







Departamento de Lengua Inglesa

TRABAJO DE DIPLOMA

Título Building a Bilingual Lexicon (English-Spanish) App of Sociocultural Lexical Units

Autores Gretter Pérez Rivero y Leonardo Riverón Rodríguez

Tutores Dra. Mayra Rodríguez Ruiz PT

Santa Clara, Junio 2018 Copyright©UCLV Este documento es Propiedad Patrimonial de la Universidad Central "Marta Abreu" de Las Villas, y se encuentra depositado en los fondos de la Biblioteca Universitaria "Chiqui Gómez Lubian" subordinada a la Dirección de Información Científico Técnica de la mencionada casa de altos estudios.

Se autoriza su utilización bajo la licencia siguiente:

Atribución- No Comercial- Compartir Igual



Para cualquier información contacte con:

Dirección de Información Científico Técnica. Universidad Central "Marta Abreu" de Las Villas. Carretera a Camajuaní. Km 5½. Santa Clara. Villa Clara. Cuba. CP. 54 830 Teléfonos.: +53 01 42281503-1419

Universidad Central "Marta Abreu" de Las Villas School of Humanities



Diploma Paper

Title: Building a Bilingual Lexicon (English-Spanish) App of Sociocultural Lexical
Units

Authors: Gretter Pérez Rivero

Leonardo Riverón Rodríguez

Supervisor: Full Professor Mayra Rodríguez Ruiz, PhD

Santa Clara

June, 2018



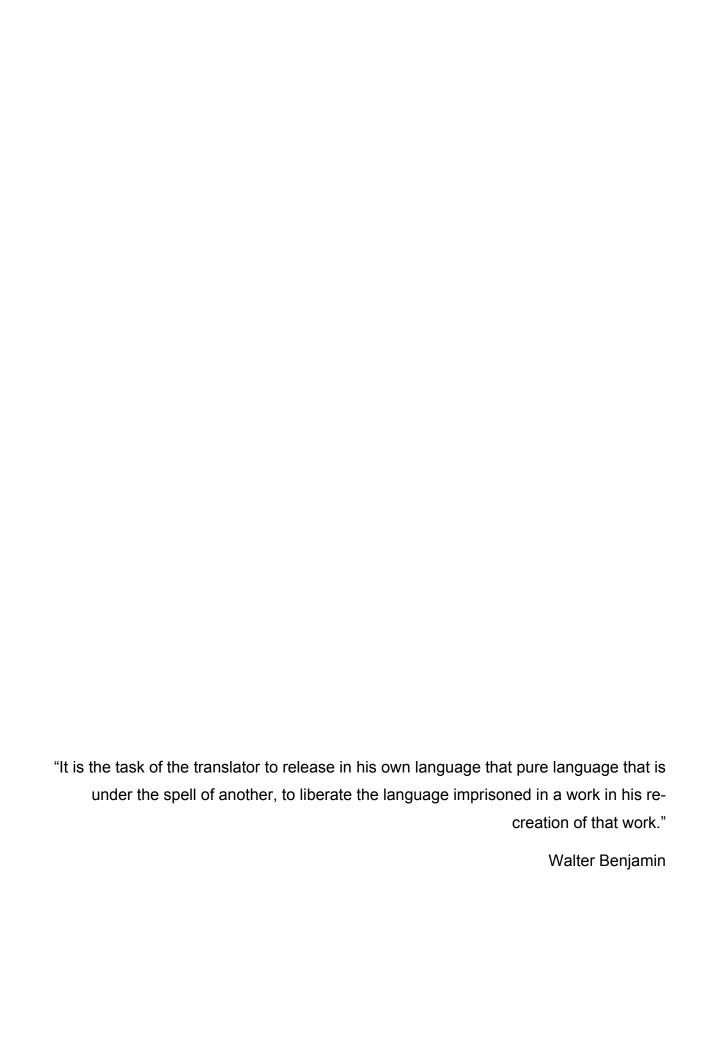
We certify that the present Diploma Paper was carried out at the Universidad Central "Marta Abreu" de Las Villas to fulfill the requirements of the curricula for the training of Bachelors in English Language with a Second Foreign Language: French. We give our approval for it to be partially or totally used by the institution for educational purposes. This Diploma Paper can be neither published nor discussed in any forum without the approval of the University.

Signature	of the Authors
	the present Diploma Paper has been carried horities and that it meets the requirements and the given subject.
Signature of the Supervisor	Signature of the Head of Department



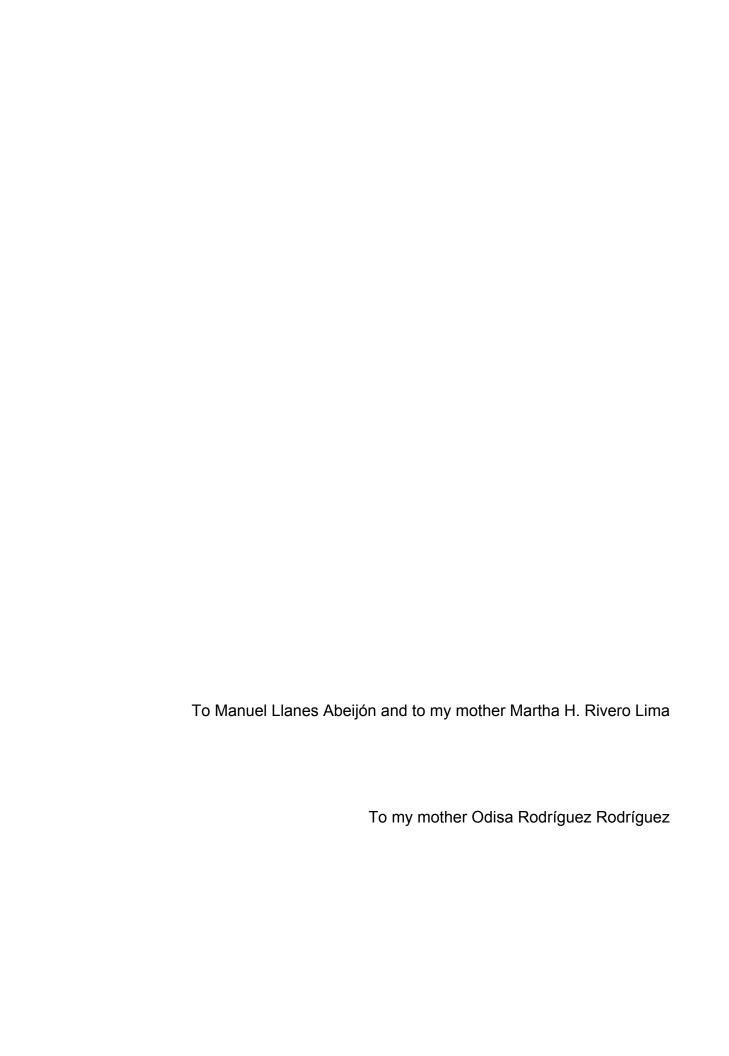
Hacemos constar que el presente trabajo fue realizado en la Universidad Central "Marta Abreu" de las Villas como parte de la culminación de los estudios de la especialidad de Lengua Inglesa, autorizando a que el mismo sea utilizado por la Institución para los fines que estime conveniente, tanto de forma parcial como total y que además no podrá ser presentado en eventos ni publicados sin autorización de la Universidad.

