicos y las metas de aprendizaje que se establecieron.

Conclusión

La tecnología ofrece nuevas formas para representar, expresar y entender el mundo, los idiomas y las culturas. Sin embargo, no se puede contar con que esas nuevas formas de representación, expresión y entendimiento se desarrollen de manera automática. Hoy día, los jóvenes aprenden modos de expresión por medios digitales entre sí, en gran medida, fuera del ámbito escolar, asimismo, se involucran con tecnologías digitales de formas que, por lo general, son más variadas y sofisticadas a las que se enfrentan en los centros educativos (Jenkins et al., 2009). De esto surge la pregunta de cómo los profesores deben enfocar la incorporación de la tecnología en sus prácticas pedagógicas. En este artículo, se han descrito algunos de los problemas con relación a la tecnología y el uso de la lengua con el propósito de sentar las bases para una serie de preguntas heurísticas, y así, poder guiar a los profesores y a los investigadores a determinar por sí mismos como incorporar, de la mejor manera, la tecnología en sus prácticas docentes y en sus investigaciones. Nuestro mensaje es que no se debe considerar el uso de la tecnología como una panacea o una meta en sí y por sí misma, por el contrario, se debe ver como un medio para apoyar ciertos objetivos pedagógicos, asimismo, la manera en la que una forma determinada de tecnología varía, en parte, depende tanto de los objetivos pedagógicos como también de las destrezas y los intereses del estudiante, los tipos de recursos disponibles y la cultura académica de la institución. De igual manera, la evaluación del aprendizaje del estudiante puede tomar muchas formas, sin embargo, se debe enfocar en el proceso de la producción del significado y el aprendizaje con la tecnología, y no solo en un conjunto de calificaciones posteriores.

Cuando los profesores y los estudiantes utilizan la tecnología de manera deliberada, y no solo porque sí, participan, de manera inevitable y en algún grado, de una reflexión crítica. Así como la tecnología de la escritura hizo de la lengua un objeto de análisis, las tecnologías de comunicación actuales proveen los medios para que los estudiantes de idiomas sean conscientes y reflexionen, de manera activa, tanto sobre sus propias prácticas comunicativas como las de otros. Lo que es vital para los profesores y estudiantes por igual es como utilizan la lengua, cuales consecuencias comunicativas se desprenden de aquellos usos de la lengua en términos de comprensión y aprendizaje y cuales consecuencias sociales podrían darse al utilizar una forma de tecnología contra otra forma. Por consiguiente, creemos que la reflexión sobre estos asuntos es clave para fomentar la competencia lingüística en una segunda lengua o en una lengua extranjera.

El proceso cognitivo del docente de idiomas en la investigación de la lingüística aplicada: la revisión del territorio, la definición de los límites y el reclamo de la relevancia

De acuerdo con Walberg (1972), la comprensión de las vidas mentales de los profesores de idiomas y cómo estas forman (y se forman de) la actividad de la enseñanza de idiomas en distintos contextos socioculturales está a la vanguardia de la subdisciplina de la lingüística aplicada que vino a conocerse como *la cognición del docente de idiomas*. Aunque, se han hecho reflexiones críticas por medio de los esfuerzos colectivos de investigación dentro de este ámbito acerca de lo que los docentes de idiomas saben, creen y piensan con respecto a su trabajo (c.f. Borg, 2006), se han logrado avances limitados en contestar algunas de las preguntas más pertinentes que formulan tanto la lingüística aplicada como los responsables de las decisiones políticas y el público en general: ¿Cómo crean los profesores ambientes significativos de

aprendizaje para sus estudiantes? ¿Cómo puede la capacitación docente y el desarrollo profesional continuo facilitar ese aprendizaje a los docentes de idiomas? En esta edición especial, a través de la revisión del ámbito epistemológico, la teoría y los fundamentos éticos, se establece una agenda para revitalizar la investigación de la cognición del docente de idiomas, la cual apunta a redefinir sus límites actuales, y así, reclamar su relevancia en un ámbito más amplio de la lingüística aplicada y de las preocupaciones del mundo real de los docentes de idiomas, los formadores de los docentes del idiomas y los estudiantes de idiomas en todo el mundo.

Palabras claves: cognición del docente de idiomas, formación de docentes de segunda lengua, pedagogía de una segunda lengua.

Este artículo plantea que la cognición del docente de idiomas, la cual es una rama de la lingüística aplicada que se relaciona con la investigación de lo que “no se puede observar en la dimensión de la enseñanza de idiomas” (Borg, 2003, p.81), se encuentra en una encrucijada. Por un lado, la rápida expansión de la actividad investigativa arroja luz, de manera continua, a las dinámicas internas que subyacen el trabajo de los profesores de idiomas. Además, se observa en los resultados que las prácticas de los profesores de idiomas se forman, a menudo de maneras impredecibles y únicas, por la dimensión invisible de las vidas mentales de los profesores, las cuales emergen tanto de sus historias personales como de sus historias de la enseñanza de idiomas, sus experiencias de la formación como profesores de idiomas, y además, de los contextos específicos donde aprenden a hacer su trabajo o donde lo llevan a cabo. Por otro lado, sin embargo, se han logrado avances limitados en contestar algunas de las preguntas más pertinentes que formulan tanto la lingüística aplicada como los responsables de las decisiones políticas y el público en general: ¿Cómo crean los profesores ambientes significativos de aprendizaje para sus estudiantes? ¿Cómo puede la capacitación docente y el desarrollo

profesional continuo facilitar ese aprendizaje a los docentes de idiomas? Para nosotros como co-editores de esta edición especial, estas preguntas constituyen el proyecto central de la investigación de la enseñanza de idiomas, y es con el estudio de la cognición del docente de idiomas que se aspira a contribuir.

Asimismo, a pesar del creciente conjunto de investigaciones sobre lo que los docentes de idiomas saben, creen y piensan (Borg, 2006; Woods, 1996), desconocemos como esas cogniciones se relacionan con la experiencia que tienen los estudiantes de idiomas en las aulas de estos profesores (véase Tsui, 2011). De forma similar, a pesar de la amplia gama de intervenciones innovativas en la formación de los docentes y de las recomendaciones que se producen como resultado de la investigación de la cognición de los docentes de idiomas (p. ej. Burns y Richards, 2009; Farrell, 2015), su captación parece ser limitada en los programas de formación docente del mundo entero (Tedick, 2009; Wright, 2010); de igual manera, la pregunta de qué constituye una formación de docentes cuyo impacto sea significativo y útil, aún está lejos de tener respuesta (Kubanyiova, 2012).

Además, esta edición especial se ha hecho con total conciencia de los desafíos teóricos, metodológicos y prácticos, asimismo, a través de los artículos de este volumen, es evidente que abordar estas cuestiones contribuye a la investigación de la cognición de los docentes. Y es gracias a este ámbito de investigación en concreto, que comprendemos que la compleja relación entre aprender a enseñar, las prácticas docentes y el aprendizaje de los estudiantes, desafía la suposición casual que es tan prevalente en los discursos públicos sobre los regímenes de responsabilidad de los programas de formación de docentes. Sin embargo, al mismo tiempo, si la cognición del docente busca credibilidad y relevancia en el ámbito de la en el ámbito de la investigación y que además, ejerza influencia en estos discursos públicos de maneras

productivas que influencie estos discursos públicos de maneras productivas, es necesario los resultados tengan algo significativo para contribuir a aquello que denominamos el proyecto central de la investigación de la enseñanza de idiomas.

Asimismo, este artículo junto a las contribuciones a esta edición especial no pretenden un tratamiento integral de este complejo objetivo, sin embargo, sí se sugieren las oportunidades para la redefinir el ámbito epistemológico, el teórico y los fundamentos éticos, los cuales podrían contribuir a la realineación de la cognición del docente de idiomas con más grandes propósitos. Primero, mostramos lo que se conoce, en la actualidad y en su mayoría, como el ámbito de cognición del docente de idiomas, el cual ofrece un terreno epistemológico limitado para la comprensión de la cognición ya que en gran parte se informa del paradigma cognitivista. Además, discutimos como los esfuerzos en ampliar estos límites epistemológicos y ver la cognición del docente a través de un lente alternativo como un *sentido alternativo en acción*, ofrecen mayores oportunidades para estudiar la relación entre la cognición del docente, la práctica y el aprendizaje de los estudiantes.

La segunda oportunidad está en la redefinición de los límites del ámbito de la *geografía conceptual*, además, en el enfoque que predomina en las construcciones aisladas como las creencias o el conocimiento, el cual produce en el mejor de los casos, una comprensión parcial y en el peor de los casos, una comprensión relevante de la producción del sentido que el profesor tiene con relación al aprendizaje significativo tanto de los profesores de idiomas como el de los estudiantes. Nuestra propuesta investigativa para la cognición del docente idiomas es aprovechar la complejidad de las vidas internas de los profesores en el contexto de sus actividades y aspirar a comprender lo que sea denominado, de manera amplia, las *ecologías de las vidas internas de los profesores de idiomas*, y su relación con lo que hacen los profesores de

idiomas, el porqué lo hacen y cómo impactan el aprendizaje de sus estudiantes. Asimismo, proponemos que los vínculos entre las acciones de los profesores, las las razones y el impacto que tienen en los estudiantes se deben examinar a la luz de la *intencionalidad*, que es una característica común en los diversos procesos mentales que se relacionan con determinadas acciones.

Por lo tanto, la expansión conceptual que se propone busca alejarse de una delimitación vertical del alcance del ámbito, el cual apela a las categorías psicológicas tradicionales (cf. Borg, 2006). Sin embargo, tales límites conceptuales son difíciles de mantener cuando existe una falta de acuerdo entre las comunidades científicas y filosóficas con respecto a la naturaleza de la mente y de los estados mentales; por ejemplo, las opiniones informáticas y representativas de la mente en la ciencia cognitiva y en la psicología cognitiva se han cuestionado por las concepciones de la cognición al definirla como emergente, localizada, distribuida y personificada (Barsalou, 2008; Chemero, 2009; Gibbs, 2005). De igual manera, las distinciones tradicionales entre la cognición, la emoción y la motivación se han reemplazado por opiniones en todo el espectro teórico, las cuales se influyen y se distinguen de manera mutua, sin embargo, no se pueden disociar (Braver et al., 2014; Pessoa, 2008; Storbeck y Clore, 2007). En la actualidad, aunque los resultados de las investigaciones son muy inciertas para aplicarse en las cogniciones del docente, estas sugieren que es pragmático mantener una postura abierta acerca del alcance de la investigación sobre la cognición del docente de idiomas. Además, en los estudios que reflejan esta postura y que, asimismo, adoptan enfoques ascendentes para identificar las dimensiones más destacadas de las vidas internas de los profesores de idiomas, se ha demostrado que existen maneras prometedoras que apuntan hacia el rol de las complejas vidas internas que influyen la formación del docente, la práctica del docente y la experiencia de los estudiantes.

Por último, el punto final se devuelve al corazón de nuestro argumento y a la necesidad de participar en cuestiones sobre qué conocimiento puede tener valor y para quién (cf. Ortega, 2005), además, como se puede alcanzar esa visión ética en este campo de investigación. Asimismo, discutimos cómo reclamar la relevancia de las necesidades mediante la vinculación de la cognición del docente, el desarrollo significativo del docente y el aprendizaje de los estudiantes; y cómo esto debe ocurrir en respuesta al cambio de las realidades lingüísticas, culturales, y socioeconómicas en las clases de idiomas en todo el mundo.

Los panoramas epistemológicos de la cognición del docente de idiomas

Si bien, el énfasis que se le da a los docentes como agentes de pensamiento activo y emocional en su propio desarrollo y en el proceso educativo tenía una razón de ser integral en la investigación tradicional de los docentes y la enseñanza; además, ya desde sus primeros días en el ámbito general de la formación docente, era evidente que se concebían y se investigaban distintivas orientaciones epistemológicas. Desde un punto de vista, el conocimiento del docente se consideraba como objetivo: abstracto, proposicional y respaldado por las pruebas adecuadas (p. ej. Berliner, 1987; Gage, 1978). Y desde otro punto de vista, se conceptualizaba como subjetivo: más localizado, experimental y personificado (p. ej. Elbaz, 1991; M. Johnson, 1989; Nespor, 1987), además, se conectaba con creencias, valores morales y emociones (p. ej. Calderhead, 1996; Clandinin, 1985; Munby, Russell, y Martin, 2001; Pajares, 1992). En ocasiones, se advertía, de manera explícita, no mezclar perspectivas objetivas con perspectivas subjetivas del conocimiento (p. ej. Feiman–Nemser y Floden, 1986; Fenstermacher, 1994).

Si bien, “un término inclusivo para abarcar la complejidad de las vidas mentales de los docentes”, es decir, “la cognición del docente” pudo haber sido un intento para solucionar estas

tensiones, sus raíces epistemológicas distintivas, y por consiguiente, las tensiones en sí quedaron, en su mayoría, sin examinar y sin abordar en el panorama en general del ámbito con respecto a los profesores de idiomas (Barcelos y Kalaja, 2013; Borg, 2003, 2006, 2012; Song, 2015; Woods, 1996). Asimismo, un reconocimiento explícito de la existencia de las diferentes formas de comprensión y de la investigación de la cognición son críticas, en particular, para los investigadores novatos, quienes, a menudo, acuden a tales perspectivas para el tratamiento integral del ámbito. En el contexto de este artículo, el amplio escrutinio de lo que cuenta como evidencia para la cognición del profesor de idiomas, como se puede acceder a ella en los datos empíricos y como las formas de conocimiento de los investigadores pueden afectar lo que ellos creen que es indispensable tanto para contextualizar como para evaluar los estudios con relación al proyecto central de la investigación de la enseñanza de idiomas. Estos temas se discutirán en las siguientes secciones.

La cognición como la reificación de los constructos mentales contra la acción emergente de la producción del sentido

El principal aspecto de los esfuerzos investigativos de la cognición del docente de idiomas, por lo general, se han concentrado en dos objetivos: (a) identificar el rango de cogniciones, a menudo, las creencias o el conocimiento que los profesores de idiomas tienen sobre los diferentes aspectos de su trabajo (p. ej. Gathbonton, 1999; Kissau, Algonzine, y Yon, 2013; Mullock, 2006), y (b) clarificar la relación entre las cogniciones de los profesores y sus prácticas (cf. Basturkmen, 2012), ya que en este aspecto investigativo sobre los constructos mentales de los profesores, se asume que no se encuentran disponibles para la observación directa (cf. Baker, 2014; Borg, 2012), además, es necesario que se accedan a través de varios

instrumentos de obtención tales como, cuestionarios estandarizados que contengan información categórica de las creencias y de los conocimientos, protocolos de reformulación que se estimulen y se desarrollen con sumo cuidado y guías de entrevistas. Es así como, la tarea del investigador es percibida como la de un “minero” de datos, los que a menudo, se tratan como “reportes” (Daiute, 2014, p. 10) de cogniciones.

Desde esta perspectiva, la comprensión de la cognición se vincula con una parte significativa del dominio de la metáfora adquisitiva que se informa de la visión cognitivista, la cual considera al “conocimiento como un tipo de material (...) a la mente humana como un contenedor, y (...) al profesor como el dueño potencial del material que guarda ese contendor” (Sfard, 2008, p. 49). Además, la tradición epistemológica se refiere a las cogniciones como constructos mentales reificados, es decir, como entidades estáticas que, por lo general, se disocian de la acción y del contexto, y así también como de otras dimensiones de las vidas internas de los profesores, por ejemplo, las emociones, las motivaciones y los valores. Por otra parte, se asume que las cogniciones de los profesores se adquieren como resultado, tanto de sus experiencias personales como de las profesionales, a las cuales acceden y articulan con facilidad en autoinformes, las cuales se pueden emplear (o no) en sus prácticas docentes. De igual manera, se asume que una coincidencia entre dichas prácticas y creencias es deseable, por lo tanto, debe facilitarse, por ejemplo, a través de la práctica reflexiva (Farrell y Ives, 2015), además, uno de los objetivos de la cognición del docente es clarificar las razones por las cuales este no es el caso (p. ej. Li y Walsh, 2011; Phipps y Borg, 2009) con el propósito de mejorar la práctica y la formación del docente por medio de la identificación de futuras necesidades de desarrollo.

Por otro lado, si bien nuestra intención no es la de desestimar el valor de la perspectiva cognitivista epistemológica en su contribución general a la base de conocimientos del ámbito, sin

embargo, parece que una alternativa social más apropiada para dirigirse a lo que se ha denominado como una visión más amplia de la cognición de los profesores de idiomas. Además, dentro de esta perspectiva epistemológica que se orienta en la participación, la cognición del docente se ha representado por un número de metáforas en la investigación general sobre los profesores, las cuales también incluyen la cognición como una forma (Korthagen, 2001), representaciones circunstanciales (Clarà, 2014) y patrones de participación (Skott, 2015). Si bien, todos estos son distintivos en sus orígenes conceptuales, enfatizan en el saber circunstancial, dinámico y personificado en acción del profesor; y en consecuencia, pone al estudio de la cognición del profesor en contextos en los cuales encuentra expresión: los contextos de la participación en práctica.

Asimismo, si bien es cierto que la perspectiva epistemológica de la cognición como la acción emergente de la producción del sentido en la formación de los profesores de idiomas y de los profesores de segunda lengua es antigua y común; es en el centro de las primeras investigaciones sobre la formación de los profesores de idiomas que se enfocó en la perspectiva emic de la enseñanza (p. ej. Freeman, 1993), y donde se reconoce como el centro de los orígenes de la investigación de la cognición del docente (Borg, 2006), además, se ha teorizado más a profundidad en la investigación de los profesores de segunda lengua que se informan de la teoría sociocultural; pero más allá, de las elaboradas discusiones que se informan de la teoría sociocultural (R. Cross, 2010; Golombek, 2009; K. E. Johnson, 2006) no se ha integrado a las perspectivas más tradicionales un tratamiento comprensivo de las distintivas perspectivas epistemológicas así como de las diversas opiniones teóricas, metodológicas y analíticas que el giro más amplio en la lingüística aplicadas (Block, 2003) presenta a los investigadores de la cognición del docente de idiomas a las perspectivas más tradicionales.

El estudio de la cognición en acción

Aunque el llamado a incluir el estudio de las prácticas en la investigación de la cognición de los docentes de idiomas se ha hecho en repetidas ocasiones (cf. Borg, 2006), la observación de la cognición a través de las metáforas de participación difiere, en gran parte, de los diseños de dichas cogniciones y las prácticas observadas, las cuales, por lo general, se emplean para responder a estos llamados. Asimismo, dichos llamados tienen la tendencia de separar el pensamiento de la acción (cf. R. Cross, 2010), lo cual los coloca en una relación contenciosa al sustraerse del contexto que les une; en cambio, entre el paradigma de la participación, se comprende que las prácticas no son espacios en los cuales los constructos mentales reificados, tales como las creencias, pueden, o no, usarse, sino como “resultados dinámicos de los actos individuales o comunales de la producción de significado” (Skott, 2015, p. 24). Por consiguiente, el estudio de la producción de sentido de los profesores de idiomas debe comprenderse como una actividad interpretativa afín con la investigación de la sociolingüística, la antropología o la psicología cultural, los cuales aspiran a alcanzar una comprensión más profunda de cómo las ecologías de las vidas internas de los profesores de idiomas - un término que discutiremos en la siguiente sección - se despliegan en los contextos de sus prácticas. La tarea de investigador no yace en suscitar cogniciones, si no en desenredar patrones en la renovación de las prácticas pasadas y presentes del profesor en vista de aquellas que se despliegan al instante (Skott, 2015, p. 24).