	Firma de lo	s Autores	
•	de nuestro centro y	el mismo cum	ha sido realizado según ple con los requisitos que tica señalada.
Firma del T	Futor	Firma del Je	efe de Denartamento





DEDICATION





ACKNOWLEDGMENTS

- To my mother for being my role model, my guide and guardian angel.
- To my grandfather who would have loved to see me finishing my studies.
- To my grandmother, my aunt, my cousins and my uncle, who even far away, are always by my side giving me strength and courage.
- To my beloved husband for being always there for me holding my hand and giving me his genuine love and support.
- To my mother-in-law for her endless affection, motivation and support.
- To my father-in-law who has offered his original ideas and help.
- To my father for showing a particular interest during this process.
- To my supervisor Dr. Mayra Rodríguez Ruiz for her valuable guidance and remarkable insights.
- To my Professor MSc. Manuel Llanes Abeijón for his encouragement to undertake the journey to research.
- To the app developers for all their help and brilliant ideas.
- To the professors of the examination committee for their helpful suggestions and insights about this research.
- To Amed Abel Leiva Mederos for his kind help and guidance
- To all the professors of the English Language Department who have contributed to my education throughout these years. Thank you for your patience and dedication.
- To my special classmates for being by my side throughout these years and for helping me when I needed it the most. Girls you are the best!
- To every person who made this diploma paper possible and helped me unconditionally.

ACKNOWLEDGMENTS

- To my mother for her boundless love and unconditional support.
- To my grandparents, my aunt and uncles for providing me with the courage, strength and the sound advice of never giving up.
- To my father for showing concern about my studies.
- To my girlfriend for her special fondness and support.
- To my Professor MSc. Manuel Llanes Abeijón for being the invaluable guide, soul and inspiration of this diploma paper.
- To my supervisor Dr. Mayra Rodríguez Ruiz for her infinite patience and practical wisdom.
- To Amed Abel Leiva Mederos for his valuable insights.
- To the professors of the examination committee for their constructive suggestions and comments about this research.
- To the experts who were involved in the assessment of the bilingual lexicon apportant created.
- To all the professors who have by some means influenced in my learning process throughout all these years.
- > To the app developers for their arduous work and professionalism.
- To the students of the degree course, friends and all those people who have devoted their efforts to support me and this diploma paper.



ABSTRACT

This diploma paper deals with the design and building of a bilingual lexicon app for studying and translating texts on sociocultural topics. The entries for the bilingual lexicon app have been extracted from texts of socio cultural topics taken from *Encarta Encyclopedia 2009* and have been built using information from several dictionaries. The main objective of the bilingual lexicon app is to facilitate the translation process for third-year English Language students at the Universidad Central "Marta Abreu" de Las Villas so that they can use the bilingual lexicon app both as a reference resource and as a study aid for the learning of bilingual lexis useful for sociocultural topics. The bilingual lexicon app proposed is described in detail in the present diploma paper and its linguistic, didactic and reference characteristics are described.

Key Words: translation, terminography, lexicography, corpus linguistics, lexicon, sociocultural terms, bilingual lexicon app



TABLE OF CONTENTS

NΤ	TRODUCTION	1
СН	APTER 1: THEORETICAL FRAMEWORK	
1	1.1 Translation	7
	1.1.1 General translation and specialized translation	8
	1.1.2 Translation in the field of sociocultural topics	9
	1.1.3 Concept of sociocultural terms	10
1	1.2 Lexicography	11
	1.2.1 Lexicography and Terminography	12
	1.2.2 Bilingual lexicography	13
	1.2.3 Relationship between the user and bilingual lexicography	15
1	1.3 Types of bilingual dictionaries	16
	1.3.1 Meaning in monolingual dictionaries and bilingual dictionaries	17
	1.3.2 Bilingual dictionaries and foreign language learning	18
	1.3.3 Bilingual dictionaries and translation	19
1	1.4 Corpus linguistics	19
1	1.5 Notion of Lexicon	21
	1.5.1 Macrostructure and microstructure of a bilingual lexicon	23
	1.6.1 Mobile Learning	26
1	1.7 Color Psychology	27
	1.7.1 Effects of Color on Mobile Application Design	29
1	1.8 Conclusions of Chapter 1	30
	HAPTER 2: PROPOSAL OF A BILINGUAL LEXICON APP OF SOCIOCULTURAL LEXICA NITS (ENGLISH-SPANISH): DATA ANALYSIS AND RESULTS	
JN		31
JN 2 2	NITS (ENGLISH-SPANISH): DATA ANALYSIS AND RESULTS	31 31
JN 2 2	NITS (ENGLISH-SPANISH): DATA ANALYSIS AND RESULTS	313132

2.2.3 Creating a database from the lexicon using Microsoft Excel	35
2.2.4 Creating an Android app using Android Studio from the lexicographical database elaborated in Microsoft Excel	36
2.2.5 Assessment of the application proposed through specialists' criteria	43
2.2.6 Final edition of the bilingual lexicon app	47
2.3 Conclusions of Chapter 2	49
CONCLUSIONS	50
RECOMMENDATIONS	52
BIBLIOGRAPHY	
APPENDICES	



INTRODUCTION

The accelerated development of humanity has been marked by a vast cultural openness since its early stages. The need of interaction determined the interconnectedness of a former alienated world and the information exchange became essential to meet the increasing basic needs. With such an ample number of existing languages, it seemed almost impossible to fulfill this task until different disciplines evolved to facilitate the complex process. Therefore, the practice of translation has been certainly one of the disciplines which has immeasurably contributed to bridging cultures and societies. Being part of humanity since its very beginnings, translation has played a role of paramount importance to achieve every goal.