Más aún, esto significa que dichas creencias y prácticas, a menudo, no parecen fáciles de reconciliar, no solo porque son complejas y sensibles al contexto con relación a las situaciones educativas (que sin duda lo son) pero sobre todo porque las dos pueden estar atadas a

diferentes contextos de la cognición en acción del docente en relación con el contexto de la investigación. Asimismo, esta producción del sentido tiene un arraigo profundo en fenómeno de mayor participación social, tales como la deseada membresía del docente en la red social del investigador (Kubanyiova, 2012), nueva participación en comunidades profesionales, membresía en una comunidad de inmigrantes (Barkhuizen, 2010), o la búsqueda de propósitos societarios más profundos para el desarrollo de estudiantes empoderados y responsables (Hayes, 2010). Desde la perspectiva de la adquisición, todo esto va más allá del típico enfoque de la investigación de la cognición del profesor de idiomas. Además, llevar a cabo una investigación dentro de la cognición de los docentes de idiomas a través de la metáfora de la participación exige compromiso con aquellos enfoques analíticos que, de manera epistemológica, están más cerca del estudio de prácticas reales que incluyen un rango de discursos analíticos, narrativos y enfoques etnográficos (p. ej. Fagan, 2012; Morton y Gray, 2010; Razfar, 2012; Tasker, Johnson, y Davis, 2010; Varghese, 2008); desde hace un tiempo, algunos facilitan promisorios avances para abordar la relación entre el conocimiento en acción de los profesores y el aprendizaje de sus estudiantes (cf. Dudley, 2013).

La reflexividad

Como se sugirió antes, el estudio de la cognición en acción, también, requiere de la sensibilidad de los investigadores para como la producción del sentido se desplegará en el evento de la investigación en sí. Además, requiere de un mayor reconocimiento, del que venía

haciéndose hasta ahora, en la tradicional actividad investigativa de la cognición del docente de idiomas de naturaleza social-interactiva (Talmy y Richards, 2011) y muy interpretativa (Talmy, 2014), además, de un mayor reconocimiento de la reflexividad humana, en general (Bruner, 1990), con su capacidad de hacer y formar significado del pasado a la luz del presente y viceversa.

Por otro lado, cuando los profesores describen sus luchas emocionales, pasiones, motivaciones, valores o sus creencias, no solo ponen palabras a mecanismos mentales preexistentes que residen y se desarrollan en su totalidad y están listos para articularse, de manera coherente, en sus cabezas; además, cuando hablan lo hacen con un propósito en particular y se dirigen a una audiencia en particular. Lo que dicen y como lo dicen se forma por el contexto de la narración, el cual influencia lo que se puede, debe o se tiene que decir sobre ellos mismos, sus estudiantes y su mundos pedagógicos. En igual grado crítico, lo que nosotros como investigadores vemos en la narración es que es un producto de nuestras propias epistemologías, asimismo, esto significa que una parte crucial del análisis empírico sobre la cognición del profesor de idiomas, la cual es inherente a la participación epistemológica, pero, en absoluto, no es exclusiva a este, debe incluir la reflexión en los contextos y en sus actores de narración y en cómo estos pueden moldear lo que se aprende.

La geografía conceptual

El estudio de la intencionalidad y la cognición del profesor de idiomas con respecto a la investigación de las vidas internas de los profesores, una de las preocupaciones que se plantean es la variación teórica, ya que se evidencia en la continua multiplicación y el solapamiento de la

terminología, la cual sugiere que se necesitan definiciones claras hasta que se llegue a un acuerdo sobre los conceptos claves.

4.2 Translation of the document “Escenarios para un nuevo régimen internacional de cambio climático” from Spanish to English

The international Standard of Climate Change

Introduction

Nowadays, climate change is not only one of the most important global issues humanity is facing; on the contrary, it stopped being an issue strictly environmental to become a subject linked to the international economical structure and a topic on the global security agenda. A clear signal was the fact that the 2017 Nobel Prize was awarded in recognition to the efforts of raising worldwide awareness about the consequences of climate change to the Intergovernmental Panel of Experts on Climate Change (IPCC) and to the Former Vice President of the United States, Al Gore.

Consequently, the performance of practices that establish the risks and benefits associated with the actions of the actors of the international scene that play a crucial role in the political establishment is an indicative value. This is accomplished as long as the gathered information is used to build scenarios that allow foreseeing the different courses of action linked to the mitigation and the adaptation of climate change.

Furthermore, this document is structured into four big components: firstly, to analyze the design process of the international standard of climate change, from the summit held in Rio in 1992 to the present. Secondly, a set of macro variables and their correlation with the actions of

the most important actors globally in terms of greenhouse gas emissions will be analyzed, in order to establish three different scenarios associated with climate change post-Kyoto. Thirdly, the possible implications in terms of international safety and economy will be visualized; finally, in fourth place, the implications for Central America and the private and public agencies of this region will be explored.

More explicitly, the first chapter exposes the negotiation processes and climate change diplomacy, also, it aims to explain the main antecedents in terms of international conventions (stakeholder conferences, negotiation rounds.) Meanwhile, the second chapter has a more prospective approach since the scenario methodology is used with the aim to establish three possible scenarios, which take a starting point the expected changes in the demographic patterns, the growth in gross domestic product (GDP) and the energy demand.

Conversely, in the third part, the repercussions of climate change in relation to the trade issue and international security will be covered. Particularly, the implications on migratory processes and potential emergency conflicts due to the water stress that might be at a global level. Finally, in the fourth part, the climate change issue through the lens of the public agenda and the private sector will be regionally addressed. In the first instance, it will be linked to the structure of regional governance like the Central American Integration System (SICA) is, and in the second instance, it will be linked to the main economic groups of the region.

Chapter I: The International Standard of Climate Change

The newly-elected Secretary-General of the United Nations Antonio Manuel de Oliveira Guterres explained in a speech given at the United Nations General Assembly on March 23, 2017, that climate change “is not just a question of judgment, but scientific facts” (UN, 2017).

According to Guterres, this phenomenon will arouse major risks throughout the United Nations 2030 Agenda.

In regards to the declarations made by Guterres, two aspects are worth highlighting. The first one is that, nowadays, the climate change subject has managed to reach a relevant place at the high international politics, and the second one, is related to the fact that, it is increasingly evident, that the interest and the political willingness from different worldwide leaders to discuss about cooperative mechanisms, which can be used to face this phenomenon.

The abovementioned leads to the formulation of a basic question, what is changing in the high international politics that climate change is now considered a subject of remarkable relevance? To answer this conundrum, it is necessary to resume the old dilemma of collective action. According to M. Olson (1965), “unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common or group interests.”.

Therefore, if Olson’s premise is extrapolated and climate change is understood as a common interest of the States, then, the logical consequence would be that none of the nations would be willing to cooperate on this matter. Nonetheless, the different conferences and global efforts that have been done about the subject, as well, have been progressively leading to arrangements of all sorts, which is compelling evidence that climate change as a high international politics subject has evolved beyond the point, it busts Olson’s reasoning.

On the other hand, according to G. Hardin (1968) “the individuals with access to the use of common resources, in pursuit of their own interests’ satisfaction and the maximization of profit, will take exploitation to a higher than the level of optimal extraction, which will result on

the degradation of such resources.”. Thus, in regard to Hardin’s premise, it must be understood that climate change happens due to the existence of a common resource, which is known as the environment. The environment is, indeed, conceived as the space in which life unfolds, this means that all the relationships among living beings give rise to complex systems exposed to the presence of abiotic and artificial elements that can cause harmful imbalances.

In other words, and following Hardin and Olson’s train of thought, decades of scientific research have made it possible to conclude that a number of significant human activities are the causes of the systemic and progressive degradation of the environment, among them is climate change, of course. Therefore, environmental alterations, in accordance with the impact of their effects, result in a shared responsibility among all nations, in accordance with the impact of their effects.

However, Harding and Olson’s thinking comes from a close analysis of zero-sum games. In that sense, each individual receives equal or similar profit to the other’s loss. From this perspective, the analysis becomes obtuse because they stopped being considered important variables on the observed system. In view of the above, the need for conducting studies that lead to cooperative games is derived; in which the actors can communicate with each other and negotiate an agreement. Consequently, by observing the climate change subject evolution in the international agenda, it can be argued that it found spaces gradually, in which consensuses that lead to logical cooperatives among the states, have been created. Thereunder, the objective of the following section aims to illustrate the process, in which that what might be termed as the international standard of climate change, was designed.

1.1 Climate Change Diplomacy

In the international context, decision making tends to be complex since multiple national interests, sensitive economical relations, high levels of interdependency and historical contexts exist, and they might or might not be favorable. For such reasons, an international negotiation process is not an easy task for the States involved. In this regard, climate change, and what we might term as an international standard for climate change, is one of the subjects that best explains the complexity of international negotiations. The subject's transnational dimension demands commitment from actors of diverse nature and interests. Additionally, it implies joint decision making with a view to generating mitigation, adaptation, technology transfer and financing processes. On the basis of the foregoing, it can be argued that the first negotiation phase in relation to climate change was framed in a diplomatic scenario.

In this initial phase, two elements are emphasized. The first refers to the fact that towards the end of the 70's decade, the potential of the anthropomorphic action might cause adverse climate changes was assumed, however, by 1990, the first report of the Intergovernmental Panel on Climate Change (IPCC) warns that under continuous scenarios of anthropomorphic action the average temperature is likely to increase by 0.3 degrees per decade, in other words, in approximately eleven years, it will move from a supposition to a statistical estimation.

Secondly, and related to the abovementioned, it is worth highlighting that in the diplomatic stage of climate change, a series of structures in charge of creating a body of knowledge related to climate change, are constituted. As a matter of fact, the World Climate Programme (WCP) was founded during the first World Climate Conference in 1979, with the purpose of initiating scientific research on this phenomenon. Additionally, the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) agreed

on creating the Intergovernmental Panel of Climate Change in 1988, with the purpose of providing the world with a more scientific perspective of this phenomenon.

In addition, it is crucial to highlight that the above mentioned events were key to understand that climate change was a common concern to all humankind, and therefore, concrete actions should be made. In regards to both, the Villach Conference as well as the Toronto Conference, the main conclusion aimed at the creation of a binding framework instrument that could be used to face the climate change phenomenon. However, in order to make progress towards this goal, it was necessary to create the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC/FCCC), which was met in five meetings between February 1991 and May 1992. By July 1992, the United Nations Framework Convention on Climate Change (UNFCCC) was signed at the historical Earth Summit.

Thus, this convention signed by 154 States signified the end of the diplomatic stage for climate change to move towards a stage, in which principles, norms, regulations and procedures are gradually designed, to help reducing or to control the effects of this phenomenon.

1.2 The United Nations Framework Convention on Climate Change and the Kyoto Protocol

It has been discussed that the United Nations Framework Convention on Climate Change ushered the consolidation of an international standard on that matter. In fact, the subject of international standards has been an object of investigation and theoretical development of great importance in political science and international relations. Strictly speaking, international standard tasks have proved to be an academic orientation to understand under what conditions the States can cooperate mutually. Intense negotiation and agreements have been on the climate

change arena, which reflect a process-oriented to mutual contribution in search of a common good.

One of the main theorists in regards to the international standards, Stephen Krasner (1986), defines them as a set of implicit or explicit principles, norms, rules and procedures in decision making, in which the expectations of the actors are surrounded to converge on a particular area of the international relations. At the same time, other authors such as Keohane and Nye (1986) claim that the modern States are not only governed by a system that entails norms, rules, and principles but that there is an imminent renouncement of their own autonomy or sovereignty to achieve a multilateral common objective. The international standard for climate change is no exception.

In 1992, for the first time in the history of international relations, a global standard related to climate change that facilitated the consolidation of beneficial agreements to the parties as well as a series of obligations based on the reciprocity principle was established with the adoption of the United Nations Framework Convention on Climate Change (UNFCCC). In other words, all States possessed common aspirations and responsibilities to comply with. In regards to this point, the international standards, including the international standard on climate change, are linked to a system in which decisions cannot be made independently. Perhaps, this may have been the main aspiration of the environmental specialized conferences that have preceded the punctual efforts on climate change.

In fact, it has been more than four decades since the representative of 113 countries met to attend the United Nations Conference on the Human Environment held in Stockholm in June 1972. This was the first of the main global conferences about the environment, which set

the ground for the current international standard of climate change, and that positioned the environmental subject categorically in the global political agenda.

Principles under the UNFCCC

One of the most important aspects to be considered under the UNFCCC is the fact this instrument was the first to establish the principles related to the climate change subject. The prominent amongst them follow below:

- a) To protect the climate system on the grounds of equity and in conformity with its common but differentiated responsibilities.
- b) The parties should take precautionary measures to prevent or reduce to the minimum the causes for climate change and mitigate its effects.
- c) The parties have the right to sustainable development and they must promote it.
- d) The parties must cooperate in the promotion of an international economical system open and favorable that leads to the economical growth and the sustainable development of all parties.

The immediate antecedent of the current international negotiations and dynamics dates back to the United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil in 1992, which is known as the Rio Summit or the Earth Summit. Also, the significance of the summit is reflected in the adoption of three international instruments of great relevance: 1) The United Nations Framework Convention on Climate Change (UNFCCC), 2) Convention on Biological Diversity and 3) The Action Plan termed “Agenda 21”. Such international

instruments influenced decisively the subsequent development of environmental politics and legislation, at both, international and national levels.

The last objective of the UNFCCC is the stabilization of greenhouse gasses concentration in the atmosphere to a level that blocks the dangerous anthropogenic interferences in the climate system. Now, the convention itself does not establish mandatory emission goals to the countries, however, upon signature of the agreement, 23 developed States committed to cut emissions ranging from the stabilization to the 25% below the 1990 levels between 2000 y 2005 (Barnet, 2007).

Since Rio and until the present, besides the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity, many other environmental international treaties have been subscribed by the international community, among them, the United Nations Convention to Combat Desertification held in 1994 and Kyoto Protocol to the United Nations Framework Convention on Climate Change held in 1997, and the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, in 2000.

The contribution of the Kyoto Protocol to the international standard of climate change

One of the interesting aspects of the Kyoto Protocol is that it incorporates in Annex B a list of specific countries that quantifies the commitment to greenhouse gas emissions cut, starting year base. In other words, by doing so, the Kyoto Protocol aims to move towards the establishment of a standard to regulate the expected behavior of such countries. Even though it has not been strictly adhered to, it indeed signified a step forward in the consolidation of the international standard for climate change.

The Kyoto Protocol to the United Nations Framework Convention on Climate Change held in the Japanese city of Kyoto in 1997, has represented since its entry into force in the year 2005, the most important development in regards to climate change since the Rio Summit in 1992. The Kyoto Protocol's main characteristic, which nowadays more than 180 countries take part in, establishes mandatory goals about greenhouse gases (GHG) cut for 37 industrialized nations. In doing so, the most industrialized economies of the planet, which mostly are European countries, agreed on reducing their emission of polluting gases by around 5% percentage in a period of 5 years between 2008 and 2012, in relation to what they reported in the year 1990. The protocol rules of implementations were adopted in 2001 during a specialized conference held in Marrakech.

On the other hand, the main difference between the protocol and the convention is that, while the convention urges and encourages the industrialized countries to stabilize the emission of their polluted gasses, the protocol forces them to do it. Additionally, another of the virtues of the Kyoto Protocol is that the principle of common but differentiated responsibilities recognizes that mainly the developed countries are responsible for the current greenhouse gasses found in the atmosphere, as a result of more than 150 years of industrial activity, and therefore, those countries must undertake most of the obligations to revert this situation.

In regards to the abovementioned, Aldy and Stavins (2007) note that the Kyoto Protocol only covers the obligations of the industrialized countries to limit their emissions, however, to the countries in process of industrialization, other restrictions or emissions policies are left uncovered. Therefore, the protocol does not force major developing and growing economies, such as China, Brazil or India.

However, the instrument is still an international mechanism, in which developed countries have committed to reducing their carbon dioxide emissions along with other greenhouse gasses. On Annex I, it was agreed that the Party States will take the lead through a quantifiable limitation of their emissions and reduction goals. For instance, in their third meeting, based on the conclusions of the Intergovernmental Panel on Climate Change (IPCC) they discussed industrialized countries need for committing to reducing greenhouse gasses emissions by a 25% and a 40% below the levels in 1990, in order to limit an increase in the average global temperature.

On the other hand, it is also important to highlight that the Kyoto Protocol has the potential to generate a market for emissions rights, which is foreseen in the Clean Development Mechanism. Through this type of market, developing nations can acquire the necessary means in the field of renewable energies. Also, Article 10 of the Protocol contains an obligation so that all parties develop and transfer environmentally friendly technologies. Additionally, one of the conditions established for the developed countries to be able to conclude the agreements post 2012 (Protocol expiration date) is a satisfactory consensus about technology transference.

In terms of competitiveness, the Kyoto Protocol has a series of implications for decision-makers because experts have determined a set of complex interfaces between such international mechanisms and agreements with the World Trade Organization (WTO). For example, the central objective of the WTO is argumentative. It aims to expand the production, and the trade in goods and services, which could lead to an increment in the pressure about the climate system. Also, the relation is hard to define since significant issues arising from the WTO and the Kyoto Protocol have not been clarified completely (Cosbey & Tarasofsky, 2007), such as the environmental subsidies controversy and its potential contradictions with both the agreements

and the subventions and the Countervailing Measures (SCM Agreement) or the Agreement on Agriculture.

Finally, the Protocol contains forecasts for financial aid from developed to developing countries to address the adjustment to climate change, which can be carried out by bilateral or multilateral aid or by specific channels of the same treaty. Also, the Global Environment Facility (GEF) has been designated as the operating entity of such a financial mechanism of the United Nations Framework Convention on Climate Change and the Kyoto Protocol, which is subjected to review every four years.

Another of the most relevant mechanisms of the contemporary international standard of climate change are the Conferences of the Parties of the United Nations Framework Convention on Climate Change, known as COP. The COP is the decision-making body responsible for the UNFCCC. Each and all of the meetings of the Party States have had particular emphasis and objectives. The table below indicates the central topic of these high-level meetings, which have been held since 1995 to the twenty-second held in Marrakech in 2016.

In table 1.2 some aspects of the negotiation process of the Conference of the Parties Framework can be identified. The first of them is that between years 95-98 a period that demonstrated clear intentions of moving forward the reduction of greenhouse gasses experimented, however, by 1999 the dynamic progress in the process was stopped at the COP held in Bonn, Germany because it mainly generated a technical debate about the implementation of the Kyoto Protocol, which was an indication that no significant agreement will be reached within this conference.

Also, it must also be noted that by the year 2000 new complications will emerge along with the setback at the Bonn Conference in 1999. Firstly, the United States asked to be allowed

to quantify agricultural land as well as forested areas as carbon sinks, which will mean to this country the compliance of most of its obligations on greenhouse gasses cuts. Evidently, the non-approval of such proposal caused that the United States decided not to ratify the Kyoto Protocol. Secondly, the 2000 Hague Conference also caused uncertainty about the adopted sanctions to the countries that fail to comply with the emissions cut. The meeting concluded when the European Union countries rejected a commitment proposal, furthermore, the negotiations failed.

Moreover, the year 2001 will be a year of important progress because the COP7 will serve as a scenario to finalize the Kyoto Protocol negotiations, which was materialized on the termed Marrakech Agreements. Nonetheless, the Netherlands unsuccessfully attempted to have a declaration approved, in which they demanded more actions from the UNFCCC Parties by the year 2002. It has to be emphasized that with the setback of the New Delhi Conference, the COP9 focused on clarifying the last technical details of the Kyoto Protocol, this task will be finalized at the Nairobi Conference held in 2006. However, it must be clear that the Kyoto Protocol comes into force by 2005, which led that Conference of the Parties in Montreal was focused on a Post-Kyoto discussion. This discussion prolonged it over the Conference of the Parties in Bali during 2007, in which the Bali Road Map was adopted and a process to approve a second term of compliance of the Kyoto Protocol was initiated.

By 2008, the Fourteenth session of the Conference of the Parties of the UNFCCC was held in Poznan, Poland; in which implementation of commitments and of other provisions were reviewed, among other aspects. Additionally, topics related to the financial mechanism and the transfer of technologies were discussed, however, they failed to achieve significant agreements or commitments.

A similar situation was presented on the Fifteenth Conference held in Copenhagen, Dinamarca. During the conference, it was tried and failed to set the basis for a new international standard of climate change, once the Kyoto Protocol expired in 2012. This was because, in spite of the development of the Copenhagen Accord, which not only triggered controversy but also achieved the degree of unanimity needed to generate real commitments to reduce greenhouse gasses, and thus it did not result on a legally binding agreement or any punctual achievable agreement in the future.