The role of translation is essential to help society in its quest for development. Regarding the complex process of translation, Maria Tymoczko and Edwin Gentzler agree that it is not simply an act of faithful reproduction but, rather, a deliberate and conscious act of selection, assemblage, structuration, and fabrication – and even, in some cases, of falsification, refusal of information, counterfeiting, and the creation of secret codes. In this way translators, as much as creative writers and politicians, participate in the powerful acts that create knowledge and shape culture (Tymoczko, 2002).

Since translation is part of human behavior and involves high thinking skills, its process, methods, techniques, as well as its strategies are analyzed from different perspectives, not only by linguists but also by many scholars who specialized in different topics such as sociology, philosophy, economics, culture, society, etc. An essential task of any translation process is to facilitate the understanding between users of different languages and across different cultures. Therefore, the translator must possess enough linguistic skills and the ability to understand the source language and its culture in order to create an appropriate text in the target language.

Although many people consider translation as a task that can be accomplished by anybody with the help of dictionaries, translating certain texts is rather complex. The complexity arises when a text deals with specialized subjects such commerce, finance, society, economy or culture. Good knowledge of the source and target language is required when translating texts in specialized domain, but that is not enough. In such a case, translators need to acquire general knowledge of the domain, to be familiar with the subject in the target language and to specialize in the languages they are working with. In addition, they must understand the relevant terminology to fully understand the message of the source text and convey its meaning into the target text. The correct use of terminology during the translation process improves the quality of the final product and ensures that the text will be understood.

Nowadays, globalization has been a determining factor to go beyond boundaries among countries since it has permitted a global openness in almost every aspect of human life. Therefore, the role of translation and translators has become essential to increase sociocultural competences that go beyond the translation of a series of words correctly understood by the target audience unfamiliar with the source language. The rising international exchange needs sociocultural translation experts who are familiar with sociocultural aspects, terms and conditions.

The globalized world is now in a phase of recognition of the linguistic and the cultural equality where previously unrecognized languages and dialects have started to be part in human interaction. As a result, thousands of new glossaries, thesauri, encyclopedias, dictionaries and other resources are being published all over the world, hence the demand for proficient translators is growing at rapid pace.

The completion of bilingual lexica with different features has been the object of research of the Department of English Language at Universidad Central "Marta Abreu" de Las Villas since the 90s. All of them involved the application of new designs in dictionary making.

From 1992 to 1996, the first attempt was the onomasiological dictionary (Lexical Lists Arranged Notionally in English and Spanish) which developed the idea of a bilingual thesaurus of general English lexis based on the conception put forward in Tom McArthur's Longman's Lexicon and it was aimed at developing the knowledge of general bilingual lexis.

In addition, two diploma papers about the creation of lexical resources for translation were discussed between the years 2010-2012. One consisted of the creation of a bilingual English-Spanish corpus and the methodology for its use (2011), and the other on the building of a bilingual list of analogous words (*faux amis*) in English and Spanish (2012).

As students of the English Language Course with a Second Foreign Language: French, the authors of this diploma paper have witnessed that the most recurrent problems in the translation practice are the lexical errors and the lack of lexical competence. To verify this difficulty, a survey was conducted to a probability sample composed by 15 students of the third year in the same degree course. The results from the survey confirmed the authors' prediction and confirmed the necessity of creating a tool for the students, in order to improve their lexical competence concerning sociocultural topics.

Statement of the problem

Because of the complexity of sociocultural texts and the current limitations of bilingual reference sources, some difficulties arise when third-year students of the English Language Course with a Second Foreign Language: French at the Universidad Central "Marta Abreu" de Las Villas translate texts related to sociocultural topics due to the limited vocabulary range concerning sociocultural topics and the insufficient availability of bilingual reference sources of the subject.

This leads to the central **research question** addressed by this diploma paper:

How can the translation of sociocultural texts by third-year English Language students be improved?

Consequently, the **overall aim** of this research is:

• To propose a bilingual lexicon (English-Spanish) app of sociocultural lexical units

The **specific objectives** are:

- To establish the theoretical foundations related to general and specialized translation, translation of sociocultural texts, lexicography, terminography, bilingual lexicography, bilingual dictionaries, corpus linguistics, bilingual lexicon, as well as the use of ICTs in education and the effects of color on mobile application design.
- To diagnose the current situation concerning the availability of translation tools for the subject Translation of Sociocultural Texts for students of the third year of English Language Course with a Second Foreign Language: French
- To build a bilingual lexicon (English-Spanish) app of sociocultural lexical units
- To assess the applicability and usefulness of the bilingual lexicon app proposed through specialists' criteria

The **object of study** of this diploma paper is the creation of a bilingual lexicon (English-Spanish) app of sociocultural lexical units. The **field of action** is lexicography.

The sample

In order to carry out this study a sample of more than 500 sociocultural texts taken from *Encarta Encyclopedia 2009* were selected for analysis. Besides, 15 third-year students were included in the sample.

To achieve the previously declared objectives a set of methods was employed:

Theoretical methods:

<u>Historical and logical:</u> this method was used for analyzing the evolution of the concepts related to general and specialized translation, translation of sociocultural texts, lexicography, terminography, bilingual lexicography, bilingual dictionaries, corpus linguistics, bilingual lexicon, as well as the use of ICTs in education and the effects of color on mobile application design.

<u>Analysis and synthesis:</u> within the framework of the bibliographical research, this method allowed the analysis of the tendencies and the collected data to formulate the main theoretical principles to develop the research.

<u>Inductive and deductive:</u> this method was applied to analyze the bibliography to come to general conclusions regarding the most common problems in the use of lexicographic tools.

<u>Structural-systemic:</u> to guide the authors throughout the whole research process and in the proposal from a logical and systematized view.

Empirical methods:

Document analysis: to systematize information for selecting the corpus.

<u>Corpus linguistics:</u> to determine the lexical units present in sociocultural texts and analyze their usage.

<u>Content analysis:</u> to determine the lexical units included in the lexicon proposed in the present study.

<u>Survey:</u> one to confirm the needs for this study and another survey to verify the usefulness and applicability of the lexicon proposed.

<u>Participant observation:</u> the authors are students of the English Language course.

<u>Percentage analysis:</u> to process data obtained from surveys.

Contribution

The bilingual lexicon (English- Spanish) app proposed will help third-year students of the English Language Course with a Second Foreign Language: French consolidate their knowledge and skills for translating from English into Spanish those texts included in the subject Translation of Sociocultural Texts. Besides, the design of the entries in the bilingual lexicon, its macrostructure and microstructure is a novel combination of the information provided by different dictionaries from Babylon and helps to understand, translate, and remember the vocabulary used in sociocultural texts.

Structure of the diploma paper

This diploma paper is structured into two chapters.