So, the expectation was focused on the sixteenth session of the conference held in Cancun, Mexico; yet, the desired agreement was failed to establish. However, on the financial front, the Green Climate Fund was created. Therefore, it can be argued that the Cancun Agreement had the ability to strengthen the process after the failure at Copenhagen in 2009. Then, Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) was established in 2011 at the seventeenth session of the COP (COP17) held in Durban, South Africa as well as a second commitment period of the Kyoto Protocol post 2012. In view of this scenario, the development of a new global agreement was suggested to postpone. Meanwhile, in Qatar, it was exposed to the need for a new agreement in 2012 and the reason that the Kyoto Protocol was extended until 2020.

By the nineteenth session of the conference held in Varsovia, the year 2015 (COP21) was decreed as the deadline for the establishment of a new global agreement in terms of climate change. Subsequently, COP21 held in Lima by 2014 was focused on the development of the instrument to be discussed in Paris. Consequently, COP21 concluded with the adoption of the Paris Agreement, which establishes the global framework against climate change as of 2020. This historical agreement promotes the transition towards a low carbon economy and resilient to

climate change. Additionally, the instrument is considered legally binding and it takes into account the different realities of the countries.

1.3 “ From Bali to Paris”: The new international standard for climate change post-Kyoto 2012

As aforementioned, the Thirteenth Session of the Conference of the Parties of the UNFCCC (COP13) was held in Bali, in 2007; in which the basis for current negotiations about the new international standard for climate change were established; also, it was supposed to be adopted at the fifteenth conference (COP15) in December 2009 in Copenhagen, and it was expected to be consolidated at the COP16 in Cancun, however, as indicated before this decision was postponed to COP21 (2015).

In regards to this matter, it is worth highlighting that the Bali Conference was transcendental to the development of international efforts about climate change since the Bali Road Map was established to initiate a negotiation process that was extended until 2010, in which a new series of objectives focused on the reduction of emissions should be set in order to replace the former Kyoto Protocol of 1997. the Bali Road Map has references in regards to the reduction of greenhouse gasses (GHG), the green technologies transfer to growing developing countries, the fight against deforestation and the aid to developing countries for protection against the climate change effects.

Additionally, the Bali Road Map included the Bali Action Plan which plotted the course to a new negotiation stage within the UNFCCC, whose purpose was the search of a new process that allowed the complete, efficient and sustained implementation of the convention through long term cooperative actions before and after 2012.

The Bali Action Plan is focused on four fundamental points: mitigation, adaptation, technology, and financing, which all are main topics on the international negotiations facing Paris. Since the COP13 held in Bali and to the present, the international community has intensified the political approaches, the block negotiations, initiatives, offers and counteroffers, all oriented to achieve a new international consensus for the post-Kyoto 2012 period.

Nonetheless, the Copenhagen Agreement established in the fifteen COP was unable, despite the numerous effort, to achieve the unanimity degree needed to generate real commitments for reducing greenhouse gases. However, this agreement was the first one to link the United States, China, and the main countries with economies in transition to a conversation, that in the case of these nations, have resulted in a dry one until this point.

Finally, a third key moment to achieve the Paris Agreement will be the COP17 held in 2011, in which the Durban Platform for Enhanced Action was created; it will search for an enhanced action with the purpose of increasing the efforts to face climate change. The aforementioned will impact on the opening of a dialogue with the objective to create a new binding agreement; this will be extended to the next three Conferences of the Parties. However, at the COP21 in Lima, the sole objective to be established is the conclusion of the draft, so it can be approved at the COP21 held in Paris. Thus, Lima became a key milestone since this process called for “14 000 people from 195 countries (...) including government representatives, civilians, businesspeople, and authorities.” (COP Lima 2014). Also, the Twentieth Conference of the Parties was the stage in which the United States and China accepted to establish reducing their greenhouse gasses emissions, which had not been possible by then. In regards to this, the historical moment is remembered as follow:

“Barack Obama and Xi Jinping, the leaders of the United States and China presented a joint plan with the objective to reduce the greenhouse gasses emissions (GHG) which are the major players in global warming. The United States claimed that by 2015, their emissions will be between 26% and 28% lower than the 2005 levels. Thus, Obama seeks a reduction of greenhouse gases by 80% in 2050 over the 2005 levels. On the other hand, China has established, for the first time, a maximum emissions objective which will be achieved by 2030 or earlier. Additionally, the use of clean energies will be increased by 20%, which doubles the current level.” (COP Lima 2014).

Ultimately, the COP20 held in Lima established the basis for the Paris Agreement, which was reached at the COP21, also, it will enter into force once the treaty’s period of operation established to the Kyoto Protocol finishes. For that matter, the illustration above evidence the major milestones that served as a platform for the COPS in Paris.

In brief, the discussion initiated after the entry in favor of the Kyoto Protocol ensured to achieve a new global agreement on climate change by 2015; however, ¿Which were the new elements provided by the Paris Agreement? ¿Why did many expectations exist in relation to the COP21?

To answer these questions, what needs to be remembered at first is that after the entry into force of the Kyoto Protocol, the global leaders initiated a debate in regards to the inner sides of the COP, which on various occasions reiterated the need of a new global agreement. Consequently, the Conference of the Parties held in Paris represented the temporal horizon in regards to the debate of this new instrument; in other words, the inability to reach a new binding agreement represented a large scale risk to the international standard of climate change. Nonetheless, the COP21 reached the objectives by achieving the adoption of the Paris Accord.

The aforementioned meant a turning point in regards to climate change mainly for the following reasons.

First, the Paris Accord brought together all nations for a common cause based on their historical, present and future liabilities. This implies that all countries make tangible commitments in regards to greenhouse gasses emissions, which is a fundamental change thereon the Kyoto Protocol, in which only a small number of nations made commitments on the matter. Additionally, the Paris Accord will have as the main objective keep the temperature increase of this century below 2 degrees Celsius and take efforts forward to limiting the temperate increase even below 1.5 degrees Celsius above pre-industrial levels. For this matter, the Paris Accord looks to achieve its objectives based on five pillars. The first one takes back to the mitigation, which briefly means to reduce greenhouse gasses emissions. Secondly, the need to count on a transparency system that allows an accounting of climate action. On the other hand, the third pillar aims to the adaptation, which looks forward to strengthening the countries' abilities to face climate impacts. The fourth pillar, which is closely related to the previous point, highlights the need to strengthen the countries' abilities to recover from potential damage caused by climate change impacts. Finally, technical support, as well as financial support, is considered fundamental to the nations to build clean and resilient futures.

In conclusion, if the above-mentioned aspects are taken into account, it can be agreed that the UNFCCC was the first international instrument that established clear principles to share the behavior of the States regarding climate change, which was strengthened by the principles established by the Kyoto Protocol. Additionally, the Kyoto Protocol permitted progress in the normalization behavior in terms of greenhouse gasses emissions to an important group of developed countries; which, in a certain way, these countries gave away part of their autonomy

or sovereignty to achieve a multilateral common objective in accordance to the approaches by Keohane and Nye explained at the beginning of this chapter.

Also, in terms of rules and procedures, the Conferences of the Parties have served as a scenario to established advances, such as the “The requirements of the Kyoto Protocol Implementation” which were implemented at the specialized conference held in Marrakech, in 2011. In that sense, it is appropriate to point out that the COPS are the multilateral mechanism for joint decision-making in regards to climate change, which implies that the rules, procedures, and guidelines on the matter will be the result of this multilateral mechanism for joint decision-making.

Consequently, and according to Stephen Krasner’s train of thought, the body of international standard of climate change is currently articulated by the United Nations Framework Convention on Climate Change, the Kyoto Protocol and the Conference of the Parties, which constitute a defined structure for the establishment of the set of principles, norms, rules, and procedures that form the international standard for climate change.

1.4 Geopolitical Configurations: Actors and their Interest on International Negotiations

As the subject of climate change has evolved into the shape of an international standard, a set of actors that interfere with its performance has been identified; for this reason, it is important to examine the interest of the actors in terms of negotiation and building partnerships with actors whose interests are alike. A brief description and analysis of the key actors in the negotiation process are explained below:

The Alliance of Small Island States (AOSIS)

Within the framework of negotiations about a new international standard of climate change that will substitute the Kyoto Protocol in 2020, the small countries/island States have been the object of special recognition for both their vulnerability before the effects and climate variabilities as well as their multilateral political organization.

In international politics, this group of nations is recognized as a subgroup within the developed countries and it is particularly considered to be vulnerable to climate change, and even though, these small countries do not count on a major economic or political support within the current geographical configuration, they have been able to consolidate their concerns and influence in a successful block mode. The message that they have been able to transmit during the multilateral forums is clear: climate change is challenging for many countries in terms of economic growth and sustainable development, while for the Small Island States is a matter of survival for both, their population as well as the State itself.

Within the United Nations System, the Alliance of Small Island States (AOSIS) works as an Ad-hoc special group in the international negotiations about climate change. The Alliance was created in 1991 and it is formed by 42 countries of low-lying coastal areas of all oceans and regions of the world, also, they constitute a total of 20% of the member countries of the United Nations.

These countries have small and fragile economies based, mainly, on tourism and small-scale fishing, which deny them access to resources to implement adaptation measures to climate change, in particular. Their development level and biophysical characteristics make of these Island States, countries ecologically vulnerable to environmental impacts. The threats due to sea-level rise are of particular interest because it could make a complete territory disappear.

The European Union and G-77

In regards to international politics and global climate change diplomacy, the European Union has been the main bloc of countries committed to the agreements of Copenhagen 2009 (COP15). The European have lead and facilitated, for several years, the processes and opportunities for dialogue with the main actors of political and economical weight, in the face of new commitments post-Kyoto. According to Paul Harris (2007), at the beginning of the 1980's decade, the actions of the European Union about climate change took place in the framework of international negotiations about climate change and they were intensified in the 90's decade.

The European bloc was leading solid initiatives related to climate change even long before the Bali Conference and Bali Plan in 2007. In February 2005, which was the year the Kyoto Protocol entered in favor, the European Commission issued a statement that included a series of key guidelines for the European Union strategy after the year 2012. In this document, *Winning the Battle Against Climate Change*, a call for greater cooperation with third countries is done. According to the European Union, this financial support should be prioritized over the poorest and the most vulnerable nations of the world. Furthermore, the first steps related to the commitments for the reduction of emissions are established. Also, it states that the international community, to the exception of the least developed countries, should, effective now, prepare the measures for low carbon agricultural production. On this matter, the latest COPs have been crucial due to the establishment of funds, as a result of the meetings.

On the other hand, the G-77 or the Group of 77 is the second of the interstate groups of major relevance on the international negotiations of climate change. Unlike the Alliance of Small Island States (AOSIS), the G-77 is a group of countries that count on a, relatively, more organized and old structure. The group was founded by a set of developing States during the first meeting of the United Nations Conference on Trade and Development (UNCTAD) in 1964, in an

attempt to negotiate the asymmetries in the global trade especially raw materials, also, to promote the economic cooperation and a greater influence of the developing countries in global affairs. Nowadays, the bloc has more than 130 members from all regions of the world, among them, India, South Africa, and China.

In regards to its positioning related to climate change, the G77 has been characterized by addressing the different concerns of the developing world, which is termed as Global South, on the impacts of this phenomenon as well as the measures that have been taken and might be taken to face it. Nonetheless, it has the great challenge of achieving internal agreements about more specific positions due to diversity (sizes, socio-economic development, and location) of the countries of this group. Thus, its responsibility consists of approving the interests of countries such as Brazil, South Africa or India with small countries such as the Island States (Masters, 2014).

Key Actors: The United States, China, India, and Russia

The actions of the main carbon emitters are fundamental in the diplomacy of climate change as well as the negotiations for the reduction of this phenomenon at a global level.

In the case of the United States, the environmental policy about climate change should be analyzed on three historical events. The first was characterized by the reluctance of the Bush administration, for almost a decade, to adopt strong commitments related to climate change. In the second phase, which began with the election of President Barack Obama in the year 2009, it is highlighted by radical change on the orientation of multilateral subjects and commitments. This fact is evident in actions such as the established agreement by the United States at the COP20, which refers to the reduction of emissions on behalf of the countries

considered the main emitters of polluting gasses. In line with the above scenarios, the third moment corresponds to the administration of President Trump, which has signified setback in regards to climate change. In view of the recent actions taken by the president, which culminated in a presidential decree that established the withdrawal of the United States from the Paris Accord. According to the White House, the current administration has established as a priority the economic growth, furthermore, taking part in international commitments regarding the reduction of greenhouse gasses emissions can signify a hindrance to achieve that objective.

In the case of China, and as part of the Bali Road Map which led to the negotiations in Copenhagen in 2009; the Asian country as formulated and implemented a “National Climate Change Programme” as a way to adopt a series of policies, measurable actions y constant efforts to address global warming. For the first time, China as well as the United States at the COP20 (Lima), are publicly committed to reducing their carbon emissions, however, the outlined commitment starts in 2030.

Additionally, on the statements given by President Xi Jinping, he looks forward to “deepen the practical cooperation in regards to clean energies and environmental protection between both countries” (COP Lima, 2014). In this regard, China requires a crucial diversification relation to non-polluting resources on its total energy consumption by 2030. Thus, the pressure is on the current emitter of a larger amount of polluting gasses to use other alternatives to the existing coal plants of this country.

In the case of India, as it has been previously mentioned, it has an international policy similar to China’s; in order words, it focuses on hindering the international negotiations of the developing countries to be forced to reduce their greenhouse gasses emissions, however, its

participation is fundamental and without its collaboration, a relevant agreement regarding this matter will not be achieved.

In addition, it is worth highlighting that the Indian government has developed a “National Action Plan on Climate Change, which comprises eight national missions, including one about solar energy and another one on energy efficiency. The objective of this plan is to place the country’s growth and development on a more sustainable path.” (Embassy of India in Spain, n.d). Also, significant measures have been developed as part of the mitigation of gasses programs, such as the promotion of renewable energies and energy efficiency (including biofuels), the accelerated development of nuclear and hydraulic energies, the research and development of clean energies, among others.

Finally, within the group of the main greenhouse gasses emitters, Russia stands out, because it is a large petroleum producer. Due to its geographical location and closeness to the Arctic, it is more vulnerable to climate change effects; also, the commitment assumed by China and the United States pushes the development of a Russian policy regarding climate change. In regards to this, Russia has achieved its goals to reduce emissions, however, it is important to point out the historical context of the Cold War in which Russia took part in 1990, which was the base year for its emissions measurements.

Latin American Countries

Latin America presents a major vulnerability before climate change. The emissions on a regional level are low, however, the consequences they faced are many and diverse; from the sea-level variations, ecosystems changes, and extinction of species to droughts and floods.

According to the ECLAC, it follows:

In accordance with the available historical information about the alteration of natural systems, the effects of climate change in Latin America and the Caribbean have been significant. The projections indicate that by 2020 they will be mild, however, they will be incremented after 2050 and they could be even greater with an increase of only 1,5 to 2 degrees Celsius of the current temperature.

It is foreseen that the more significant temperature rise and the increase of the precipitations will happen in the Amazon region, in both the dry and raining season. In the Caribbean, a pronounced variation on the rain levels will be registered on intervals from a decrease of 14.2% to an increase of 13.7% in the next 20 years. (2009)

These are the elements that underline the need for increasing mitigation measures in Latin America. Thus, it is needed “an agenda that combines policies to confront poverty, inequalities, and social inclusion with a new vision of sustainable natural resources for the transition to new low-carbon economies. Latin America has the technological and social potential to face climate change challenges by creating new economic opportunities” (Toni y Mello, 2014).

1.5 Some Conclusions

- a. The actions of the international community before climate change impact has been building a global standard on this matter. Within this structure, diverse dispositions are established due to the Conference of the Parties and the agreements achieved.
- b. The climate change standard is in an ever-changing update process, and to a certain extent, it has faced the crisis of the efficiency of its instruments inasmuch as some countries block or breaches the discussions in regards to the strategies and the goals on the reduction of

- polluting emissions, which evidences the existing dissimilar interests. Such as the withdrawal of the United States from the Paris Accord.
- c. The previous experiences have demonstrated that developing economies, such as China, India, Russia, and others with lower levels of growth, are reluctant to increase their reduction goals if they affect their economic dynamic. Generally, the countries with transition economies considered that the responsibility regarding greenhouse gasses emissions fall underdeveloped countries, however, research by the Netherlands Environmental Assessment Agency indicated that if all greenhouse gasses and the processes of emissions production between 1850-2010, the 52% corresponds to the developed countries and the 48% to emerging or developing economies.
 - d. Groups such as the Island States, which unify efforts to achieve solid advancements have existed because their territories' physical existence is threatened by the occurrence of the meteorological phenomenon and the sea-level rise.
 - e. The negotiations around climate change cannot be conceived as a variable-sum game, in which the negotiation outcome generates win-win situations. Thus, this win-win scheme must take place to a diversity of positions and interests that materialize a solid alliances' system, which enables the establishment of realistic goals, and more importantly, the adaptation of such goals to the complex realities of the inner development of each country.
 - f. The main challenge the Paris Accord faces is the incorporation of the United States by 2020, otherwise, it could be used as an argument to other nations not to comply with the commitments acquired at the COP21.

According to international research, the construction of scenarios enable to structure alternative futures about an event that affects the international system as of the main elements that shape the current juncture; this situation facilitates the visualization of potential behaviors by the involved actors, also, it allows the structuring of the respective answers. Historically, “the prospective studies were originated in the military field during the Second World War. The basic idea was, the same as nowadays, to use the scenarios to establish complex situations and specific uncertainties during times of war” (Rivera, 2010).

However, the climate change subject presents a large spectrum of potential actions and actors involved, which is the reason that this methodology is associated with the creation of scenarios turns out to be of interest and value. Thus, “the rise of future studies is related to the complexity of the world; not only due to unifying and divisive effects of globalization, but it is precisely on this dense web of relations, where the uncertainty and the risk emerge as the dominant frame in which future events are built” (Rivera, 2010). Evidently, the subject has a high degree of complexity because there is a big web of connections to be considered in the decision-making process and in the development of potential scenarios.

On this point, it is necessary to define what is understood as a scenario. According to Firmenich Bianchi (n.d), “A scenario is a significant and detailed portrait of a plausible (probable), admissible, recommendable, coherent and coherent future world. In this world, it is possible to see and understand clearly the problems, threats, and opportunities that such circumstances can present”.

As can be seen in the following illustration, the methodology to built scenarios implies a detailed knowledge of the studied phenomenon at the time of initiate the investigation (this

requirement was exposed to the first chapter of this document). This with the purpose, that all understanding obtained at this stage is of value to move forward to the second phase, in which the drivers (driving forces) are identified; in some way, they influence or conduct the behavior of the system under examination. Finally, the building of scenarios arises from the potential behavioral change of the drivers and how this will affect the phenomenon under examination.

Additionally, it has to be taken into consideration that the international scenario is constantly changing and that the subject of global warming requires all possible efforts regarding negotiation. Thus, “the current social, political, economic and military dynamic of the world demands to be ready to face the “changes” and the “ruptures” as well as a special disposition to move along uncertain and high-risk paths. On this sense, the study of scenarios is a useful tool to the decision-makers to foreseen durability and sense to the institutions and the society” (Rivera, 2010) Now, in regards to the results, it is worth highlighting that “the scenarios are not predictions about the future, but they allow perceiving different futures from the present. Then, the scenarios are stories about the future based on systemic thinking around the drivers and their interrelations” (Rivera, 2010).

Therefore, the next section reviews a set of critical elements to understand how future scenarios related to climate change can be developed. To this effect, the data related to the three driving forces that are key to develop them is presented below.

2.1 Driving Forces of Climate Change

According to what was argued in the section above, there are present and past conditions that have significant weight on the development of the future. Particularly, climate change is not the exception to this dynamic because its existence is mainly explained by the

anthropomorphic action. Therefore, the different activities performed by human beings are the cause of greenhouse gasses emissions (GHG). On this matter, this section examines elements that are key in the future to determine the expected trends in relation to this phenomenon.