Chapter 1 outlines the theoretical foundations of the present diploma paper. General and theoretical definitions as well as concepts are presented in seven main sections including topics concerning general and specialized translation, translation of sociocultural texts, lexicography and terminography. Issues regarding bilingual dictionaries, corpus linguistics, bilingual lexicon and the use of Information and Communication Technologies (ICTs) in education are also introduced as well as the effects of color on mobile application design.

Chapter 2 describes the methodological framework. The collection and selection of the sample as well as the stages for the creation of the bilingual lexicon app are explained. Also, the macrostructure and microstructure of the terminographic tool proposed are presented. Finally, the results of the assessment of the bilingual lexicon app through specialists' criteria are provided.

The diploma paper is completed with conclusions and recommendations followed by the bibliography and the corresponding appendixes.



CHAPTER 1: THEORETICAL FRAMEWORK

This chapter is divided into seven main sections. In the first section, the concepts of general and specialized translation as well as translation in the field of sociocultural topics are explored whereas the second section deals with lexicography, terminography and bilingual lexicography. The third section presents types of bilingual dictionaries, meaning in monolingual dictionaries, bilingual dictionaries and the relation between bilingual dictionaries and foreign language learning. Moreover, the fourth section elaborates on the bibliography related to corpus linguistics and types of corpora. In the fifth section the notion of lexicon and the macrostructure and microstructure of a bilingual lexicon are introduced. The sixth section is concerned with the use of Information and Communication Technologies (ICTs) in education and in the seventh section basic ideas about the psychology of colors and their effects on mobile application design are conveyed. Finally, the last section presents the partial conclusions of the chapter.

1.1 Translation

Generally, translation is a process of rendering meaning, ideas, or messages of a text from one language to another; it is also a very broad, complex and multi-faceted phenomenon, encompassing much more factors than it seems at first glance. It is not just copying the words from the original work while changing the language, but it consists of a careful selection of appropriate phrases and expressions, combining them together in a skillful way while taking into account numerous aspects.

There are some considerations which follow this process. They are mainly related to the accuracy, clarity and naturalness of the meaning, ideas, or messages of the translation. It means that it is an important thing to consider whether the readers of the target text accept equivalent information as the readers of the source text do. These considerations are clarified in some definition of translation stated by some experts.

One of the most prominent definitions of translation is stated by Newmark who defines translation as "rendering the meaning of a text into another language in the way

that the author intended the text". This definition stresses on rendering meaning of the source language text into the target language text as what is intended by the author (Newmark, 1988).

Hatim and Munday (2004) define translation as "the process of transferring a written text from source language to target language". In this definition he does not explicitly express that the object being transferred is meaning or message. They emphasize on translation as a process (Hatim, 2004). Nida and Taber (1982), on the other hand, state that "translating consists in reproducing in the receptor language the closest natural equivalent of the source language message". Nida and Taber explicitly state that translation is closely related to the problems of languages, meaning, and equivalence (Taber, 1982).

From the definitions mentioned above, it can be concluded that translation is a process which is intended to find meaning equivalence in the target text.

1.1.1 General translation and specialized translation

Translation should comply with all the relevant conventions applicable to efficient communication, and in particular, with all the stereotypes dictated by the subject domain, the medium used and by the target language itself in terms of content categories, lines of reasoning, discourse organization, phrasing and wording.

According to Newmark, general translation refers to the translation of non-specialized texts without terminological difficulties. He states that in this type of translation all texts should be translated to fit the intended audience. Since general texts address a non-specialized audience, the language should be clear and natural and avoid technical terms. These texts are not particularly complex; however, the documentation and cultural adaptation process should be the same as in the case of a specialized text (Newmark, 1988).

Generalist translators translate documents and materials, which cannot be labelled as belonging to a particular type and do not normally require a high degree of specialization or technical knowledge. The generalist translator usually touches on "all

kinds of subject areas", has a "whole range of clients" and rarely deals with large-scale translation projects (Smith, 1958).

Compared to general translation, specialized translation implies some extra features of the specialized discourse such as identifying the specialized linguistic elements or terms that belong to the area of specialization and rendering the meaning into the target language; it also has to do with a specific area of knowledge; therefore, a specialized translator masters the precise terminology, text typologies and linguistics conventions of the respective field (Talabán, 2011).

Technically speaking, specialized translation is not independent or completely separated from general translation. Nonetheless, specialized translation relies on the nature of the text and the purpose of translation. It also requires the competency of the translator in the field of the text to be translated, the mastery of both target and source languages and the knowledge of the specialization terminology (sociocultural, mechanical, economic and others).

1.1.2 Translation in the field of sociocultural topics

Translation is seen nowadays as an important human action and the translator as a mediator between cultures. That is why many scholars have asked if culture can be eventually translated into another language. Translation is always placed at the core of the intercultural aspects, so that the study of translation goes along with the sociocultural studies. Consequently, sociocultural aspects of translation have emerged into a series of theories about sociocultural translation, about its very existence in terms of cultural identity of a specific community.

Pierre Bourdieu has emphasized the importance of language as a system determined by sociocultural processes. In his opinion, language exists as a linguistic habitus, which implies not only a particular system of words and grammatical rules, but also a symbolic power of a particular way of communication, with specific patterns for every community (particular systems of classifications, specialized lexicons, metaphors, reference forms, etc.). Therefore, language is linked to culture, as a link between thought and behavior (Bourdieu, 1984).

Duranti observes that words carry in them a myriad possibility for connecting us to other human beings, other situations, events, acts, beliefs and feelings. The indexicality of language is thus part of the constitution of any act of speaking as an act of participation in a community of language users (Duranti, 1997).

Any remark on the translation of sociocultural elements must take into account the fact that translation has always offered many possibilities of confronting different sociocultural realities, hence questions about the areas of sociocultural production, the processes of sociocultural transfer, the negotiation of differences, but also questions about untranslatability and incompatibility, in order to arrive to the well-known problem of *traduttore-traditore*.

As the structuralists claim for, the use of language as a means for communication between people underlines its social function; each culture has its own language. As a result, Duranti shows the fact that every community talks about their thought and ideas in reference to their own way of perceiving the universe, to their intellectual knowledge and experience. In other words, the sociocultural aspect is the implicitness shared by a community and to translate means to perceive our own culture reported to the others' cultures (Duranti, 1997).

The equivalence of sociocultural translation lies on its terminology, when dealing with sociocultural texts, a translator has to be aware of the value and the role of the term in a given sociocultural context, in order to choose the accurate term of the target language that represents the exact semantic field as the one presented at the first place by the source language term.

1.1.3 Concept of sociocultural terms

Before further explanation about sociocultural terms as a whole, it is advisable to look at the definition of the term "sociocultural". Based on Merriam- Webster's 11th Collegiate Dictionary (2003), sociocultural means "... relating to, or involving a combination of social and cultural factors". The Concise Oxford 9th English Dictionary provides the following definition for sociocultural: "combining social and cultural factors".

In the present diploma paper the authors hold to the definition given in the Encarta Encyclopedia 2006, where sociocultural terms are defined as terms relating to or involving cultural and social factors.

In case of a translator of sociocultural texts is not able to find enough sources of terminological information to facilitate the process of translation, he or she becomes a terminologist and whenever possible, creates his/her own lexicographical tool of content words in sociocultural texts. Terminological work in the field of sociocultural texts is essential and a translator who deals with this type of texts is expected to be a very good terminologist.

1.2 Lexicography

Lexicography, the art and craft of dictionary making, has an important place in the history of language study. According to Howard Jackson (2002) the term lexicography is used in two distinct senses: first, it refers to the compilation of dictionaries; and second, it refers to the study of dictionaries. For Niladri S. Dash, lexicography is defined as the art of writing a dictionary or the science of compiling a dictionary, it approaches words as individual units with respect to their meaning and usage (Dash, 2005).

Some scholars concentrate on the history of dictionary making, others on historical dictionaries. Still others engage in dictionary criticism, evaluating the structure and content of dictionaries, both in general terms (the macrostructure) and in terms of the information contained in individual entries (the microstructure) (Jackson, 2002).

Heming Yong and Jing Peng (2008) considered that in the eyes of most people, lexicography is seen only as "the writing or compiling of dictionaries". This definition covers all the major aspects in the study of communication and all the major activities in dictionary making, encompassing both theoretical and practical aspects of lexicographic communication. Although the theoretical study of lexicography is not infrequently considered quite a novelty in the modern linguistic world, it has as long a history as dictionary-making itself, for dictionary-making is normally preceded by some theoretical considerations about certain fundamental issues involved in the process (Peng, 2008).

Dictionaries of earlier periods are gold mines of information for both linguistic and cultural research. Through several thousand years of arduous labor, lexicographers have produced countless glossaries, wordbooks, vocabularies and dictionaries. The gradual integration of lexicography with the rest of language study and other related disciplines has drastically altered lexicographers' outlook on dictionary making and on the status of lexicography as an academic discipline. The awareness of establishing lexicography on a solid scientific and theoretical foundation has become increasingly strong (Landau, 2001).

This fundamental change in the idea of what a dictionary should be like and how lexicography can be established as a science has brought about numerous in-depth theoretical explorations in lexicography. Explorations have gone into almost all aspects of lexicography, from micro-level; i.e., the use and meaning of individual words, to macro-level; i.e., the whole system of the dictionary, from practical issues to theoretical considerations and from lexicography to other related subjects.

1.2.1 Lexicography and Terminography

Lexicography and terminography are specialized disciplines concerned with the compilation and editing of dictionaries. The lexicographer documents the words in the vocabulary of mostly the general language whereas the terminographer documents the terminology of specific subject fields and domains.

Some scholars regard the practice of terminology and terminography as a subdiscipline of lexicography. Sager (1990) calls terminology an interdisciplinary field of study, relating linguistics, logic, ontology and information science with the various subject fields and the common element among these disciplines is the concern with the formal organization of the complex relationships between concepts and terms (Sager, 1990).

Lexicography is the part of lexis dealing with the body of a language and the properties of words as the main units of language (words and word combinations). In addition, it develops a general typology of dictionaries and new types of dictionaries. It means that there are unilingual (compiling explanatory dictionaries), bilingual

lexicography (compiling translating dictionaries), educational lexicography (compiling dictionaries for language studying), and scientific-technological lexicography (making terminological dictionaries). Basically, a dictionary lists a set of words with information about them (Landau, 2001).

Lexicography and terminography are methodological facets of lexicography and the first objective is the systematic description and documentation of the usage of words or terms of a specific language community with its discernible culture and subcultures (Alberts, 1988; Albert, 1990; Eksteen, 1985). The difference is that general lexicography documents the words of a language or languages, while terminography documents the terminology of subject fields, domains and disciplines.

Fuertes-Olivera sets that terminology is prescriptive, whereas lexicography is descriptive. In addition, as opposed to lexicographers, who work with an alphabetic macrostructure, terminologists prefer a systematic macro structure. While terminologists aim to help users encode texts, lexicographers aim to help users decode them (Fuertes-Olivera, 2010).

Moreover, lexicography aims at systematization revealing characteristic features of words. The field of lexicography is the semantic, formal, and functional description of all individual words. Besides, it is the applied branch of lexicology and is concerned with the writing of dictionaries. The output of lexicography and terminology takes the form of compilations of lexical or terminological units; i.e., dictionaries (Fuertes-Olivera, 2010).

In short, terminography studies the terminology of specific subject fields and domains and it is a subdisciplne of lexicography, whereas lexicography deals with individual words with respect to their meanings and usages. They both are methodological facets of the lexicography profession; however, lexicography documents the words of a language or languages, while terminography documents the terminology of subject fields, domains and disciplines.

1.2.2 Bilingual lexicography

Bilingual lexicography is an independent linguistic activity, susceptible to a set of distinctive theoretical issues and possessing its own particular methodology; it is

concerned with contextual relations to the extent that they are a source for determining intrinsic meaning or are necessary to exemplify differential equivalence between pairs of strings with the same overall meaning. It is also concerned with word-for-word equivalence of the very kind that is rejected by translation as unsatisfactory. One of the tasks of bilingual lexicography is the reconstitution of the relational network by furnishing as much as possible in the form of explanatory labels, definitions, cross-references, synonyms and examples (Darbelnet, 1964).

Bilingual lexicography (BL) is occasionally given an important place in lexicography. For Scerba (1940), the dichotomy monolingual dictionaries (MD) – bilingual dictionaries (BD) was one of the four basic dimensions in lexicography. MacArthur's typology shows in a typical way that BL is not frequently considered in general accounts of lexicography. If language description in lexicography is discussed, then it is MDs which are thought to be suitable for such tasks (Murray, 1978).

For some authors, judging by their terminology, a BD is like a type of MD, and they say that BDs include definitions, or that they explain meaning by synonyms. It is similarly with histories of lexicography, in which BDs are seen only as stages that lead to the proper dictionary, and typically historians of lexicography do not pay any attention to BDs after the date of publishing of the first MD (Darbelnet, 1970).