2.1.1 Demographic Patterns

The demographic patterns are driving forces with significant weight on greenhouse gasses emissions (GHG). In this sense, aspects such as the growth of population, urban agglomeration and changes in consumption patterns tend to produce direct impacts on GHG emissions growth. For such a case, if the estimations done by the United States Census Bureau (2017) are taken into consideration, during the next decades the trends on the growth of the global population are still since a significant increase of 3.66 times on a period of 100 years alone is forecasted.

Nonetheless, the next graphic shows that even though the growth of the population by the year 2050 will have the particularity of reflecting on a decreasing trend, which initiated in the 90's decade. Thus, the average variation per decade shows crucial differences, detailed on graphic 2.1 that visualize historical and future trends associated with the inter-decade growth of the population.

In addition, there are approaches about future scenarios done by The National Intelligence Council (2012) that established a growth of the middle class mainly on developing countries by 2030, while in most of the European countries and some Asian ones will have aging populations, which will originate lack of workforce, which will stimulate significant migratory flows.

It is worth highlighting that an accelerated process of urbanization is expected; it is forecasted that 60% of the global population will live in cities by 2030, this projection is sustained by data of the Population Division of the United Nations Department of Economic and Social Affairs (2014).

Also, another of the great forcing drivers linked to climate change is associated with the global energy mix. On this, and according to the projections done by BP Global (2017), it must be taking into consideration that the three most important energy sources in terms of consumption will be fuel, coal and natural gas. However, it is expected that the demand for natural gas will exceed demand for coal by 2030, also, that the growth rhythms of fuel will initiate a gradual decrease as of 2025.

Additionally, it should also be taken into account that the renewed energy marked (not including hydropower) will have a significant growth, which will exceed the demands of sources like nuclear energy and hydropower. Also, in the case of biofuel, it shows an ascendant behavior, which does not give a significant position with regards to the other sources of energy. Consequently, it can be argued that the expected changes in regards to energy affairs (natural gas and renewable energies) do not represent a juncture of significant impact on the global energy mix, which implies that its historical structure will be still.

On the other side, the arguments of the U.S Energy Information Administration (2016) should be taken into account, which estimate increasing levels of energy demand in the next three decades, which will be led by strong increases in countries outside the Organization for Economic Cooperation and Development (OECD), which are mainly located on the Asian continent. This will signify an estimated increment of 48% at the global level if the 2012 energy demand is taking as the basis.

2.1.3 Economic Growth

In addition, another factor that has a direct link with the increase of greenhouse gasses emissions is the increase of the Gross domestic product (GDP). In other words, the demand for goods and services production at a global scale necessarily has direct effects on climate change. As a matter of fact, the projections by the Organization for Economic Cooperation and Development (2016) established that between the years 2010-2060 GDP growth will be exponential. This implies that by the year 2030, this indicator will have grown by 92.5% in relation to the year 2010, while the expected growth will be 216% by the year 2050. On this time horizon (see graphic 2.5) it is expected that GDP in countries such as China and India exceed the GDP of the United States. In consequence, the Asian region will hold the main role due to the expected economic upswing.

Additionally, the economic factor along with the growth of the population are two driving forces with direct impacts on energy demand. In fact, an accumulated increase of the global demography associated with the demand for goods and services creates conditions in which an increase in greenhouse gasses emissions is expected. Furthermore, unless there are policies that support efficient production techniques, the demand for the consumption of energy resources becomes a major constraint to achieve the objective of the Paris Accord.

In addition, the behavior of the GDP associated with the EU 15, Russia, and Japan also draw the attention, since the projections are done by OECD (2017) show a tendency in which the EU 15 will expand moderately in terms of GDP; while Russia and Japan will experience a major stagnation. However, it must be taken into consideration that these two countries and the EU 15 currently play a major role in regarding greenhouse gasses emissions. Thus, their contributions to this rubric have a key part in the development of future scenarios of climate change.

2.2 The Negotiations in the Framework of the Paris Accord

As discussed in the section above, the future scenarios related to climate change are subjected to an increase in population in decreasing terms, also, it will be characterized by an increase of the middle class and an accelerated urbanization process. Also, even though there will be a significant increase in renewable energy consumption, the global energy mix will experience a major dependency on fossil fuels. In addition, the expectation about global GDP will be associated with sustained growth, in which the main actors will be China, the United States, and India as well as the EU 15; these territories were responsible for 56.88% greenhouse gasses emissions. This is the reason that keeping the temperature below the 2 degrees Celsius under the before-mentioned conditions will be hard to achieve.

However, Article 4.2 of the Paris Accord establishes “each part must prepare, communicate and keep the successive intended nationally determined contributions that foreseen to carry out. The parts shall endeavor internal mitigation measures with the aim to achieve such contributions”. The above mentioned implies that these instruments, at first, could serve as tools to achieve a significant change in the expected tendencies regarding GHG emissions.

To a large extent, these actors have a significant weight on the constructions of future climate change scenarios, which implies that the first approximation to design the potential scenarios is to understand which were the previous intended contributions (NDC) for the fifteen most important countries in terms of GHG emissions. As a matter of fact, the next matrix presents a summary of the most important aspects of these intended nationally determined contributions.

2.3 Potential Scenarios for the Formation of a New Standard Post-Kyoto

As validated post-2020, the Paris Accord was the only instrument at a global level with the capacity to limit GHG emissions as long as the NDC of the parties is ambitious enough

to achieve the established goals. Thus, an analysis will be done next to three possible scenarios that could result by combining the driving forces explained before and the NDC associated to some key actors in the development of the international standard of climate change Post-Kyoto.

The scenarios derive from three fundamental points: the idea of a gradual change (Scenario I: A Slow Walk Towards Tokyo), the complementaries measures towards the consolidation of the Paris Accord (Scenario II: An Alternative Scenario), and a third scenario in which the most significant aspects that might affect the development of the execution of the Paris Accord (Scenario III: Crisis Scenario).

2.3.1 Business as Usual: a Slow Walk

While it is true that the Paris Accord represents a milestone in the construction of the international standard of climate change, also, it can be possible to check the tendencies that definitely will have a significant weight in the development of climate change, such as the demographic patterns, the global energy mix, and the GDP growth. Consequently, the question arises of whether the NDC will be enough to achieve the goal of not exceeding the 2 degrees Celsius established in Paris, in 2015.

In regards to this, what first needs to be considered is that the NDC of unconditional nature and determined by the States represent a gradual change towards the limitation of the emissions, which includes a commitment to adopt measures with sustainable results in regards to climate change. However, these changes are not enough to comply with the agreement of Article 2 of the Paris Accord, which is established that to improve the compliance of the 1992 convention, the following must comply:

To keep the global temperature below 2 degrees Celsius over pre-industrial levels,

and continue with the efforts to limit the increase of the temperature to 1.5 degrees Celsius over pre-industrial levels by recognizing that this action will reduce in a considerable manner of the risks and effects of climate change.

As a matter of fact, the next sections verify if there are elements that add pressure and that as a consequence, hinder the goal proposed by the Paris Accord. Thus, the first approach takes into consideration elements related to the three major historical emitters on Asia (China, India, and Japan) Then, an analysis of the uncertainty that the actions of Russia and the United States mean to the Paris Accord, and finally, future tendencies in the European Union will be studied.

The Three Major GHG Emitters

As corroborated above, China, India, and Japan were the three major countries of the Asian continent in terms of GHG emissions, by 2012. This constituted the 73% worldwide total. Due to this fact, the nationally determined contributions of these countries are profiled as key in the development of potential scenarios of climate change.

Firstly, regarding China, the Climate Action Tracker (2017) claimed that this country has implemented a set of policies to limit the use of coal, which has contributed to a significant impact, that if done consistently, will cause that the total emissions of GHG emitted by this fuel only show a light growth by the period 2015-2030. However, as proven in Table 2.1, the Chinese NDC is limited only to reducing CO₂ emissions, which implies that other GHG are not considered. As a consequence, it is probable that the total emissions of GHG increase until the year 2030. Thus, the Chinese NDC itself is not considered ambitious enough to limit global

warming to less than 2 degrees Celsius, unless, other countries make a comparatively major effort than the Asian giant.

Now, the arguments before as subjected to a second analysis can be proven that until the year 2030 the Chinese population will continue growing. In general terms, this implies that the consumption of the country will arise, which comes along the accelerated urbanization that will take 68.7% of the population to live in cities. Additionally, the graphic below shows that the GDP in China will have sustained growth. Consequently, the growth of goods and services production as well as the growth of the population, and the agglomeration of the citizens on urban spaces will generate pressure all over the productive system, which can be translated as an aggregated total increase of GHG.

On the other hand, it must be taking into consideration that post-2030, the growth of the population tendency will initiate a downturn; however, the patterns associated with the accelerated growth will be still until position close to 80% in 2050. Therefore, even though a downturn of the growth of the population is expected, the agglomeration of citizens in urban spaces will raise pressure on the energy demands and raw materials as well as goods and services with high levels of congestion.

Finally, it must be remembered that the Chinese NDC, also, recalls for commitments linked to increase the non-fossil fuels participation on the consumption of energy by about 20% and increase the stock forestal volume in about 4.500 million cubic meters as a percentage of 2005 levels. Nonetheless, in the case of the first self-imposed obligation, the fossil to be used is unknown, which implies that it is impossible to project the result of this change in regards to GHG emissions. Additionally, in regard to coal sinks, it has not been possible to prove which

policies will be adopted. Thus, the only measurable component of the NDC is associated with the reduction of CO₂.

Secondly, in the case of China is considered, the Climate Action Tracker (2017) claims that the fast and continuous renewables energy growth which combined with a major downturn of coal use in India, the reductions of the CO₂ emissions, and coal consumption in China are, nowadays, the most important two elements regarding mitigation at a global level. In this regard, it must be remembered that India is investing in a series of projects of ultra mega potency; the most notable is the biggest solar energy plant of the world. However, the Indian NDC is yet to reflect this evolution, since, under the current policies, India is about to exceed its goal in terms of the reduction of CO₂ emissions established by 2030.

On the other hand, the Indian NDC does not specify if their commitments cover topics related to land use. In addition, it must be considered that the demographic projection for this country foresees a growing trend, that by 2030, will have exceeded China in terms of inhabitants. The above mentioned is complemented with an estimation that by 2050, India will become in the second economic potency at a global level in terms of GDP. Also, its urban centers will accommodate a little more of 50% of its inhabitants. It is worth highlighting that European Centre for Development Policy Management (ECDPM) adds that by 2025, the Indian middle class will be formed by a 57% of the population. Consequently, it is to be expected that this country experiences an increase of the demand for energy, raw materials as well as goods and services.

In summary, for India's case, it can be argued that nowadays its NDC is weaker than the resulting actions of current policies. Also, it is mature for the improvement in which mechanisms are incorporated to foreseen future trends. On the contrary, it must be warned that

the current policies are insufficiently ambitious to limit global warming under de 2 degrees Celsius, unless, other countries make deeper reductions and greater efforts compare to India.

Thirdly, in regards to the most important Asian countries in terms of GHG emission, Japan is one of them, which ratified the Paris Accord on November 8, 2016. The Japanese NDC included an emissions reduction policy of 26% under the 2013 levels by 2030, and the equivalent of 18% under the levels of 1990 by 2030. Nonetheless, according to Climate Action Tracker (2017), the Japanese NDC is based on a problematic accounting method, which excludes land use, land-use change, and forestry on the year base emissions. On the other hand, future Japanese emissions are hard to predict due to the uncertainty about the future role of nuclear energy, coal, and renewable energy.

While it is true that part of the ability to generate energy from coal is still under a construction and planning process, the government foresees a further deployment of renewable energy towards 2030, than what was planned by the NDC. However, the Climate Action Tracker (2017) warns that the Japanese energy strategy is not in line with what is needed to transform the energy field into a low-carbon economy. In fact, it is the opposite due to the thermal power stations of coal will play an increasing role in Japan. In consequence with this type of asymmetric accounting used by this Asian country regarding the land use, land-use change, and forestry as well as the uncertainty related to power generations, which arise problems at the attempt of foreseeing the behavior of future GHG emissions. This implies that as long as it is possible to achieve the commitments established by the NDC, the Japanese strategy is far away to be considered adequate to achieve the goal of 2 degree Celsius at a global level.

However, if the variables such as the demographic patterns and the Japanese GDP are taken into consideration, it can prove that the Domestic Gross Product of this country will

increase on a moderated manner until 2030 as demonstrated on Graphic 2.5. In addition, it can be proven that in regards to the trend of the growth of the urban population, it will keep increasing until the year 2030, even though the growth is gradual. Finally, it must be highlighted that since 2030 the Japanese population has been decreasing significantly. This behavior is expected to be continuous until 2050. The abovementioned implies that unless there are major migration flows, the pressure for resources such as energy, raw materials, and goods and services should not experiment with a major increment.

In summary, for the case of Japan the driving force is the energy, which will have a main role related to GHG emissions. Additionally, and according to the analysis by the Climate Action Tracker (2017), if the majority of countries will follow the approximation of Japan, the global warming will exceed 3-4 degrees Celsius, furthermore, the established objectives by the NDC could be reinforced to reflect the high capacity and responsibility of Japan.

On the other hand, an interesting fact is the vulnerability of Japan due to its geographical location. In regards to this, the Japan Weather Association (2013) warn that this country could experience effects such as rainfall shortage in some regions, which will cause major droughts. In addition, a deterioration of the water quality due to lower circulation and an increment of phytoplankton caused by the water temperature rise. Additionally, the potential sea-level rise may cause a major intrusion of saltwater into the groundwater.

Furthermore, it is also possible that besides the droughts, some regions of the country might be affected by severe rainfalls that can cause floods. Finally, the coastal regions could be exposed to human settlement displacements as a result of the loss of territory due to sea-level rise. For such reasons, this is one of the countries that must commit with as many efforts as possible to become one of the other major voices at international forums.

Uncertainty at Kremlin and the White House

The other two global actors with major roles on the development of climate change are the Russian Federation and the United States of America. The importance lies in the fact that by 2012 these two countries represented 20.5% of GHG emissions at a global level. Thus, their actions regarding climate change taken by Kremlin and the White House will affect significantly the future of the GHG emissions.

In regards to this, and in relation to the United States, it must be remembered that the first time in which a proposal existed led by President Obama within the framework of the Paris Accord, in which a reduction of GHG emissions within 26% and 28% over the 2005 levels was pretended. However, during the year of 2017, President Trump announced the withdrawal of the United States from the Paris Accord, even with the heaving financial and economic loads this action signified. Nonetheless, the President informed at the White House that he has willing to negotiate a more lax agreement. Thus, this situation is translated to a major uncertainty since the contributions that the United States is willing to negotiate and in which measure the American contribution will be reduced are unknown, in terms of the reductions of GHG emissions. that the United States is willing to negotiate and in which measure the American contribution will be reduced towards the Green Climate Change are unknown.

Additionally, besides the complex situation that causes uncertainty at the White House, there are other elements that sustain the GHD emission in the United States that will significantly continue growing. In this sense, Graphic 2.5 in which the increased and sustained trend of the GDP expected for this country is observed, which along with the growing

population, will remain constant until the year of 2050. Also, this will be accompanied by the growth of the urban population.

On the other hand, subsequently to the President Trump' statements regarding the withdrawal from the Paris Accord, a significant number of States and political leaders showed strong disagreement towards the decision made by the White House. The above mentioned increases the uncertainty in regards to the real response of the United States. According to the digital newspaper El Salvador.com (2017), "61 major expressed that they will intensify their pressure and alignment with the other 194 nations that adopted the Paris Accord". Therefore, the real reduction that the United States represents in terms of GHG reduction is not easy to quantify.

Additionally, other country that generates uncertainty in regards to future GHG emissions is the Russian Federation. In this regard, it should be taken into consideration that it is one of the major emitters and producers of fossil-fuels worldwide. As a consequence, it has great mitigation potential and could take a major role in the international climate politics. However, Russia is the only major emitter that is yet to ratify the Paris Accord, and on the contrary, has presented a national strategy to delay the ratification of this instrument at least until 2019.

In addition, the Climate Action Tracker (2017) points out that the objective regarding the reduction of GHG emissions in the Russian NDC is not only below the emissions level projected under the current national policies, but it is one of the weakest proposed by any government; which means that Russia will not need to implement any new policy to achieve its current established objective stated at the NDC, which is from 25% to 30% below the 1990 levels to 2030.

According to the Climate Action Tracker (2017), another aspect to consider is associated to the Russian government as well, which has made it clear that its goal is conditioning the advantageous accounting rules to Russia as “the maximum possible count of the forests ability to absorb”. This means that the Russian emissions can increase significantly in the future, without losing its goal emissions established by the NDC, which is non-compatible with the necessary efforts to achieve the long term temperature goal in the Paris Accord.

On a second level of analysis, if the driving forces such as demographics and economic indicators are taken into account, it can be established, as observed on Graphic 2.5, that Russia will have a moderate increase in terms of GDP, in contrast with the reductions projected in the size of its population (see Graphic 2.15). In addition, the percentage of inhabitants that live in cities will continue to increase to 76.3% by the year 2030 and 81.1% by 2050.

On another note, another aspect to consider regarding Russia is its link to the European Union as one of the main energy providers. This translates to the fact that an increment of the demand for European power is a stimulus to Russian energy production, which creates a dangerous interdependency for climate change. According to Eurostat (2016), the origin of the EU-28 energy imports has changed, to some extent, in the last years. Even though Russia has kept its position as the main raw petroleum and natural gas provider, it has also become the main provider of solid fuels.

By 2014, the 29.0% of the raw oil imports of the EU-28 came from Russia, which became the main solid fuels provider by 2006; in this regard, Russia exceed South African and by 2004 overran Austria, and Colombia in 2002. The Russian quota of solid fuels imports of the EU 28 incremented from 18.0% in 2004 to 30.0% in 2009, before decreasing lightly until 25.7% in

2012 and it increased back until 29.0% in 2014. In contrast, the Russian quota of natural gas imports of the EU-28 decreased from 43.6% to 32.1% between 2004 and 2010, even though, this evolution was reverted by post increments until reaching a quota of 37.5% in 2014.

Therefore, it can be observed that Russia has gained prominence on the European energy market on the basis of fuels that do not contribute to reducing GHG. Thus, the contribution that the EU-28 and the Russian Federation can make is linked to decrease the dependency on such fuels.

Is the EU retracting?

The European Union is known as climate change global leader, which was, once again, proven on March 6, 2015, when the EU presented its NDC. In addition, on October 5th, 2015, the EU approved the Paris Accord through a summary procedure. Particularly, the objective is to reduce at least 40% of GHG emissions by 2030.

However, the Climate Action Tracker (2017) considered that the objective of the EU by 2030 represents a slight slowdown on its historical behavior, precisely on the exact moment in which it was necessary to accelerate instead to achieve decarbonization by the middle of the century. Additionally, according to the Climate Action Tracker analysis, “the European Union is not on the path to reach its goal by 2030 because the implemented policies will reduce the EU internal emissions between 30% - 39% under the 1990 levels, the objective was less than 40%, by then”.

To this case, the arguments that justify this position starts from the fact that between 1990 and 2015 the EU emissions diminished by 24%, or approximately, the annual 1.1%. As a result, from now and until 2030, the emissions will have to only decrease by 1.2% annually to achieve the reduction emission goal of 2030.

As a consequence, the continuity of this trend will lead to the reduction of emissions by 64% below the 1990 levels; this situation keeps from reaching the long term goal established by the European Union between the 80% to 95% over 1990 for the year 2050.

Furthermore, the future challenge for the EU is associated with the improvement of the efficiency of a scheme for greenhouse gasses emissions allowance (Currently, the commitment is set to the year 2020). Additionally, the mechanisms to promote renewable energy sources should be optimized as well as the reduction of energy consumption of their buildings, also, the industrial energy efficiency should be improved, this includes the reduction of CO₂ emissions in the transport sector. The European Union will be able to achieve the goals, in both medium and long term, established by the NDC under the aspects before-mentioned.

In conclusion, the cases analyzed before representing a set of nations responsible for approximately 68% of GHG emissions by 2012. For this reason, the elements such as China's focus solely on its commitment to reduce CO₂ and that their plans for the substitution of fossil-fuels is unknown, along with the fact that India will have a growth in GDP and in population, in addition to a major urbanization process as well as the main role coal will play in Japan, make it hard to believe the potential to reach the goal established by the Paris Accord. In addition, the uncertainty linked to the withdrawal of the United States from the Paris Accord and its possible arises as well as the delay on the approval of this instrument by the Russian Federation, which is coupled with a slow down by the European Union regarding climate.