In the lexicography of English, it is precisely the learners' MDs which are thought to be pedagogical. Therefore, a BD can be said to model the lexical competence of a bilingual speaker. The statements in which the speaker's competence is taken into account can be easily challenged: no single native speaker is likely to possess all the knowledge that dictionaries contain, dictionaries seem to describe the collective competence, so to say, of a whole speech community. To model something may mean two things with reference to language: either to provide a representation of language, or to provide means to create further occurrences of language on the basis of the representation. The two types of models are not the same: two dictionaries can share the same model of language and yet use different lexicographic models. The dictionary is perhaps the first to attempt to provide exhaustive information on the lexical

competence of the native speaker on the level of individual lexical items, and provides a stimulus to write better dictionaries in the future (Scerba, 1940).

Therefore, bilingual dictionaries have become more necessary and popular in the globalized world. World communication and business, industry, science and the need to fully understand what other communities really mean and do when they buy goods, attend a conference, draft international contracts, etc., require precise information on the meaning of the special words used, which are often not included in general purpose dictionaries. Moreover, the increase in the number of learners of a second language for special purposes has also triggered the need for specialization in bilingual lexicography. Finally, it can be concluded that bilingual lexicography is the activity or job of building bilingual lexicographical tools in which the primary goal is to provide equivalents.

1.2.3 Relationship between the user and bilingual lexicography

The adjustment of dictionaries to their users has been dubbed user-friendliness. To make a dictionary more user-friendly it is imperative to know who the users are and what they use dictionaries for. The majority of studies relate to foreign language learning do not reveal much as far as the groups of users are concerned.

Further, it is important to know which information types the users consult particularly often. The most frequent category is meaning, described in bilingual dictionaries by equivalents and the other frequent type of information is grammar. Tomaszczyk's findings are even more vivid: more students use bilingual dictionaries for receptive grammar than for productive one. Surprisingly, few studies researched the needs of those who use bilingual dictionaries and they have revealed that people need a dictionary for text monitoring, production, acquisition, and translation. In addition, translators require a bilingual dictionary for general and technical translation, while tourists use them to communicate in any way (Tomaszczyk's, 1979).

Therefore, any category of user can employ a bilingual dictionary for text reception; however, it is important to take into account their areas of expertise, purposes and special needs to address the lexicographical tool in a proper way.

1.3 Types of bilingual dictionaries

The past century was characterized by the existence of a surprisingly large number of dictionaries, together with their great varieties. Linguists and lexicographers had to work hard to categorize them into various types. Earnest and continuous efforts were made to classify dictionaries from different perspectives and in different typologies since the 1940s, but the result had not been encouraging due to the heterogeneous nature of lexicographical work. Nowadays, there still remain both theoretical and practical problems confronting linguists and lexicographers (Bejoint, 1981).

One of the first linguists to classify dictionaries into different types was the Russian L.V. Shcherba. Although he established six contrasting dictionary types, (a normative dictionary vs. a reference dictionary, an encyclopedia vs. a general dictionary, a normal dictionary vs. a general concordance, a normal dictionary vs. an ideological dictionary, a defining dictionary vs. a translating dictionary, a historical dictionary vs. a non-historical dictionary, his classification covers and "identifies very limited types of dictionaries, seven in number" (Scerba, 1940).

The reductionist, segmental view of language has been manifested in numerous approaches to translation and to bilingual lexicography. Indeed, if this approach were true there would be little difficulty in producing a dictionary which would efficiently help produce natural texts. As a result, at present there is a considerable number of types of bilingual dictionaries targeting different types of users.

A mono directional bilingual dictionary (BD) is intended for speakers of one language only. For example, a mono directional English-Spanish dictionary can be aimed at either Spanish or English-speaking users only.

Bidirectional BDs are to serve the needs of both groups of users. Thus, the same dictionary, when bidirectional, would be used by both Spanish and English-speaking users. Skill-specificity is related to the use of a BD in a particular skill. The discussion in the metalexicographical literature on the two parameters started, it is believed, with Scerba, who advocated the production of separate pairs of BDs for speakers of each language, thus he stressed the need for user-specific, monodirectional dictionaries.

An idiomatic BD would be one which contains lexemic equivalents, together with reconstructed expressions; no matter how fixed they are, ranging from collocations to whole sentences. An idiomatic BD fairly generously indicates the context of included expressions.

The segmental dictionary is usually very orderly, neat, compact, and transparent in its structure. It offers firm guidelines to the user. Segmental BDs thus seem to be better suited to comprehension purposes rather than to production needs. Consultation of an idiomatic dictionary is therefore time consuming and difficult.

Usually the segmental-idiomatic approach is related to the size of the BD: the smaller the BD the fewer reconstructed expressions it has. The largest BDs thus include the largest amount of idiomatic expressions, quite properly, as they are used most often by the advanced user.

Summarizing this, nowadays a variety of bilingual dictionaries are available to the users: mono directional, bidirectional, idiomatic, segmental and segmental-idiomatic. Their use will depend on the users' needs.

1.3.1 Meaning in monolingual dictionaries and bilingual dictionaries

Meaning is the ability to handle efficiently linguistic items. Still the best discussion of the difference between the monolingual dictionary (MD) and the bilingual dictionary (BD), based on this approach, can be found in Scerba's writings and even the latest arguments from the advocates of this approach do not differ very much from Scerba's. According to him, the BD can never be adequate in its description of meanings-entities because the entities are language-specific, and target language (L2) equivalents will be of course related to different entities. Moreover, L2 equivalents show only a part of the meaning of L2 items. Also obviously other aspects of meaning - associations, metaphoric extensions - can vary enormously from language to language (Scerba, 1940).

Scerba, for example, also thinks that users find BDs more attractive, though this author thinks they should not and that MDs are beneficial in the long run, and Thompson has no doubts that the BD is a natural learning dictionary. Both MDs and

BDs can be used primarily to verify certain hypotheses relating to various aspects of lexical items. What they differ in is the methods: MDs use explanation by means of L2 and BDs use explanation by means of source language (L1). The users favor BDs, thus LI seems to be superior – from their point of view - to L2 (Scerba, 1974).

Overall, what is important is that BDs provide very incomplete descriptions of meaning and MDs contain two levels of language: object language, (the units to be described) and subject language, (the metalanguage). Therefore, definitions are on a different level of language than items being defined and the relation of the subject language to the object language can thus be compared roughly to that between two different natural languages.

1.3.2 Bilingual dictionaries and foreign language learning

It could be said that the ultimate aim of foreign language acquisition would be bilingualism, which could be understood as ideal L2 competence (Klein 1986); in other words, the learner becomes bilingual when his or her command of the foreign language is the same as the command of L1, bilingualism is then a vague notion. Hamers and Blanc, and most other scholars, point out that nobody can be ideally competent in any language, either L1 or L2. The dominant language is usually L1, though it has to be stressed that dominance can be chosen by the speaker (Hamers and Blanc, 1989).