Furthermore, in order to reach the established goals in the Paris Accord seems to be an unreliable option at this point. Thus, in this scenario, the planned NDC revisions are crucial to achieving more adequate commitments by the parts. Also, it is worth highlighting that if truly substantial agreements are unachieved, each scenario will have a much higher economic cost to

achieve the targeted goal; consequently, it is of high importance that the parts move, as quickly as possible, towards optimal schemes in order to keep the temperature rise below the 2 degrees Celsius at the least cost.

2.3.2 An Alternative Scenario

By taking into consideration the above-presented arguments, it is evident that the Paris Accord implementation will progress slowly. However, there is an alternative scenario, in which a set of actions could help to achieve the established goal.

Firstly, in this regard and as it was previously explained, it must be clear that the actors such as China, the United States, Russia, the European Union, and Japan will still be key in terms of GHG emissions. However, there is a set of countries that will continue ascending economically, which will have diverse implications in terms of GHG emissions. Thus, Indonesia, Mexico, Brazil, Turkey, South Korea, Australia, among others are manifesting quick economic growth. As a matter of fact, the projections by the OECD estimate that economies such as South Korea, Turkey, and Australia will increase their GDP twice by the year 2060; whereas, Mexico, Brazil, and Indonesia will experience an even more accelerated GDP growth.

Also, regarding demographic patterns, the above-mentioned countries shown a moderated population growth, which for all cases tend to stabilize between 2030 and 2040. However, it must be taken into account that these nations, excluding Turkey, were part of the list of countries representing more of the 1% and less of 3% regarding GHG emissions by the year 2012, due to this situation they become significant for the Paris Accord implementation.

On the other hand, within the scope of the population that lives in urban areas, a tendency for a sustained and continuous growth is shown; the above mentioned along the rest of the driving forces show that the countries with more significant GHG emissions weight will

continue to expand. Thus, the challenge for the Paris Accord implementation resides in achieving significant reductions in these nations, in order to compensate for the inadequate commitments by the major global emitters. On this matter, the graphic shows the increment of inhabitants living in urban areas, in which mainly the accelerated growth of Indonesia stands out.

Secondly, there is a set of approximately 84 countries that presented NDC, which declares conditional actions to reduce GHG emissions; such actions established mainly that the countries are willing to make greater efforts as long as there is a strong technical, financial and technological transference support by the international community. In the next figure, it can be observed that these countries are located in South America, Africa, and Southern Asia, mainly.

The above mentioned represents an opportunity for increasing the reductions of GHG emissions at a global level. Consequently, this will be the second challenge to be faced to implement the Paris Accord. Furthermore, the compliance of Article 2 has as one of its main sources the fact that it is fundamental that the countries strengthen the allocated funds to mitigation and experiences interchange in order to achieve effective cooperation among the most vulnerable nations. Thereof, financial support on behalf of developed countries is paramount. Another element is the consolidation of conservation programs and the use of renewable energies that were developed by some other countries, and interchange of experiences with their counterparts (especially developing countries), so they can be utilized.

Under Article 9 of the Paris Accord, it is particularly important that finance flows from the developed countries to developing countries are consistent. However, this could represent a flaw on the agreement implementation because Article 9 itself establishes clearly that this action is a voluntary act. In consequence, on this scenario, the strengthening of the allocated funds to climate change does not constitute a positive variable before the declarations by the President of

the United States. Furthermore, this implies that market-based approaches such as the European Union Emissions Trading will have a key role post-2020.

On the other hand, it must be taken into account that the role represented by developing countries is essential; particularly, if their economic growth as an engaging element on technological innovation is considered as well as the push towards a green economy that becomes sustainable over time. Also, it is noteworthy that the sustained and continuous economic growth has been crucial to the positioning of the BRICS as major emerging economies, which has become essential, especially, by taking into account the growing economic downturn they have experienced on the last years.

Thirdly, by guaranteeing a change in regards to energy by the use of renewable sources will present repercussions on the national and food security fields, among others. Twelve countries control around 80% of the global petroleum reserves and more than 40% of its global production, which has negatively influenced the worldwide markets in situations where a supply shock is generated, furthermore, this stresses the need for looking alternative sources. As a matter of fact, the above mentioned reflects that countries such as India, which has a large population that depends on agricultural economy and on the extensive activity on their coastal areas, face constraints on the transformation process from the model to another of clean energy. The transition of economic development models has been dominated by the production under fossil energy systems, so that the mobilization from a traditional model to another characterized by renewal energies will imply budget cuts as well as policies that jeopardize the abilities to satisfy food demand over production opportunities, among others.

Now, the harnessing of renewable sources implies facing a technological gap among countries. Thus, before using wind and solar power more widely; it will be necessary to have

more efficient power storage plants that could store energy from when the wind and sun are strong and release it at night or when the weather is cloudy or windless.

In addition, new methods are needed to convert waste plant matter into ethanol as well as the exploitation “of other sources of energy will also require rapid technological advancement” (UNCTAD, 2010). To accomplish this, it is fundamental to bridge the gap between developed countries with technological capacity and countries with the natural resources to obtain energy but lacks the technological support needed for its harnessing.

Fourthly, the market will have a key role on this scenario as long as it promotes the supply and demand for green products. On this respect, the development of environmentally friendly technologies might boost investment concentration on those sectors, in particular to the automotive sector and the promotion of energy efficiency. Such investment could be incentivized by the demands of consumer group that is increasingly more conscious about the products they consume and the environmental standards such products comply with.

According to the World Energy Outlook 2014 (2014), “in a scenario of new policies a growth of 37% on the demand for power, an average of 1,1% on annual growth shows a deceleration over previous decades, specifically due to the changes on the global economy with the development of less intensive energy activities” Furthermore, “the utilization of natural gas and low carbon fuels will grow exponentially, which replace the demand for coal and petroleum”.

In such case, it is expected that the countries of the OECD make a major contribution to the reduction of fossil fuels consumption because “the demand growth will come from countries outside of this bloc”, moreover, “for each barrel eliminated from the demand of the OECD countries, two extra barrels of petroleum are consumed by the developing world. China

will be the country with higher consumption of this hydrocarbon by early 2030” (World Energy Outlook, 2014).

Also, as a result of the implemented policies to achieve a number of 2 degrees Celsius on the global temperature rise, a decrease of the growing coal consumption is foreseen, which will be of 0.5% between 2012-2040 over 2.5% of the last 20 years. The demand for this mineral will decline on the OECD countries, the United States, and even China; nonetheless, in India, it will reach a peak in consumption by 2030, which will displace the United States by 2020. Therefore, India will be positioned as the second coal consumer after China. In this last country, the energy max will experience an increment of 33% on the power demand for 2012-2040.

Additionally, the demographic variable must be equally assessed. On this regard, the Energy Outlook 2035 (2015) notes that it is expected that 1.600 million people need power by that year. In that scenario, such variable is determined by the acquisitive power of the inhabitants than by the growth of population; which will cause increments on the demand. For example, the case of China, where a substantial growth of the population is unexpected due to the one-child policy, an inner demanding market could mean setbacks to achieve emission goals.

Therefore, an improvement in the production efficiency is profiled as a strategy to face high levels of consumption. On the other hand, the Chinese government has established a carbon tax of 26 dollars per ton in 2030 and 58 dollars per ton in 2050; along with an increment on the production of hydropower that reaches 400GW in 2050. According to Zhang et. al. (2014) on the research “Carbon emissions in China: How far can new efforts bend curve?”, a production of 350GW per nuclear energy by that same date could mean a goal lower than 15 thousand million

of CO₂ tons per year by 2050, close to 5.000 million tons less, in a scenario of non-existent mitigation policies.

2.3.3 Crisis Scenario

According to Article 21 of the Paris Account, “it shall enter into force on the thirteenth after the date in which no less than 55 Parties to the Convention, whose estimated emissions represent globally, at least 55% total of the greenhouse gasses emissions worldwide, have deposited their instruments of ratification, acceptance, approval or adhesion.”.

It has to be emphasized that for the case of Article 21, it must be taken into consideration that by October 2016, a total of 160 out 197 countries have already ratified the Paris Accord, which means that the expectative of reaching the goal of 55% of the total greenhouse gasses emissions worldwide is highly probable. Furthermore, the entry into force of this instrument by 2020 represents an advancement in relation to the Kyoto Protocol.

Nonetheless, the sole entry in favor of the Paris Accord does not necessarily mean on itself that the objectives will be achieved, since to a great extent, and as it has been verified throughout this chapter, in fact reaching real GHG reductions depends on the NDC presented by each one of the parties. Consequently, and in first place, the construction of a crisis scenario arises from the weaknesses that might be detected in their implementations themselves.

On the other hand, the arguments by the U.S Energy Information Administration (2016) must be taken into account because they estimate the increasing levels of the energy demand for the next three decades, which are led by strong increases in countries outside the OECD that are located in Asia, mainly. This will represent an estimated increase of 48% at a global level if the 2012 power demand is taking a basis. In this sense, the concern of many

experts is based on the fact that such plans are insufficient to achieve that the warming oscillates under 2 degrees Celsius, in fact, they foresee close to 2.7 degrees to 3 degrees Celsius. Should this happen, the environmental panorama will reach the safety limit because, besides putting aside the direct effects on the regions vulnerable to droughts, floods or sea-level rise, the repercussions imply irreversible and catastrophic effects.

Next some aspects that could cause challenges to keep the temperature rise below 2 degrees Celsius are retaken below. In particular, they are basis of analysis performed in relation to the NDC and the driving forces presented in this current chapter.

Risks on the Asian continent

As it was examined, in the first scenario there is a series of uncertainties are remitted to the major emitters located in Asia. First, this is due to the fact that the goal established by the People's Republic of China is solely focused on CO₂, which leads to the fact that emissions from other GHG will continue to rise in the next decades. In addition, it is implied that the Chinese economy is not on the path to guarantee reaching its maximum GHG emissions level; on the contrary, it is expected that the accumulated results continue at a growing pace.

In addition, China has established goals for the substitution of fossil fuels, however, there is no clear evidence of which will be the source of energy to be used on this power replacement, in other words, this country's energy policies are still unclear. Moreover, the growth of the GDP is expected to have a sustained increase for the next decades, along with urban agglomeration processes which imply a bigger consumption of energy, goods, and services. As a result, strong pressure is put on natural resources. Stated another way, the biggest

emitter in on the path towards a sustained growth of population until 2030, which also implies an improvement of its middle class, and as a consequence, a change on consumption patterns.

By considering the arguments before mentioned, it is suggested that in the case of this country it is not easy to update its NDC as the country continues to make inadequate contributions to achieving the goal of having the temperate below the 2 degrees Celsius, which results on the biggest emitter of GHG worldwide to keep this same position during the next decades. On top of this, India has no resources to decarbonize its economy, which translates to the fact that this country largely experiences dangerous dependency on financial cooperation flows, technological transference, and technical cooperation, which bring the main limitation the necessary willingness of the developed countries to help this country achieving a substantial change. In addition, this is one of the countries that foresee sustained growth of population, GDP as well as growth on urban areas, which suppose a major agglomeration and as a result a strong demand for energy, goods, and services, similarly to China. In consequence, it is likely that this country continues to have a dependency on fossil fuels, and as a result, GHG emissions are far away from reaching maximum peaks.

Finally, Japan is included in the major Asian emitters, this country is not expected to be able to reduce its coal dependency in the short term.

Chapter V

Data Analysis

This chapter shows the translation results of the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” from English into Spanish and “Escenarios para un régimen internacional” from Spanish into English. In addition, it includes the application of the instruments selected for this research: the text analysis chart, which is used by the investigator to make a detailed explanation of the characteristics of the each of the texts that were analyzed and translated. In addition, the color-coding chart serves as guide to explain how each translation technique was used to translate the message accurately. Finally, the glossaries from both languages what were created through this investigation, which are crucial to facilitate the translation process, as well as provide a reference tool for potential readers.

5.1 Analysis and Interpretation of the Results

According to the objectives of this research, which were stated in Chapter I, the instruments used to collect the data and carry out the analysis of procedures and methods are the text analysis chart, glossaries and color coding. By using the text analysis chart, the translator is able to analyze the text and to define the characteristics of each document, such as text style, text function, and stylistic scale This helps the translator to achieve an accurate translation. The next instrument is the color-coding chart, the investigator is able to analyze and identify the translation procedures used throughout the texts by using the color-coding chart which was designed for this study. Finally, the last instrument used was a glossary for

each text and language, glossaries are crucial for translation, since they help to keep track of important terminology to achieve a coherent translation.

5.1.1 Text Analysis

The following table corresponds to the text analysis instrument, which is of highly importance because it uses Newmark's elements of text analysis (these were reviewed in detail in Chapter II). According to Newmark (1988), it is through the analysis of a text a translator is able to understand the concepts, find the equivalents, the intention of the author, and to accurately convey the message to the readership; in other words, the text analysis chart is important because it helps the translator to review the target text to make sure all of these aspects are considered in it. After the analysis of all texts, the translator was able to identify them as shown on the table below:

Table 4 Text Analysis 1

Text Analysis Element	“Technology in Language Use, Language Teaching, and Language Learning”	“Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance”	“Escenarios para un nuevo régimen internacional de cambio climático”
Text Style	Descriptive	Descriptive	Descriptive
Stylistic Scale of Formality	Formal	Formal	Formal
Stylistic Scale of Generality	Technical	Technical	Technical
Stylistic Scale of Emotional tone	Factual	Factual	Factual
Text Function	Informative	Informative	Informative
Type of Translation	Semantic	Semantic	Semantic

Table 1 shows the instrument that the researcher will use to analyze the texts under study. Source: Researcher's own creation.

5.1.2 Color Coding

The color coding is a data collection instrument that will help the researcher to identify the different translation techniques that were applied to the translations. The color-coding will encode the translation techniques used in fifteen paragraphs, each of approximate 100 - 150

words retrieved from both of the translations. The chart will register the number of times a specific technique is used to translate the texts from Spanish to English and from English into Spanish. This instrument has two paragraphs; the first one corresponds to the source text paragraph and the second one to the target language paragraph. On the second paragraph, the color-coding technique will be applied to highlight the techniques the researcher used to translate the texts.

For the purpose of this research, the investigator will use **nine** different translation techniques, and in the color-coding chart, each technique will be assigned a specific color. The color-coding chart which will serve as guide to identify the translation techniques follows below:

Table 5 Color Coding 1

Technique	Color
Modulation	
Transposition	
Omission	Red Font on Source Text
Amplification	
Explicitation	
Literal translation	

Compensation	Underlined Black Font
Equivalence	Highlighted Light Blue
Adaptation	<i>Italics</i>

*Table 4 shows the color that represents each technique in the color-coding instrument.
Source: Researcher's own creation.*

5.1.2.1 Color Coding: From the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance”

Paragraph 1

This article offers a capacious view of technology to suggest broad principles relating technology and language use, teaching, and language learning. The first part of the article considers some of the ways that technological media influence contexts and forms of expression and communication. In the second part, a set of heuristic questions is proposed to help guide language teachers and researchers in determining how to incorporate technology into their teaching practice or research agenda and evaluate its suitability and impact. These questions are based primarily on the goal of helping learners to pay critical attention to the culturally encoded connections among forms, contexts, meanings, and ideologies that they will encounter and produce in different mediums, both traditional and new.

Translation

Este artículo ofrece una amplia perspectiva de los principios generales que relacionan a la tecnología con el uso, el aprendizaje y la enseñanza de los idiomas. La primera parte de este artículo aborda algunas de las formas en las que los medios tecnológicos influyen en los contextos y en las formas de expresión y comunicación. En la segunda parte, se propone una serie de

preguntas heurísticas con el fin de brindar una guía de ayuda a profesores e investigadores de idiomas a determinar cómo incorporar la tecnología en sus prácticas docentes o en los programas de investigación; y así, poder evaluar su impacto e idoneidad. Estas preguntas por sobre todo se basan en el objetivo de ayudar a los estudiantes a prestar especial atención a las conexiones culturales codificadas entre las formas, los contextos, los significados y las ideologías con las que ellos se enfrentarán y producirán en los diferentes medios, tanto los tradicionales como los nuevos.

Paragraph 2

On the other hand, by defining technology narrowly in terms of computers and other digital devices, rather than as a broad spectrum of mediational resources, it is easy to forget the great extent to which language teachers rely on many other forms of technology, ranging from writing to audio recordings, images, and film. One consequence is that much of the current technology scholarship risks limiting its shelf life, as specific hardware and software products come and go rather quickly. This article proposes a capacious view of technology in order to take stock of broad principles concerning technology and language use, language teaching, and language learning, in the hope that such principles will be applicable not only to today's current technologies but also to those yet to be invented. Language teachers often find themselves caught in between contradictory discourses as they make decisions about how to use technology in their classrooms.

Translation

Por otra parte, al definir la tecnología en términos estrictos de computadoras y otros servicios digitales, en lugar de un amplio espectro de recursos mediacionales, no es difícil olvidar cómo los educadores de idiomas dependen, en gran medida, de muchas otras formas de tecnología, desde la escritura hasta las grabaciones de audio, las imágenes y las películas. Una

consecuencia es que la mayoría de la erudición técnica actual se arriesga a limitar su vida útil a programas y componentes informáticos que aparecen y desaparecen con rapidez. Este artículo plantea una amplia perspectiva para hacer un balance de los principios generales referentes a la tecnología y el uso, la enseñanza y el aprendizaje de los idiomas con la esperanza de que dichos principios se puedan emplear no sólo en las tecnologías actuales si no también en aquellas que aún están por inventarse.

A menudo, los profesores de idiomas se encuentran atrapados entre discursos contradictorios al tomar decisiones de cómo utilizar la tecnología en sus aulas.

Paragraph 3

On the one hand, technology is often seen as a means to enhance intellectual capacity and creativity. Moreover, educators are increasingly under pressure to use technology to prepare students to live in a technologically interconnected, globalized world (even if it is not entirely clear what skills and competences students must have in order to function effectively in such a world). On the other hand, technology is sometimes portrayed as being detrimental to young people's thinking and literacy, with the 21st-century ethos of rapid access to bits of information leading to fragmented experience, compromised ability to focus on other people, and lessened ability to think critically or argue logically. Other observers worry that technology is having a negative effect on language itself, viewing nonstandard forms in digital environments as a betrayal, distortion, and weakening of language (Thurlow, 2006). It is no surprise, then, that teachers often wonder whether they are making appropriate decisions about how to use technology in their classrooms.

Translation

Por un lado, la tecnología se percibe con frecuencia como un medio para mejorar la capacidad intelectual y la creatividad; por otra parte, se presiona a los educadores cada vez más a utilizar la tecnología en la formación de los estudiantes para así prepararlos a vivir en un mundo globalizado y tecnológicamente interconectado aunque del todo no es claro cuáles habilidades y destrezas el estudiante debe de tener para funcionar con eficacia en un mundo como tal). Desde otra perspectiva, la tecnología se describe como perjudicial para el pensamiento y la alfabetización de los jóvenes, ya que la ética del Siglo XXI permite el rápido acceso a trozos de información, lo que conlleva a una fragmentación de la experiencia que trae como resultado la incapacidad de prestar atención a otras personas, además de disminuir la habilidad de poseer un pensamiento crítico o discutir de una manera lógica. Otros observadores muestran preocupación porque la tecnología tiene un efecto negativo en el lenguaje en sí y consideran las formas atípicas en ambientes digitales una traición, distorsión y debilitamiento del lenguaje (Thurlow, 2006). Por tanto, no es de extrañar que los profesores se pregunten con frecuencia si están o no tomando las decisiones apropiadas acerca de cómo utilizar la tecnología en sus aulas.

Paragraph 4

Language and technology have been deeply intertwined ever since the invention of writing some 5,000 years ago. By making language visible and preservable, writing enabled people to communicate across distance and time. Writing also made language an object of analysis, leading to the development of metalinguistic notions of words, parts of speech, and rules, which could be standardized in dictionaries and grammars and taught explicitly. The technology of writing gave new power to language not only by expanding the possibilities of human expression but also by providing a means for knowledge to be recorded and accumulated. Writing is the

basis for much of our current day electronic communication, and it is important to remember that it is as intrinsically bound to technological systems as it is to sign systems.

Translation

Desde la invención de la escritura hace algunos 5 000 años, el lenguaje y la tecnología se han interrelacionado a profundidad. La escritura permitió que el lenguaje fuera visible y preservable, lo cual le dio acceso a las personas a comunicarse a través de la distancia y el tiempo; además, la escritura también hizo posible que el lenguaje fuera objeto de análisis lo que conllevó al desarrollo de nociones metalingüísticas de las palabras, las partes del discurso y las reglas, las cuales se pudieron estandarizar en diccionarios y gramáticas y de esta manera, poder enseñarse con claridad. La tecnología de la escritura le dio un nuevo poder al lenguaje, no solo al expandir las posibilidades de la expresión humana si no también al proveer un medio para que el conocimiento se pudiera grabar y acumular. En gran parte, la escritura es la base de nuestra comunicación electrónica actual y es importante recordar que se vincula de forma intrínseca tanto a los sistemas tecnológicos como a los sistemas de signos.

Paragraph 5

If speech originally required interlocutors to be present in the same place at the same time, the technologies of writing, telegraph, telephone, and radio made long distance communication possible. Today, digital technologies allow people to speak or write either synchronously or asynchronously, with participants either at a distance or in close proximity. These changes complexify the nature of spatial and temporal context in electronically mediated communication (Baron, 2008). With digital devices, people operate simultaneously

in physical and symbolic spaces. They perform physical actions (e.g., typing, moving a mouse, swiping a screen or trackpad, or speaking and moving in a videoconference) in an embodied ‘here and now,’ but those actions are always transformed as they are projected into online spaces, where they operate symbolically at the level of the digital device. These actions sometimes take on further symbolic meanings at the ‘output’ stage when they are interpreted by others (e.g., a slip of a finger that produces a typo may be interpreted as a sign of carelessness or ignorance).

Translation

Si en un principio, el discurso requería que los interlocutores estuvieran presentes al mismo tiempo y en el mismo lugar, con la tecnología de la escritura, el telégrafo, el teléfono y la radio fue posible la comunicación a larga distancia. Hoy en día, las tecnologías digitales les permiten a las personas hablar y escribir de forma sincrónica y asincrónica, ya sea que los participantes se encuentren lejos o a gran proximidad. Estos cambios hacen que la naturaleza del contexto espacial y temporal sea compleja en la comunicación por medios electrónicos (Baron, 2008). Las personas pueden utilizar los aparatos digitales en espacios físicos y simbólicos de manera simultánea; son capaces de realizar acciones físicas, por ejemplo: digitan, mueven el ratón de la computadora, deslizan la pantalla o el panel táctil o pueden hablar y moverse durante una videoconferencia, se personifican en el “aquí y ahora”, sin embargo, esas acciones siempre se transforman al proyectarse en espacios en línea, en los cuales las personas funcionan simbólicamente al nivel del aparato digital. En algunas ocasiones, cuando otros interpretan estas acciones, ellas adquieren nuevos significados

simbólicos en la etapa “final de salida”, por ejemplo: deslizar un dedo podría provocar un error tipográfico, el cual se podría interpretar como una señal de descuido o ignorancia.

Paragraph 6

As new literacy technologies come along, they add new possibilities for the production and consumption of texts. Word processing applications, electronic networks, and visual display screens make texts easily modifiable and quite amenable to collaborative authoring. Software programs provide extensive tools for layout, editing, and grammar- and spellchecking, helping some writers perform beyond their actual competence. Authors are more involved in decision making with regard to not only written style but also visual style (e.g., questions of typeface, color, proportion, and arrangement). Readers too can resize texts and sometimes modify their layout to suit their personal preferences. They can print them on paper or read them as ‘scrolling’ documents online. Texts can be distributed by authors or readers to thousands of recipients worldwide with a mere keystroke.

Translation

A medida que aparecen nuevas tecnologías de alfabetización, estas agregan nuevas posibilidades para la producción y el consumo de textos. Las aplicaciones de edición de textos, las redes electrónicas y la visualización en las pantallas permiten que los textos se puedan modificar con facilidad, además de ser muy dóciles para la autoría colaborativa. Los programas informáticos ofrecen una extensa gama de herramientas para el diseño, la edición, y la revisión de la gramática y la ortografía, lo que ayuda a que algunos escritores se desempeñen más allá de su capacidad real. Además, los autores se involucran más en la toma

de decisiones, no solo en lo que respecta al estilo de la escritura si no también al estilo visual, por ejemplo: la tipografía, el color, la proporción y la disposición. De igual manera, los lectores pueden reacomodar el tamaño del texto y en algunas ocasiones modificar el diseño para adaptarlas a sus preferencias personales; además, pueden imprimir los textos en papel o leerlos mientras se “desplazan” a través de las páginas de los documentos en línea. Asimismo, los autores o los lectores pueden distribuir los textos a miles de personas alrededor del mundo con tan solo una pulsación.

Paragraph 7

Because digital texts run the gamut from images of medieval codices to today’s tweets, it is important not to confuse medium with text type or genre. Writing or reading an email message is very different from writing or reading a blog, which is in turn very different from writing instant messages or participating in a chat room, yet all can be done on the same digital device. Genre is therefore a key concept when analyzing forms of technology use. Genres, like all other discourse conventions, **both** enable and constrain communication. They are sometimes associated with particular mediums, but they are also influenced by the particular social function and cultural context of a given act of communication. Nevertheless, it is important to acknowledge that digital interfaces can affect genres. Take tweeting (or microblogging), for example. In 2006, when Twitter was first developed, it was described on its Web site as “A global community of friends and strangers answering one simple question: What are you doing?”

Translation

Si bien los textos digitales cubren todo el espectro desde las imágenes de los códigos medievales hasta los mensajes cortos que se envían en la actualidad por plataformas sociales como *Twitter* (conocidos como “tweets”), es importante que no se confunda el medio con el tipo de texto o género. Es muy diferente escribir o leer un correo electrónico a escribir o leer un blog, a su vez, es muy diferente escribir un mensaje instantáneo a participar en una sala de chat; aun así, todas estas acciones se pueden realizar desde el mismo dispositivo digital. Por lo tanto, el género es un concepto clave al analizar las formas de uso de la tecnología; los géneros, como todas las demás convenciones del discurso, permiten y limitan la comunicación. En ocasiones, a los géneros se les asocia con ciertos medios en particular, asimismo, se influyen por la función social y el contexto cultural en particular que se da en un determinado acto comunicativo. No obstante, es importante reconocer que las interferencias digitales pueden afectar los géneros; por ejemplo: considere los mensajes cortos por *Twitter* u otros sistemas de *microblog*; cuando por primera vez se desarrolló *Twitter* en el 2006, su página web lo describió como “Una comunidad global de amigos y extraños que responden a una simple pregunta: ¿Qué estás haciendo?”

Paragraph 8

Language teachers are highly conscious of what Firth (1964) called the context of situation as well as the linguistic context (or co-text). But in technologically mediated language use (from writing to audio recordings to digital media) they must also be concerned with the context of mediation, that is, the context of the physical medium itself (e.g., paper, screen, mobile phone, computer software and hardware, etc.) and how it interacts with other types and layers of context. The ‘same words’ in one medium (e.g., print) may be experienced

quite differently when embodied in another medium (e.g., blog, audiobook, mobile phone novella, or instant message). Furthermore, the ‘same medium’ may function differently in different contexts. As Haas (1996) points out, “empirical studies aimed at understanding the effect of ‘the computer’ on writing in classrooms, or in corporations, must begin with an awareness that ‘the’ computer does not exist; rather, it is instantiated in vastly different ways through use by people in classrooms, homes, offices, and corporations” (p. 31). Bell’s (2006) research has shown that this variability is even greater when one takes different cultures into account.

Translation

Los profesores de idiomas están muy conscientes de lo que Firth (1964) llamó el contexto de una situación, así también del contexto lingüístico (o el co-texto); sin embargo, en el uso del lenguaje a través de la tecnología también deben preocuparse por el contexto de la mediación, lo que se refiere al contexto del medio físico como tal, por ejemplo: el papel, la pantalla, el teléfono celular, los componentes físicos y los programas de computadora, etcétera. Además, cómo este interactúa con los otros tipos y las capas del contexto; por ejemplo: las “mismas palabras” en un medio impreso se pueden experimentar de una manera muy distinta a las que están plasmadas en otro medio, tales como los blogs, los audiolibros, las historias cortas que se leen desde un teléfono celular o los mensajes instantáneos. Por otra parte, el “mismo medio” podría funcionar de manera distinta en contextos diferentes; como señala Haas (1996), “estudios empíricos apuntan a entender el efecto que “la computadora” tiene en la redacción dentro de las aulas o en las corporaciones; sin embargo, se debe empezar a tener una conciencia que “la” computadora no existe, más bien, se instancia de muchas formas diferentes a través del uso que las personas le dan en las aulas, los hogares, las oficinas

y las corporaciones” (p.31). De acuerdo con la investigación de Bell (2006), se demostró que esta variabilidad es mucho mayor si se toman en cuenta las diferentes culturas.

Paragraph 9

One question has to do with a certain culture of appropriation on the Internet. Many young people today consider what exists on the Internet as freely available raw material to be used however they see fit. Moreover, tools for copying and modifying this raw material are simple and abundant. What is distinctive about digital environments is not borrowing per se—for as Bakhtin (1986) reminds us, our texts are always filled with others’ words—but rather the sense that borrowing does not require any acknowledgment. The world of Internet remixing and repurposing is largely anonymous and seemingly authorless. No doubt this ethos contributes to current debates about plagiarism and its cultural relativity even in nondigital environments.

Translation

En la actualidad, muchos jóvenes consideran lo que existe en el Internet como materia prima disponible para utilizarse con libertad y de la forma que mejor les parezca; asimismo, las herramientas para copiar y modificar esta materia prima son simples y abundantes. De esta manera, una de las preguntas que surgen tiene que ver con la cultura de la apropiación en el Internet. Tal y como nos lo recuerda Bakhtin (1986), lo que es distintivo en los entornos digitales no es el préstamo en sí mismo, sino el sentido que el préstamo no requiere de ningún reconocimiento. En el mundo del Internet, la remezcla y la reutilización del material en línea es en gran medida anónima y según parece, no tiene autor; por lo que no cabe duda que esta ética

contribuye a los debates actuales sobre el plagio y su relatividad cultural, aun en ambientes no digitales.

Paragraph 10

This contributes to what Leu characterizes as the ‘deictic’ nature of literacy, making prediction and planning extremely difficult for teachers. We therefore propose an approach that relieves teachers of being constantly either ‘predictive’ or ‘reactive’ by focusing on the ‘big picture’ of literacy, preparing students to deal with whatever new technologies they encounter in their lifetimes. Specifically, as suggested in the first part of this article, one critical goal for our students is that they pay attention to the culturally influenced relations among semiotic forms, social contexts, material mediums, and meanings. In addition, in line with the social turn in foreign language education and the Douglas Fir Group’s suggestions (this issue), we might wish to view literacy learning as a process by which the L2 learner is socialized for group membership in specific L2 literate communities, as suggested by Lam (2000).

Translation

Esto contribuye a lo que Leu caracteriza como la naturaleza “deíctica” de la alfabetización, que como consecuencia, resulta que el planeamiento y la predicción sean muy difíciles para los profesores. Por lo tanto, proponemos un enfoque, que, al concentrarse en el panorama general de la alfabetización, libere a los profesores de ser tanto “predictivos” como de ser “reactivos” y prepare a los estudiantes a lidiar con cualquier tipo de nuevas tecnologías que se encuentren en su vida. En concreto, y como se sugiere en la primera parte de este artículo, un objetivo crítico es que nuestros estudiantes presten atención al hecho que las relaciones tienen influencia cultural

entre las formas semióticas, los contextos sociales, los medios materiales y los significados.

Además, en consonancia con el rumbo social de la educación de lenguas extranjeras y con las sugerencias por parte del Grupo Douglas Fir (esta edición), quisiéramos ver el aprendizaje de la alfabetización como un proceso en el cual se socializa al estudiante L2 para que pertenezca a un grupo de afiliación en comunidades alfabetas específicas, como así lo sugiere Lam (2000).

Paragraph 11

Understanding language teachers' *mental lives* (Walberg, 1972), and how these shape and are shaped by the activity of language teaching in diverse sociocultural contexts, has been at the forefront of the subdiscipline of applied linguistics that has become known as *language teacher cognition*. Although the collective research efforts within this domain have contributed critical insights into what language teachers know, believe, and think in relation to their work (cf. Borg, 2006), limited progress has been achieved in addressing some of the most pertinent questions asked by applied linguists, policy makers, and the general public alike: How do language teachers create meaningful learning environments for their students? How can teacher education and continuing professional development facilitate such learning in language teachers?

Translation

De acuerdo con Walberg (1972), la comprensión de las vidas mentales de los profesores de idiomas y cómo estas forman (y se forman de) la actividad de la enseñanza de idiomas en distintos contextos socioculturales está a la vanguardia de la subdisciplina de la lingüística aplicada que vino a conocerse como *la cognición del docente de idiomas*. Aunque, se han hecho reflexiones críticas por medio de los esfuerzos colectivos de investigación dentro de este ámbito

sobre lo que los docentes de idiomas saben, creen y piensan con respecto a su trabajo (c.f. Borg, 2006), se ha progresado de manera limitada para poder contestar algunas de las preguntas más pertinentes que formulan tanto la lingüística aplicada como los responsables de las decisiones políticas y el público en general: ¿Cómo crean los profesores ambientes significativos de aprendizaje para sus estudiantes? ¿Cómo puede la capacitación docente y el desarrollo profesional continuo facilitar ese aprendizaje a los docentes de idiomas?

Paragraph 12

This article posits that language teacher cognition, a branch of applied linguistics concerned with investigating “the unobservable dimension of language teaching” (Borg, 2003, p. 81), has arrived at a crossroads. On the one hand, rapidly expanding research activity has continued to illuminate complex inner dynamics underlying language teachers’ work. The findings have shown that language teachers’ practices are shaped in unique and often unpredictable ways by the invisible dimension of teachers’ mental lives that have emerged from teachers’ diverse personal and language learning histories, language teacher education experiences, and the specific contexts in which they do or learn to do their work.

Translation

Este artículo plantea que la cognición del docente de idiomas, la cual es una rama de la lingüística aplicada que se relaciona con la investigación de lo que “no se puede observar en la dimensión de la enseñanza de idiomas” (Borg, 2003, p.81), se encuentra **en una encrucijada**. Por un lado, la rápida expansión de la actividad investigativa ilumina, de manera continua, a las dinámicas internas que subyacen el trabajo de los profesores de idiomas. Además, se observa en

los resultados que las prácticas de los profesores de idiomas se forman, a menudo de maneras impredecibles y únicas, por la dimensión invisible de las vidas mentales de los profesores, las cuales emergen tanto de sus historias personales como de sus historias de la enseñanza de idiomas y sus experiencias de formación como profesores de idiomas, y además, de los contextos específicos donde aprenden a hacer su trabajo o donde lo llevan a cabo.

Paragraph 13

This special issue has been assembled in full awareness of the theoretical, methodological, and practical challenges—also evident across the articles in this volume—that addressing such questions presents for language teacher cognition research. It is precisely thanks to this domain of inquiry that we now understand that the complex relationship among learning to teach, teaching practices, and students' learning defies the causality assumption that is so prevalent in public discourses on accountability regimes for teacher education programs. At the same time, however, if language teacher cognition strives to be a credible and relevant domain of inquiry that influences these public discourses in productive ways, then its findings must have something meaningful to contribute to what we have termed the central project of language education research.

Translation

Además, esta edición especial se ha hecho con total conciencia de los desafíos teóricos, metodológicos y prácticos, asimismo, a través de los artículos de este volumen, es evidente que abordar estas cuestiones contribuye a la investigación de la cognición de los docentes. Y es gracias a este ámbito de investigación en concreto, que ahora comprendemos que la compleja

relación entre aprender a enseñar, las prácticas docentes y el aprendizaje de los estudiantes, desafía la suposición casual que es tan prevalente en los discursos públicos sobre los regímenes de responsabilidad de los programas de formación de docentes. Sin embargo, al mismo tiempo, si la cognición del docente busca credibilidad y relevancia en el ámbito de la investigación y que además, ejerza influencia en estos discursos públicos de maneras productivas, es necesario que los resultados tengan algo significativo para contribuir a aquello que denominamos el proyecto central de la investigación de la enseñanza de idiomas.

Paragraph 14

The second opportunity is in redrawing the boundaries of the domain's *conceptual geography*. The predominant focus on isolated constructs, such as beliefs or knowledge, produces partial at best and irrelevant at worst understandings of teachers' sense making in relation to meaningful learning of both language teachers and their students. Our proposal for language teacher cognition research is to embrace the complexity of teachers' inner lives in the context of their activity and aspire to understand what we have broadly termed *ecologies of language teachers' inner lives*, as these relate to what language teachers do, why they do it, and how this may impact how their students learn.

Translation

La segunda oportunidad está en la redefinición de los límites del ámbito de la *geografía conceptual*, además, el enfoque que predomina en las construcciones aisladas, tales como las creencias o el conocimiento, produce en el mejor de los casos, una comprensión parcial y en el peor de los casos, una comprensión relevante de la producción del sentido que el profesor tiene

con relación al aprendizaje significativo tanto de los profesores de idiomas como el de los estudiantes. Nuestra propuesta para la investigación de la cognición del docente idiomas es aprovechar la complejidad de las vidas internas de los profesores en el contexto de sus actividades y aspirar a comprender lo que se ha denominado, de manera amplia, las *ecologías de las vidas internas de los profesores de idiomas*, y su relación con lo que hacen los profesores de idiomas, el porqué lo hacen y cómo impactan el aprendizaje de sus estudiantes.

Paragraph 15

Understanding cognition in this way links a significant part of the domain to the acquisition metaphor informed by the cognitivist view, which sees “knowledge as a kind of material (...) human mind as a container, and (...) the [teacher] as becoming an owner of the material stored in the container” (Sfard, 2008, p. 49). This epistemological tradition treats cognitions as reified mental constructs, that is, static and discrete entities that are typically dissociated from action and context, as well as other dimensions of teachers’ inner lives (e.g., emotions, motivations, values). Teachers’ cognitions are assumed to be acquired as a result of their professional and personal experiences, readily accessed and articulated in *self-reports*, and applied (or not) in teaching practices. It is also assumed that a match between stated beliefs and practices is desirable and should therefore be facilitated.

Translation

Desde esta perspectiva, la comprensión de la cognición se vincula con una parte significativa del dominio de la metáfora adquisitiva que se informa de la visión cognitivista, la cual considera al “conocimiento como un tipo de material (...) a la mente humana como un contenedor, y (...) al

profesor como el dueño potencial del material que guarda ese contendor” (Sfard, 2008, p. 49). Además, esta tradición epistemológica se refiere a las cogniciones como constructos mentales reificados, es decir, como entidades estáticas que, por lo general, se disocian de la acción y del contexto, y así también como de otras dimensiones de las vidas internas de los profesores, por ejemplo, las emociones, las motivaciones y los valores. Por otra parte, se asume que las cogniciones de los profesores se adquieren como resultado tanto de sus experiencias personales como de las profesionales, a las que pueden acceder y articular con facilidad, y como resultado, pueden emplear (o no) en sus prácticas docentes. De igual manera, se asume que una coincidencia entre dichas prácticas y creencias es deseable, por lo tanto, debe facilitarse.

5.1.2.1 Color Coding: From the document “Escenarios para un nuevo régimen internacional de cambio climático”

Paragraph 1

El cambio climático no solo es uno de los problemas globales más importantes que enfrenta hoy la humanidad, sino que dejó de ser un asunto estrictamente Ambiental, para pasar a convertirse en un tema vinculado a la estructura económica internacional y a la agenda de seguridad global. Una señal clara fue el hecho de que el Premio Nobel de la Paz 2007 fuera otorgado al Panel Intergubernamental de Expertos en Cambio Climático de las Naciones Unidas y al ex vicepresidente de los Estados Unidos, Al Gore, en reconocimiento a sus esfuerzos por incrementar la concientización mundial sobre las consecuencias del cambio climático. Consecuentemente, realizar ejercicios que establezcan los beneficios y riesgos asociados al actuar de los actores de la escena internacional que tienen un papel importante en el establecimiento de la política internacional del cambio climático, se considera de valor.