According to psycholinguistic evidences, discussions of the cognitive organization yet are characterized by vagueness: the phrase used most often is that foreign-language learners should think in the foreign language. It is emphasized very strongly in foreign language teaching methodology that learners should form two conceptual frameworks. The claim is then that learners should proceed so that another conceptual system is formed in their mind. Moreover, Hamers and Blanc stated that in certain areas of vocabulary the networks may be either coordinate (abstract words) or compound (Blanc, 1989).

The opposition to BDs in foreign language learning can be understood better when it is approached on a wider background, that is, when it is looked at the place of dictionaries in foreign language methodology. Finally, foreign language acquisition

proceeds in a regular, natural order, indeed lexicography can provide some support for this view, as any available research on dictionary use does show that users prefer BDs. From the users' point of view then, the BD is the more natural type, and, as it has been confirmed, the users show a resistance to MDs.

1.3.3 Bilingual dictionaries and translation

According to Berkov (1973), bilingual dictionaries (BDs) can and should be used for translation. Other lexicographers evidently share Berkov's feelings. Scerba (1940), for example, apparently advocates the use of the BD for translation, yet in his opinion it would be good if translation produced by use of a BD would not be at least ridiculous in quality.

Theoreticians of bilingual lexicography (BL) very rarely define translation, even though for them it is both the basis and chief objective of a BD; apparently, they treat translation as non-controversial. An exception is Kromann, Riiber, and Rosbach (1984), who do define translation in terms of its function. Perhaps the name translation should refer only to an activity which aims at producing text, and this is actually the basis of Hausmann's typology (1988).

Lexicographers like Scerba (1940) or Boguslawski (1983) regard the complete relation between BL and translation as circular. Therefore, equivalents come to BDs from translations and go from them to produce further translations. A BD thus, produced on the principle of this translational circle can be regarded as a repository of equivalents, a record of translation solutions.

1.4 Corpus linguistics

Corpus linguistics is a methodology to obtain and analyze the language data either quantitatively or qualitatively, it can be applied in almost any area of language studies. Corpus linguistics is not a separate branch of linguistics (like e.g. sociolinguistics) or a theory of language (Oakes, 1998).

Corpus linguistics is a method of carrying out linguistic analyses. As it can be used for the investigation of many kinds of linguistic questions and as it has been shown

to have the potential to yield highly interesting, fundamental, and often surprising new insights about language, it has become one of the most wide-spread methods of linguistic research in recent years (Greenbaum, 1996).

A corpus can be defined as a systematic collection of naturally occurring texts (of both written and spoken language). "Systematic" means that the structure and contents of the corpus follows certain extra linguistic principles. For example, a corpus is often restricted to certain text types, to one or several varieties of English, and to a certain time span. If several subcategories (e.g. several text types, varieties etc.) are represented in a corpus, these are often represented by the same amount of text. "Systematic" also means that information on the exact composition of the corpus is available to the researcher (including the number of words in each category and in the whole corpus, how the texts included in the corpus were sampled etc.). Although "corpus" can refer to any systematic text collection, it is commonly used in a narrower sense today, and is often only used to refer to systematic text collections that have been computerized (Kennedy, 1998).

Corpus linguistics thus, is the analysis of naturally occurring language on the basis of computerized corpora. Usually, the analysis is performed with the help of the computer, for example, with specialized software, and takes into account the frequency of the phenomena investigated.

There are many types of corpora, which can be used for different kinds of analyses (cf. Kennedy 1998). Some examples of corpus types are:

- ✓ **General/reference corpora**: aims at representing a language or variety as a whole (contains both spoken and written language, different text types etc.).
- ✓ Historical corpora: aims at representing an earlier stage or earlier stages of a language.
- ✓ Regional corpora: aims at representing one regional variety of a language.
- ✓ Learner corpora: aims at representing the language as produced by learners of this language.

✓ **Multilingual corpora**: aims at representing several, at least two, different languages, often with the same text.

A further distinction of corpus types refers not to the texts that have been included in the corpus, but to the way in which these texts have been treated; for example, in annotated corpora, in which some kind of linguistic analysis has already been performed on the texts, such as sentence analysis, or, more commonly, word class classification.

1.5 Notion of Lexicon

In the last few years, the lexicon has become the focus of different disciplines such as anthropology, psychology and psycholinguistics. Also, linguists have recognized the importance of the lexicon in the study of the syntax and semantics of a language.

From the linguistic point of view, a lexicon is considered as the vocabulary of a particular language, the total store of words available to a speaker. Very commonly, the lexicon is not regarded merely as a long list of words. Rather, it is conceived as a set of lexical resources, including the morphemes of the languages, plus the processes available in the language for constructing words from those resources (Trask, 1999; Farlex, 2018). Moreover, in the online version of the Longman Dictionary of Contemporary English the term lexicon is defined as "an alphabetical list of words with their meanings, especially on a particular subject or in a particular language".

In the field of lexicography, a lexicon is conceived as a list of words in a language, vocabulary, along with some knowledge of how each word is used and it may be general or domain-specific. In a lexicon the words that are of interest are usually open-class or content words, such as nouns, verbs, and adjectives, rather than closed-class or grammatical function words, such as articles, pronouns, and prepositions, whose behavior is more tightly bound to the grammar of the language. A lexicon may also include multi-word expressions such as fixed phrases, phrasal verbs, and other common expressions. Each word or phrase in a lexicon is described in a lexical entry; exactly what is included in each entry depends on the purpose of the particular lexicon (Hirst, 2004).

Regarding computational lexicography, the lexicon is defined as a manipulable computerized version of ordinary dictionaries and thesauruses. According to Litkowski, computational lexicons include any electronic compilations of words, phrases, and concepts, such as word lists, glossaries, taxonomies, terminology databases, wordnets, and ontologies. While simple lists may be included, a key component of computational lexicons is that they contain at least some additional information associated with the words, phrases, or concepts (Litkowski, 2006).

The term computational applies in several senses for computational lexicons. Essentially, the lexicon is in an electronic form. Firstly, the lexicon and its associated information may be studied to discover patterns, usually for enriching entries. Secondly, the lexicon can be used computationally in a wide variety of applications; frequently, a lexicon may be constructed to support a specialized computational linguistic theory or grammar. Thirdly, written or spoken texts may be studied to create or enhance entries in the lexicon. Broadly, these activities comprise the field known as computational lexicology, the computational study of the form, meaning, and use of words (Litkowski, 2006).