Translation

Nowadays, climate change is not only one of the most important global issues humanity is facing; on the contrary, it stopped being an issue strictly environmental to become a subject linked to the international economical structure and a topic on the global security agenda. A clear signal was the fact that the 2017 Nobel Prize was awarded in recognition to the efforts of raising worldwide awareness on the consequences of climate change to the Intergovernmental Panel of Experts on Climate Change (IPCC) and to the Former Vice President of the United States, Al Gore.

Consequently, the performance of practices that establish the risks and benefits associated with the actions of the actors of the international scene that play a crucial role in the political establishment is an indicative value.

Paragraph 2

El 23 de marzo de 2017, el recién electo secretario general de las Naciones Unidas, Antonio Manuel de Oliveira Gutiérrez, explicaba en un discurso pronunciado ante la Asamblea General de la ONU que el cambio climático “no es una cuestión de opinión... sino de hechos científicos” (ONU,2017). Según Gutiérrez, este fenómeno propiciará grandes riesgos sobre toda la agenda 2030 de las Naciones Unidas.

Al respecto de las declaraciones de Gutiérrez, vale la pena resaltar dos aspectos. El primero es que en la actualidad el tema del cambio climático ha logrado alcanzar un lugar de relevancia en la alta política internacional, y el segundo está relacionado al hecho de que cada vez es más evidente el interés y la voluntad política de diferentes líderes a nivel mundial por discutir sobre mecanismos de cooperación con los cuales se pueda hacer frente a este fenómeno.

Translation

The newly-elected Secretary-General of the United Nations Antonio Manuel de Oliveira Gutiérrez explained in a speech given at the United Nations General Assembly on March 23, 2017 that climate change “is not just a question of judgment, but scientific facts” (UN, 2017). According to Gutiérrez, this phenomenon will arouse major risks throughout the United Nations 2030 Agenda.

In regards to the declarations made by Gutiérrez, two aspects are worth highlighting. The first one is that, nowadays, the climate change subject has managed to reach a relevant place at the high international politics, and the second one, is related to the fact that, the interest and the political willingness from different worldwide leaders to discuss about cooperative mechanisms that can be used to face this phenomenon, is increasingly more evident.

Paragraph 3

La toma de decisiones en el contexto internacional tiende a ser compleja, ya que existen múltiples intereses nacionales, sensibles relaciones económicas, altos niveles de interdependencia y contextos históricos que pueden o no ser favorables. Por dichas razones, un proceso de negociación internacional **no resulta en una** tarea sencilla para los Estados involucrados. En relación con ello, uno de los temas que mejor explica la complejidad de las negociaciones internacionales es el cambio climático y la construcción de lo que podríamos denominar un régimen internacional de cambio climático. La dimensión transnacional del asunto requiere compromiso por parte de actores de diversa naturaleza, **con diversos** intereses. Además, implica la toma de decisiones en conjunto con el fin de generar procesos de mitigación, adaptación, transferencia de tecnología y financiamiento.

Translation

In the international context, decision making tends to be complex, since multiple national interests, sensitive economical relations, high levels of interdependency, and historical contexts exist, and they might or might not be favorable. For such reasons, an international negotiation process is not an easy task for the States involved. In this regard, climate change and what we might term as an international standard for climate change, is one of the subjects that best explains the complexity of international negotiations. The subject's transnational dimension demands commitment from actors of diverse nature and interests. Additionally, it implies joint decision making with a view to generating mitigation, adaptation, technology transfer and financing processes.

Paragraph 4

Se ha planteado que la Convención Marco de Naciones Unidas sobre Cambio Climático marca el inicio de la consolidación de un régimen internacional en esta materia. En efecto, el tema de los regímenes internacionales ha sido, durante muchos años, uno de los objetos de estudio y desarrollo teórico con mayor relevancia en la ciencia política y las relaciones internacionales. En estricto sentido, los trabajos sobre los regímenes internacionales han resultado ser una orientación académica para comprender bajo qué condiciones los Estados pueden cooperar mutuamente. El área de cambio climático es una donde ha habido una intensa negociación y acuerdos que reflejan un proceso orientado a contribuir entre sí, en vistas de un bien común.

Translation

It has been discussed that the United Nations Framework Convention on Climate Change ushered the consolidation of an international standard on that matter. In fact, the subject of

international standards has been, for many years, one of the objects of investigation and theoretical development of great importance in political science and international relations. Strictly speaking, international standard tasks have proved to be an academic orientation to understand under what conditions the States can cooperate mutually. Intense negotiation and agreements have been on the climate change arena, which reflect a process-oriented to mutual contribution in search of a common good.

Paragraph 5

Tal como se mencionó anteriormente, la Decimotercera Conferencia de los Estados Parte de la CMNUCC (COP13), celebrada en el año 2007 en Bali, sentó las bases de las actuales negociaciones sobre el nuevo régimen internacional del cambio climático que se suponía sería adoptado en la decimoquinta conferencia (COP15) en diciembre de 2009 en Copenhague, y que se esperaba fuese consolidado durante la COP16 en Cancún; sin embargo, como se indicó, esta decisión fue pospuesta para la COP21 (2015).

Al respecto, vale la pena señalar que la Conferencia de Bali fue trascendental para el desarrollo de los esfuerzos internacionales sobre cambio climático, pues en ella se estableció una “Hoja de Ruta” para el inicio de un proceso de negociaciones que se extendió hasta 2010, y que debía fijar una nueva serie de objetivos orientados a reducir las emisiones que reemplazara al “viejo” Protocolo de Kioto de 1997.

Translation

As aforementioned, the thirteenth session of the Conference of the Parties of the UNFCCC (COP13) was held in Bali, in 2007; in which the basis for current negotiations about the new

international standard for climate change were established; also, it was supposed to be adopted at the fifteenth conference (COP15) in December 2009 in Copenhagen, and it was expected to be consolidated at the COP16 in Cancun; however, as indicated before, this decision was postponed to COP21 (2015).

In regards to this matter, it is worth highlighting that the Bali Conference was transcendental to the development of international efforts about climate change since a “Road Map” was established to initiate a negotiation process that was extended until 2010, in which a new series of objectives focused on the reduction of emissions should be set in order to replace the former Kyoto Protocol of 1997.

Paragraph 6

En el marco de las negociaciones sobre el nuevo régimen internacional del cambio climático que sustituirá al Protocolo de Kioto en el año 2020, los pequeños países/ Estados insulares han sido objeto de un reconocimiento especial, tanto por su vulnerabilidad ante los efectos y variabilidades climáticas como por su organización política a nivel multilateral. En la política internacional, a este grupo de naciones se les reconoce como un subgrupo dentro de los países en desarrollo, considerado particularmente vulnerable al cambio climático global, y que ha sabido consolidar sus preocupaciones e influencia de modo exitoso en bloque, aun cuando son pequeños países que no cuentan con gran peso económico o político dentro de la configuración geopolítica actual. El mensaje que han logrado transmitir en los foros multilaterales ha sido claro: para muchos países el cambio climático es un reto en términos del crecimiento económico y desarrollo sustentable, mientras que para los pequeños estados insulares es un asunto de sobrevivencia, tanto para la población como para el propio Estado.

Translation

Within the framework of negotiations on a new international standard of climate change that will substitute the Kyoto Protocol in 2020, the small countries/island States have been the object of special recognition for both their vulnerability before the effects and climate variabilities, as well as their multilateral political organization. In international politics, this group of nations is recognized as a subgroup within developed countries and it is particularly considered to be vulnerable to climate change, and even though, these small countries do not count on a major economic or political support within the current geographical configuration, they have been able to consolidate their concerns and influence in a successful block mode. The message that they have been able to transmit during the multilateral forums is clear: climate change is challenging for many countries in terms of economic growth and sustainable development, while for the Small Island States is a matter of survival for both, their population as well as the State itself.

Paragraph 7

En términos de la política internacional y la diplomacia global del cambio climático, la Unión Europea ha sido el principal bloque de países comprometidos con las negociaciones de Copenhague 2009 (COP15). Por muchos años, los europeos han liderado y facilitado procesos y espacios de interlocución con los principales actores de peso político y económico, de cara a los nuevos compromisos pos-Kioto. En relación con esto, Paul Harris (2007) afirma que las acciones de la Unión Europea sobre cambio climático tomaron lugar en el marco de las negociaciones internacionales sobre medio ambiente a inicios de la década de 1980 y se intensificaron en la década de 1990. Inclusive, mucho antes de la Conferencia de Bali y la adopción del Plan de Bali

en 2007, ya el bloque europeo venía liderando iniciativas concretas en relación con el cambio climático.

Translation

In regards to international politics and global climate change diplomacy, the European Union has been the main block of countries committed to the agreements of Copenhagen 2009 (COP15). For several years, the European have led and facilitated the processes and opportunities for dialogue with the main actors of political and economical weight, in the face of new commitments post-Kyoto. According to Paul Harris (2007), at the beginning of the 1980's decade, the actions of the European Union on climate change took place in the framework of international negotiations on climate change and they were intensified in the 90's decade.

The European bloc was leading solid initiatives related to climate change even long before the Bali Conference and Bali Plan in 2007.

Paragraph 8

El accionar de los principales emisores de dióxido de carbono es fundamental en la diplomacia del cambio climático y las negociaciones para la disminución de este fenómeno a nivel mundial. En el caso de Estados Unidos, su política ambiental sobre cambio climático debe ser analizada en tres momentos históricos: el primero de ellos caracterizado por la reticencia de la administración Bush, durante casi una década, en adoptar compromisos contundentes en relación al cambio climático. Por otro lado, la segunda fase, que da inicio en el año 2009 con la toma de posesión del presidente Barack Obama, se destaca por un cambio radical de orientación en temas y compromisos multilaterales. Este hecho se pone de manifiesto en acciones como el acuerdo establecido por los Estados Unidos ante la COP20, mencionado previamente, el cual

hace referencia a la disminución de emanaciones por parte de estos países considerados como los principales emisores de contaminantes.

Translation

The actions of the main carbon emitters are fundamental in the diplomacy of climate change as well as the negotiations for the reduction of this phenomenon at a global level. In the case of the United States, their environmental policy on climate change should be analyzed on three historical events. The first was characterized by the reluctance of the Bush administration, for almost a decade, to adopt strong commitments related to climate change. In the second phase, which began with the election of President Barack Obama in the year 2009, it is highlighted by radical change on the orientation of multilateral subjects and commitments. This fact is evident in actions such as the established agreement by the United States at the COP20, which refers to the reduction of emissions on behalf of the countries considered the main emitters of polluting gasses.

Paragraph 9

Finalmente, en el grupo de los principales emisores de gases de efecto invernadero destaca Rusia, el cual es un importante productor de petróleo. Debido a su posición geográfica, su cercanía con el Ártico lo hace más vulnerable ante los efectos del cambio climático, además, el compromiso asumido por China-EUA presiona el desarrollo de una política rusa en materia de calentamiento global. En relación con ello, Rusia ha logrado sus metas de disminución de emisiones; sin embargo, es importante establecer el contexto histórico pos Guerra Fría en el cual se encontraba Rusia en 1990, año base para la medición de sus emisiones.

Translation

Finally, within the group of the main greenhouse gasses emitters, Russia stands out, because it is a large petroleum producer. Due to its geographical location and closeness to the Arctic, it is more vulnerable to climate change effects; also, the commitment assumed by China and the United States pushes the development of a Russian policy regarding climate change. In regards to this, Russia has achieved its goals to reduce emissions, however, it is important to point out the historical context of the Cold War in which Russia took part in 1990, which was the base year for its emissions measurements.

Paragraph 10

No obstante, la temática del cambio climático presenta un gran espectro de posibles acciones y actores involucrados, razón por la cual esta metodología asociada a la creación de escenarios resulta de interés y valor. Así, “el surgimiento de los estudios de futuro se relaciona con la complejidad del mundo. No sólo por los efectos unificadores y disgregadores de la globalización, sino justamente en esta densa red de relaciones emergen la incertidumbre y el riesgo como el marco dominante en el que se montan los acontecimientos del porvenir” (Rivera, 2010). Evidentemente, la temática cuenta con un alto grado de complejidad, pues hay una gran red de conexiones a considerar en la toma de decisiones y en el desarrollo de los posibles escenarios.

Translation

However, the climate change subject presents a large spectrum of potential actions and actors involved, which is the reason that this methodology is associated to the creation of scenarios turns out to be of interest and value. Thus, “the rise of future studies is related to the complexity

of the world; not only due to unifying and divisive effects of globalization, but it is precisely on this dense web of relations, where the uncertainty and risk emerge as the dominant frame in which future events are built” (Rivera, 2010). Evidently, the subject has a high degree of complexity because there is a big web of connections to be considered in the decision-making process and in the development of potential scenarios.

Paragraph 11

Los patrones demográficos son una de las fuerzas conductoras con peso significativo en las emisiones de gases de efecto invernadero (GEI). En este sentido, aspectos como el crecimiento de la población, aglomeración urbana y cambio en los patrones de consumo suelen producir efectos directos en el crecimiento de las emisiones de los GEI. Para el caso, si se toma en consideración las estimaciones realizadas por el *United States Census Bureau* (2017), durante las próximas décadas las tendencias en el crecimiento de la población mundial se mantendrán, ya que se pronostica un aumento significativo de 3,66 veces en un periodo de tan solo 100 años. No obstante, el siguiente gráfico muestra que, aunque se espera un crecimiento de la población para el año 2050, este tendrá la particularidad de reflejarse en una tendencia decreciente que inició a partir de la década de 1990.

Translation

The demographic patterns are driving forces with significant weight on greenhouse gasses emissions (GHG). In this sense, aspects such as the growth of population, urban agglomeration and changes in consumption patterns tend to produce direct impacts on GHG emissions growth. For such a case, if the estimations done by the United States Census Bureau (2017) are taken into

consideration, during the next decades the trends on the growth of the global population would be still since a significant increase of 3.66 times on a period of 100 years alone is forecasted.

Nonetheless, the next graphic shows that even though the growth of the population by the year 2050 will have the particularity of reflecting on a decreasing trend, which initiated in the 90's decade.

Paragraph 12

Otro factor que tiene relación directa con el aumento en las emisiones de los gases de efecto invernadero es el incremento del Producto Interno Bruto (PIB). Es decir, la demanda en la producción de bienes y servicios a escala global necesariamente genera efectos directos sobre el cambio climático. Para el caso, proyecciones de la OCDE (2016) establecen que entre los años 2010-2060 la tendencia del PIB será exponencial. Esto implica que para el año 2030 este indicador habrá crecido un 92,5% con respecto al año 2010, mientras que para el 2050 el aumento esperado será del 216%. En este horizonte de tiempo (ver gráfico 2.5), se espera que el PIB de países como China y la India supere al de los Estados Unidos. Consecuentemente, la región asiática ostentará un papel protagónico gracias al ascenso económico esperado.

Translation

In addition, another factor that has a direct link with the increase of greenhouse gasses emissions is the increase of the Gross domestic product (GDP). In other words, the demand for goods and services production at a global scale necessarily has direct effects on climate change. As a matter of fact, the projections by the Organization for Economic Cooperation and Development (2016) established that between the years 2010-2060 GDP growth will be exponential. This implies that by the year 2030, this indicator will have grown by 92.5% in relation

to the year 2010, while the expected growth will be 216% by the year 2050. On this time horizon (see graphic 2.5) it is expected that GDP in countries such as China and India exceed the GDP of the United States. In consequence, the Asian region will hold the main role due to the expected economic upswing.

Paragraph 13

Tal como se expuso en la sección anterior, los futuros escenarios relacionados con el cambio climático estarán sujetos a un incremento de la población en términos decrecientes, lo cual también estará caracterizado por un aumento de la clase media y un proceso acelerado de urbanización. Además, la matriz energética global experimentará una fuerte dependencia de los combustibles fósiles, aunque habrá un incremento significativo en el consumo de energías renovables. Aunado a ello, la expectativa sobre el PIB mundial estará asociada a un crecimiento sostenido donde los principales protagonistas serán China, Estados Unidos e India, así como la UE+15; territorios que para el 2012 fueron responsables del 56,88% de las emisiones en gases de efecto invernadero. Por ello, mantener la temperatura por debajo de los 2oC bajo las condiciones anteriormente expuestas no será fácil de lograr.

Translation

As discussed in the section above, the future scenarios related to climate change are subjected to an increase in population in decreasing terms, also, it will be characterized by an increase of the middle class and an accelerated urbanization process. Even though, there will be a significant increase in renewable energy consumption, the global energy matrix will experience a major dependency on fossil fuels. In addition, the expectation about global GDP will be

associated with sustained growth, in which the main actors will be China, the United States, and India as well as the EU 15; these territories were responsible for 56.88% greenhouse gasses emissions. This is the reason that keeping the temperature below the 2 degrees Celsius under the before-mentioned conditions will be hard to achieve.

Paragraph 14

Si bien es cierto, el Acuerdo de París representa un hito en la construcción del régimen internacional de cambio climático, también se pueden comprobar tendencias que en definitiva tendrán un peso significativo en el desarrollo del calentamiento global. Tales son los casos de los patrones demográficos, la matriz energética global y el crecimiento del PIB. Consecuentemente, surge la interrogante de si las NDC serán suficientes para alcanzar la meta de no sobre- pasar los 2oC establecida en París durante el 2015. Al respecto, lo primero que se debe tomar en consideración es que las NDC de carácter incondicional fijadas por los Estados representan un cambio gradual hacia la limitación de emisiones, que incluye un compromiso para adoptar medidas con resultados sostenibles en materia de cambio climático.

Translation

While it is true that the Paris Accord represents a milestone in the construction of the international standard of climate change, also, it can be possible to check the tendencies that definitely will have a significant weight in the development of climate change, such as the demographic patterns, the global energy mix, and the GDP growth. Consequently, the question arises of whether the NDC will be enough to achieve the goal of not exceeding the 2 degrees Celsius established in Paris, in 2015. In regards to this, what first needs to be considered is that the NDC of unconditional nature and determined by the States represent a gradual change

towards the limitation of the emissions, which includes a commitment to adopt measures with sustainable results in regards to climate change.

Paragraph 15

En conclusión, los casos anteriormente analizados representan un conjunto de naciones que son responsables de aproximadamente el 68% de las emisiones de GEI para el 2012. Por ello, elementos como que China solo enfoque su compromiso en reducir emisiones de CO₂ y que no se conozca con certeza cuáles son sus planes para la sustitución de combustibles fósiles, aunado al hecho de que India tendrá una población y PIB en crecimiento, acompañados de un fuerte proceso de urbanización, así como el papel protagónico que desempeñará el carbón en Japón hacen dudar de que sea posible alcanzar la meta propuesta por el Acuerdo de París. Aunado a ello, surge la incertidumbre vinculada a la salida de Estados Unidos del Acuerdo de París y su posible renegociación, así como el retraso en la aprobación de este instrumento por parte de la Federación Rusa, conjugado con una ralentización en materia climática de la Unión Europea.

Translation

In conclusion, the cases analyzed before represent a set of nations responsible for approximately 68% of GHG emissions by 2012. For this reason, elements such as China's focus solely on its commitment to reduce CO₂ emissions and that their plans for the substitution of fossil-fuels is unknown, along with the fact that India will have a growth in GDP and in population, in addition to a major urbanization process, as well as the main role coal will play in Japan, make it hard to believe the potential to reach the goal established by the Paris Accord. In addition, the uncertainty linked to the withdrawal of the United States from the Paris Accord and its possible renegotiation arises as well as the delay on the approval of this instrument by the Russian Federation, which is coupled with a slow down by the European Union regarding climate.

5.1.3 Glossary

The glossary is an important instrument of the translation processes; one of the main reasons to create a glossary is to achieve accuracy through the texts. This helps the translator to avoid inconsistencies and keeps evenness throughout the translated text. In addition, it helps the translator to keep the translation process at a good pace, as it avoids researching for difficult terminology. Additionally, the glossary adds value to the translation because it works as an extra resource for the readership to understand difficult or technical terms. Finally, it is useful for the translator as it is a terminology database that can be used in future translations. For the purpose of this research, the researcher has created two glossaries. The first one is an English to Spanish glossary which includes a column for each section: English term, Spanish term, the grammatical category, and the definition.

Table 6 Glossary from English to Spanish 1

English Term	Spanish Term	Grammatical Category	Definition
Acknowledgment	Reconocimiento	Noun	The fact of accepting that something is true or right
Affordances	Funciones / Funcionalidades	Noun	What the environment offers to the individual.
Asynchronous	Asíncrono	Adjective	Not happening or done at the same time or speed
Capacious	Espacioso	Adjective	Having a lot space and able to contain a lot
Cognition	Cognición	Noun	The use of <u>conscious mental processes</u>

Competence	Competencia	Noun	The ability to do something well
Conflate	Mezclar	Verb	To combine two or more things
Ecology	Ecología	Noun	The relationship between living things and their environment
Elicit	Provocar	Noun	To get or produce something, especially information or reaction
Embrace	Acoger	Verb	To accept something enthusiastically
Epistemological	Epistemológico	Adjective	It relates to the part of philosophy that is about the study of how people know things.
Heuristic	Heurístico	Adjective	Teaching method that allows the students to learn by discovery
Inroad	Incurción Avance	Noun	Direct and noticeable effects on something
Issue	Edición	Noun	A group or series, or one of a group or series, of things that are made available, published or printed.
Linguistics	Lingüística	Noun	The scientific study of language in general
Literacy	Alfabetización	Noun	Knowledge of a particular subject
Mainstream	Común Corriente	Adjective	Considered normal
Pervasive	Dominante	Adjective	Present or noticeable in every part of a thing or place
Posit	Plantea	Verb	to suggest something as a basic fact or principle from which a

			further idea is formed or developed
Pragmatics	Pragmática	Noun	The study of how language is affected by a situation in which it is used
Societal	Societario	Adjective	Relating to or involving society
Synchronous	Sincrónico	Adjective	Happening or done at the same time or speed
Syntax	Sintaxis	Noun	The grammatical arrangement of words in a sentence
Unfold	Desplegar	Verb	To open or spread out something
Volition	Iniciativa	Noun	The power to make one own's decisions

Table 7 Glossary from Spanish to English 1

Spanish Term	English Term	Grammatical Category	Definition
Aglomeración	Agglomeration	Noun	A large group of many different things brought together
Antropomórfica	Anthropomorphic	Adjective	Treating animals, gods, or objects as if they were human in appearance, character, and behavior
Bloque	Bloc	Noun	A group of countries or people that have similar political interests
Combustibles Fósiles	Fossil Fuels	Noun	Fuels such as gas, coal, and oil that were formed underground
Comunicado	Statement	Noun	Something that someone says or writes officially

Coyuntura	Joint	Adjective	Belonging or shared between two or more people
Diplomacia	Diplomacy	Noun	The management of relationships between countries
Emisión	Emission	Noun	An amount of gas, heat, light that is sent out
Exponencial	Exponential	Adjective	Becoming quicker and quicker
Gases de efecto invernadero	Greenhouse gasses	Noun	A gas that causes the greenhouse effect, especially carbon dioxide
Geopolíticas	Geopolitics	Noun	The study of the way a country' size, position, etc. influence its power and relationships with other countries
Hidroelectricidad	Hydropower	Noun	The production of electricity by the force of fast-moving water
Implementación	Implementation	Noun	The act of starting to use a plan or system
Incertidumbre	Uncertainty	Noun	A situation in which something is not known
Interestatal	Interstate	Adjective	Involving two or more states in which some countries are divided
Metodología	Methodology	Noun	A system of ways of doing, teaching or studying something
Mitigación	Mitigation	Noun	The act of reducing how harmful, unpleasant, or bad something is
Multilateral	Multilateral	Adjective	Involving more than two groups or countries
Ostentar	Flaunt	Verb	To show something in admiration
Plausible	Plausible	Verb	Seeming likely to be true, or able to be believed
Régimen	Standard	Noun	A level of quality

Reticencia	Reluctance	Noun	An unwillingness to do something
Temática	Topic	Noun	A subject to be discussed, written about, or studied
Unanimidad	Unanimity	Noun	The state of being unanimous
Unificar	Unify	Noun	To bring together

Chapter VI

Conclusions and Recommendations

This chapter contains the conclusions and recommendations for future research studies. In Chapter I, the investigator stated the four objectives for this investigation, which will be reinstated in this section of the research study along with their respective outcomes in order to explain how the objectives were achieved. Furthermore, the conclusions are based on the results the investigator was able to gather through the instruments explained in Chapter V. Also, the researcher will explain different recommendations that will serve as advice for future researchers with similar investigations.

6.1 Purpose of the conclusion

The purpose of the conclusions of a research study is to share the results of the investigation. The researchers must provide evidence that the objectives were accomplished. For the purpose of this investigation, the researcher will demonstrate the effect of analyzing the translation procedures in two texts, one from Spanish to English and the second one, from English to Spanish.

6.2 Conclusions

6.2.1 To translate the documents “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” from English to Spanish and “Escenarios para un nuevo régimen internacional de cambio climático” from Spanish to English

In order to begin a translation, it is necessary to read the text and analyze it. According to Newmark (1988), the text analysis begins with a general reading that helps the translator to understand the topic of the documents. At this stage, the translator consulted textbooks and technical documents to understand the content of the source texts. Then, a close reading was made, which helped the translator to analyze the text elements, such as: the intention of the text, text style, scale of formality and generality, the emotional tone and the translation method; therefore, once this analysis was concluded, it was possible to identify any possible difficulties such as technical vocabulary, metaphors or idiomatic expressions that required special attention. Additionally, the translator was able to select the most appropriate translation method and procedures to render the translations in a natural and accurate manner.

For all the translations, the translation method used was the semantic method because all the source texts documents are investigations done by the authors in their areas of expertise, furthermore, they aim to inform the readership about such topics and findings. The semantic method is related to the semantic and syntactic structures of the target language; in other words, the semantic translation method attempts to render, as closely as the semantic and syntactic structures of the second language allow, the exact contextual meaning of the original.

In conclusion, the researcher was able to achieve this specific objective through the analysis of the texts and the selection of the appropriate translation method.

6.2.2 To apply various technical translation techniques to the documents in order to achieve semantic translated texts

After the analysis of the source texts, the researcher needs, then, to analyze which translation techniques are the best suited in order to render a natural and precise translation. As stated by Nida & Taber (1969), a translation technique aims to produce correct equivalents; they allow to adjust the message to the structural requirements of the target language and create equivalent semantic structures; also, they provide adequate stylistic equivalents as well as to allow a communicative equivalent. Furthermore, the text analysis chart, which is included in Chapter V, helped the translator to identify the source text elements while serving as a guide for the translation of the texts because by taking into consideration such elements, the researcher was able to select the most appropriate translation techniques. The researcher was able to achieve this objective by applying the color-coding instrument, which demonstrates how the different technical translation techniques were applied through the texts to achieve a semantic translation.

6.2.3 To evaluate the effect of the technical translation techniques applied to the documents

After the translation techniques were applied in the target texts, the color-coding instrument enable to observe the most prevalent techniques, the similarities, as well as some exclusive characteristics among the texts. In the texts “Technology in Language Use, Language Teaching, and Language Learning” and “Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance” which were translated from English into Spanish, the most prevalent techniques were literal translation and transpositions, these techniques were a good fit because the translation method is semantic, which focuses on translating the author’s ideas and points of view; in a few instances the modulation was applied for syntactical reasons, so the structure of the target text is more natural. Due to the economy of the English language in face to the expansiveness of the Spanish language, amplifications were used as well as explicitations in order to elaborate on an idea or concept that might result confusing to the target readership. In the second text, “Escenarios para un nuevo régimen internacional de cambio climático” which was translated from Spanish into English, the most prevalent techniques were literal translation and transposition; also, omissions were more prevalent in this translation due to nature of the English language which tends to be more straightforward and emphasizes in reducing words, terms, and expressions. Also, since the text is technical, modulations were used in very few instances. As for amplifications, they were strictly used in cases where a reinforcement of an idea or concept was needed. In addition, in all texts adaptations and compensations were unused as the type of texts did not require these translation techniques.

In conclusion, the researcher was able to achieve this objective through the analysis of the results shown by using the color-coding instrument, which allowed the translator to evaluate the effect of the applied translation techniques.

6.2.3 To create a glossary with the most relevant terminology found in both texts

The use of a glossary enables the translator to use consistent terminology throughout the text in order to achieve a degree of uniformity in style, which results on an easier readable text. Also, the glossary serves as an instrument to improve the translator's productivity timewise, as it can be used as a quick reference or aid to find a term that is repeated throughout the text. In addition, it serves as a word or terminology reference for the readership.

The researcher achieved this objective through the creation of two glossaries: one from English into Spanish and the second, from Spanish into English, each glossary contains a column for the English term, the Spanish term, the grammatical category (to specify if it is used as a verb, noun, and so forth in the text) and a definition to have a better understanding of the word.

6.3 Restatement of the research question

What are the effects of applying technical translation techniques in the translation of the documents "Technology in Language Use, Language Teaching, and Language Learning" and "Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory, Redrawing the Boundaries, Reclaiming the Relevance" from English to Spanish and "Escenarios para un nuevo régimen internacional de cambio climático" from Spanish to English for a public university?

The effects of applying technical translation techniques on the texts were analyzed based on the information in Chapter II, the theoretical framework is developed to explain the relevant theories, key concepts such as theories about text style, stylistic scales, text function, translation methods, and translation techniques from different authors; such information served as basis and guide for this investigation. Furthermore, after applying the knowledge abovementioned, along with the translator's own knowledge and the pertinent investigations to execute a translation work, it has been demonstrated that the use of translation techniques works to render a translation from English to Spanish and from Spanish to English that transmits the authors' messages, while maintaining the texts' styles; thus, the translated texts are equivalently natural.

6.4 Recommendations

In this section of the investigation, the researcher gives recommendations to be taken into account for future similar investigations. The purpose is to use the researcher's own experience to explain aspects that can be modified or taken into consideration for further investigations.

First, it is recommended to select the source texts ahead of time for two main reasons: firstly, the investigator depends on other professionals to receive the documents, furthermore, the investigator is subjected to the institution's time, procedures and guidelines. Secondly, translation is an interdisciplinary science, furthermore, it is necessary to understand the topic itself prior to translate the texts; thus, the translator needs to allocate time to investigate the topics of the texts themselves and to consult books, videos, articles, and other professionals' opinions to render an accurate translation.

Second, it is recommended to create and organize translation tools per language, such as: specialized glossaries, online translation tools, dictionaries, and grammar and spelling check tools. This practice should be implemented throughout the translation courses delivered by the university

as each course offers the adequate resources as well as the professors' guidance to curate such tools. These resources can facilitate both, the translation process and the theoretical framework.

Third, since the research paper demands consistent effort and extended periods of time to execute the investigation, the researcher recommends using a time management tool, such as a calendar or timetable to allocate the tasks and goals in order to work consistently, while taking care of one's health. In addition, this recommendation allows to allocate extra time for editing, reviewing, and correcting the research paper if necessary.

Finally, the last recommendation is to have a quality assurance translation rubric or translation evaluation form that can be checked throughout when the translation is finished, this allows to make more organized corrections or to assure the rendered translation complies with the excellence it is expected to have. In addition, it is in an excellent tool for self-evaluation.

References

- Arntz and Picht quoted in Austermühl (2001) Retrieved from
http://www.skase.sk/Volumes/JTI03/pdf_doc/BielLucja.pdf
- Babbie, E. (2010) *The Practice of Social Research*. Retrieved from
<https://libguides.usc.edu/writingguide/quantitative>
- Bineham, G. (2006) *Sampling in Research*. Retrieved from
https://www.thh.nhs.uk/documents/_Departments/Research/InfoSheets/16_sampling_research.pdf
- Creswell, J. (2009). *Research Design, Qualitative, Quantitative and Mixed Methods Approaches*. California: Sage publications. Page 95
- Crossman, A. (2019). *An Overview of Qualitative Research Methods*. Retrieved from
<https://www.thoughtco.com/qualitative-research-methods-302655>
- Denzin (2000) quoted in Mohajan, H. (2018) *Qualitative Research Methodology in Social Sciences and Related Subjects*. Retrieved from
https://mpa.ub.uni-muenchen.de/85654/1/MPRA_paper_85654.pdf
- Deslile, J. (1999) *Translation Terminology*. Amsterdam and Philadelphia: John Benjamins
- Fengling, L. (2017). *A Comparative Study of Nida and Newmark's Translation Theories*. Retrieved from
https://ijlass.org/data/frontImages/gallery/Vol._5_No._8/4.31-39.pdf
- Gapper, S. (2008). *Manual de gestión terminológica*. Heredia, Costa Rica: Universidad Nacional.
- Garner, B. (2009). *Garner on Language and Writing*. Chicago: American Bar Association

Guix, J., & Minett, J. (1997). *Manual de traducción: inglés-castellano: teoría y práctica*. Barcelona: Gedisa Editorial.

Johnson, Onwuegbuzie, & Turner (2007) quoted in Hughes, A. (2016) *Mixed Methods Research*. Retrieved from

<https://www.psychologicalscience.org/observer/mixed-methods-research>

Kalliomäki, H. (2007). *Translating Fictitious Science: A Case Study on the Translation Process*. Retrieved from

<https://pdfs.semanticscholar.org/30ec/9cc07c9e9ecb91d54a3bed589fa4ba789060.pdf>

Kerlinger (1986) in Kumar, R. (2008). *Research Methodology*. Retrieved from

http://www.sociology.kpi.ua/wp-content/uploads/2014/06/Ranjit_Kumar-Research_Methodology_A_Step-by-Step_G.pdf

Kragh (1989) *Information Sources*. Retrieved from

https://shodhganga.inflibnet.ac.in/bitstream/10603/40587/9/11_chapter2.pdf

Lionbridge. (2013). Retrieved from www.lionbridge.com

Merriam Webster Online (2019). Retrieved from

<https://www.merriam-webster.com>

Munday, J. (2012). *Introducing Translation Studies*. New York: Routledge.

Molina, L., & Hurtado, A. (2002). *Translation Techniques Revisited: A Dynamic and Functionalist Approach*. Barcelona: Meta.

Munday, J. (2012). *Introducing Translation Studies*. New York: Routledge.

Nair, Scree Devi. K. (1996). *Aspects of Translation* retrieved from

https://www.academia.edu/32347621/Changing_Roles_of_Translator_in_the_post_modern_discourse_on_Translation

Newmark, P. (2008). *A Textbook of Translation*. Edinburgh Gate: Longman.

Newmark, P. (1988). *Approaches to Translation*. New York: Prentice-Hall.

Nida (2006). *Theories of Translation*, Retrieved from

<http://www.pliegosdeyuste.eu/n4pliegos/eugeneanida.pdf>

Nida, E., & Taber, C. (1969). *The Theory and Practice of Translation*. Leiden, The Netherlands: Koninklijke Brill NV.

Nord, C. (2005). *Text Analysis in Translation: Theory, Methodology, and Didactic Application of a Model for Translation-Oriented Text Analysis*. New York: Rodopi.

Reza, A. (2012). *A Review of the History of Translation Studies*. Retrieved from <http://www.academypublication.com/issues/past/tpls/vol02/01/11.pdf>

Rigby A. (2014). *The Importance of a Translation Glossary and Style Guide*. Retrieved from <https://www.smartling.com/blog/the-importance-of-a-translation-glossary-and-style-guide/>

Leedy & Ormrod (2001) quoted in Williams, C. (2007). *Research Methods*. Phoenix: Grand Canyon University.

Swisher, V. (2014). *Glossary Versus Terminology – What’s the Difference?* Retrieved from <http://contentrules.com/glossary-versus-terminology-whats-difference/>

Vázquez-Ayora, G. (1977). *Introducción a la Traductología*. Washington, D.C.: George Town University

Vinay, J.-P., & Darbelnet, J. (1995). *Comparative Stylistics of French and English A Methodology for Translation*. Philadelphia: John Benjamins B.V.

Annexes

Tribunal Examinador

Esta Tesina fue aprobada por el Tribunal Examinador de las Carreras de Inglés de la Universidad Internacional de las Américas, como requisito para optar por el grado de Licenciatura en inglés con énfasis en Traducción

MSc. Catalina Guerrero Troyo
Tutor(a)

Licda. Margarita Guerrero Troyo
Lector/Lectora

Lic. Leslie Elizondo Mora
Director de las Carreras de Inglés

Carta del Director de Carrera

San José, Abril 15 de 2019

Señores
Universidad Internacional de las Américas
Estimados señores:

El suscrito, Lic. Leslie Elizondo Mora Director de las Carreras de Inglés, hace constar que ha revisado la Tesina de la estudiante, Andrea Feliú González, portadora de la cédula de identidad no. 1-1333-0572, que ha titulado: *Analysis and Methods Used to Translate some documents from English into Spanish and some documents from Spanish into English for Universidad Nacional de Costa Rica.*

La mencionada Tesina, responde a los requisitos exigidos en la Guía que nuestra carrera tiene para estos casos. Por tanto, se autoriza al autor para que lo presente ante el tribunal examinador nombrado para esta ocasión.

Atentamente,

Lic. Leslie Elizondo Mora
Director de las Carreras de Inglés

Carta del Lector

San José, Abril 15 de 2019

Licenciado
Leslie Elizondo Mora
Director de las Carreras de Inglés
Universidad Internacional de las Américas

Estimado señor:

La estudiante Andrea Feliú González, portadora de la cédula de identidad no. 1-1333-0572, ha presentado para su lectura y corrección de estilo la tesis denominada *Analysis and Methods Used to Translate some documents from English into Spanish and some documents from Spanish into English for Universidad Nacional de Costa Rica*. He revisado y corregido la coherencia de los objetivos con el marco teórico, instrumentos y resultados, la calidad del trabajo y la relevancia del trabajo. Por lo tanto, hago constar que este se encuentra listo para ser presentado a la Universidad como trabajo de graduación.

Atentamente,

.....
Licda. Margarita Pérez Roig
Lectora de Tesis



Universidad Internacional de las Américas Código de Ética

La suscrita **Andrea Feliú González**, número de carné: **1-1333-0572** graduada del grado de **Licenciatura en inglés con énfasis en la traducción** de la Universidad Internacional de las Américas, se compromete a cumplir, durante el ejercicio profesional, con el Código de Ética de la Institución, que se rige por los siguientes principios:

PROBIDAD: actuar siempre con rectitud y honradez.

PRUDENCIA: actuar con pleno conocimiento de la materia sometida a su consideración.

JUSTICIA: permanente disposición hacia las funciones de la profesión, bajo los lineamientos legales que debe respetar todo profesional.

RESPONSABILIDAD: cumplir con los deberes, tanto en calidad como en oportunidad.

DISCRECIÓN: guardar respeto sobre los hechos o informaciones de los que tenga conocimiento con motivo del ejercicio profesional, sin que esto perjudique las funciones y responsabilidades.

INDEPENDENCIA DE CRITERIO: no involucrarse o comprometerse con situaciones, intereses o actividades contrarias a la moral, a la sana crítica y que, por ley, sean incompatibles con las funciones profesionales correspondientes.

DIGNIDAD Y DECORO: actuar con sobriedad y moderación.

TOLERANCIA: evidenciar una actitud paciente y de comprensión ante las opiniones divergentes que puedan expresar otras personas.

EQUILIBRIO: desempeñar las funciones profesionales con sentido práctico, buen juicio y equidad.

ACTUALIZACIÓN: comprometer parte del tiempo en actualizar los conocimientos y adaptarlos en el desarrollo de la actividad profesional.

VOCACIÓN: mostrar siempre apego al trabajo y a la educación recibida, como fundamentos para el desempeño laboral.

BUENA FE: toda conducta o comportamiento, criterio emitido y labor desempeñada debe basarse en los más altos principios éticos y tendrá como fundamento la buena fe.

Andrea Feliú González

1-1333-0572