In general, a lexicon includes a wide array of information associated with entries. An entry in a lexicon is usually the base form of a word, the singular for a noun and the present tense for a verb. Using an ordinary dictionary as a reference point, an entry in a computational lexicon contains all the information found in the dictionary: inflectional and variant forms, pronunciation, parts of speech, definitions, grammatical properties, subject labels, usage examples, and etymology (Litkowski, 2006).

In this diploma paper the authors hold to the definition provided by Keneth C. Litkowski, who is a computational lexicologist and operations research analyst. This author considers a computational lexicon as a compilation of various lexicographical sources.

Therefore, taking into account every definition provided above, a bilingual lexicon can be defined as an alphabetically compiled list of words with their meanings taken from different dictionaries, especially in a particular subject or in a particular language, deemed to be word-level translations. In a bilingual lexicon each word or phrase is

described in a lexical entry with a wide array of information associated with entries and some knowledge of how each word is used.

1.5.1 Macrostructure and microstructure of a bilingual lexicon

In order to be really useful and efficient, the lexicographical tool needs to have a well-designed structure. Therefore, the most important internal division is the one dividing their structure into macro and microstructure.

First of all, the macrostructure of any general dictionary (both monolingual and bilingual) or dictionary dealing with a language for special purposes (LSP) has to reflect that section of the lexicon of the language relevant to the scope of the dictionary. This implies that all the types of lexical items prevailing in that section of the lexicon have to be included in the macrostructure (Bergenholtz & Tarp, 1995). For Haensch, it is the arrangement of all the materials that form the body of a dictionary (Haensch, 1997).

Macrostructures are of two kinds, alphabetic and systematic. Bergenholtz & Tarp argue that the choice of macrostructure is one of the most important decisions to be made by a specialized lexicographer, who must consider the advantages and disadvantages of both types. The advantage of presenting lexical items in alphabetical order is that it is familiar to the user and as such it is efficient and easy to use (Bergenholtz & Tarp, 1995). As far as the macrostructure is concerned, this paper adopts Haensch's criterion.

The microstructure, on the other hand, is the consistent organization of lexical information within lexical entries, that information is organized systematically into easily distinguishable smaller and larger sections per word (van Sterkenburg, 2003).

The various parts of a bilingual lexicon entry consist of the lexical information categories that a specialized lexicographer decides to include, and may comprise categories such as definitions, equivalents, synonyms, antonyms, etc. As with any dictionary, the amount and type of information to be included depends on factors such as the intended users and purpose of lexicographic tools (van Sterkenburg, 2003).

The bilingual lexicon, therefore, constitutes a valuable tool because it helps the translator find the new vocabulary in an easily and quick way. It is generally arranged in alphabetical order and has a twofold structure: the macrostructure, which is the list of all the words forming the body of the dictionary and the microstructure, being the information given concerning each word in the macrostructure.

1.6 Information and Communication Technologies (ICTs) in Education

Information and communication technologies (ICTs) have become, in a short period of time, one of the cornerstones of modern society. Many countries now understand the effectiveness and efficiency of ICTs and the mastery of its basic skills and concepts as part of the core of education, alongside writing, reading and numeracy. ICTs motivate and engage students, enhance the learning process and therefore have become integral to the teaching-learning interaction.

The integration of ICTs into education has been assumed as the potential of the new technological tools to revolutionize an outmoded educational system (Albirini, 2006). In the last decades, initiatives, projects and implications related to the use of ICTs in education have motivated teachers to gain necessary knowledge and skills in using ICTs in their instruction. Pelgrum has noted that ICTs are "not only the backbone of the Information Age, but also an important catalyst and tool for inducing educational reforms that change our students into productive knowledge workers" (Pelgrum, 2001).

For the past 500 years, literacy has emerged from a variety of social contexts but has been shaped largely by the technologies of the book and the printing press. Today, both the social context and the technologies of our age are rapidly changing. The Internet and other ICTs are quickly becoming the central technologies of literacy for a global community in a technological age. As a result, these technologies are quickly defining the new literacies that will increasingly be a part of our future. Literacy theory, research, and practice must begin to recognize this important fact (Christensen, 2002).

In the literature, while there are many definitions of ICTs, they can be broadly defined as "technologies that facilitate, by electronic means, the acquisition, storage, processing, transmission, and disseminating of information in all forms including voice,

text, data, graphics and video" (Crowder, 2001). This definition mainly focuses on the importance of the intersection of information technology, information content and telecommunications in enabling new forms of knowledge production and interactivity. ICTs allow many people to generate and disseminate information, thus playing an active role in the process of interaction between professionals, learners, policy makers, peer, etc (Crowder, 2001).

According to Victoria L. Tinio, ICTs are defined as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information." These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony (Tinio, 2002).

ICTs have a very strong effect in education and they provide enormous tools for enhancing teaching and learning. Many studies have highlighted the various ways that ICTs may support teaching and learning processes in a range of disciplinary fields such as the construction of new opportunities for interaction between students and knowledge accessing information, etc. ICTs can have a useful effect on teaching and learning if they are used under right conditions including suitable sources, training and support. ICTs also offer the potential to meet the learning needs of individual students, to promote equal opportunity, to offer learning material, and also to promote interdependence of learning among learners (Gomleksiz, 2004).

Terms such as e-learning, open and distance learning and blended learning have become key words in the field of education. In her book *ICT in Education* (2002) Victoria L. Tinio states that e-learning "encompasses learning at all levels, both formal and non-formal, that uses an information network - the Internet, an intranet (LAN) or extranet (WAN) - whether wholly or in part, for course delivery, interaction and/or facilitation". This author considers open and distance learning as "a way of providing learning opportunities that is characterized by the separation of teacher and learner in time or place, or both time and place"; whereas blended learning is referred to as "learning models that combine traditional classroom practice with e-learning solutions" (Tinio, 2002).

According to Anderson & Weert, 2002 ICTs play a critical role in information societies' educational systems, where the stakeholders of educational policy, redesign and reconstruct their educational systems based on the new educational paradigms such as constructivist theory so that both teachers and students develop the necessary knowledge and skills sought in this digital age. Hence, most countries around the world are focusing on approaches to integrate ICTs in learning and teaching to improve the quality of education by emphasizing competencies such as critical thinking, decision-making, handling of dynamic situations, working as a member of a team and communicating effectively. In fact, ICTs enable, empower, and engage learning in ways that transform the learning environment for students inside and outside school (J. Anderson, 2002).

1.6.1 Mobile Learning

Developing ICTs and technological devices have progressed rapidly in education in our times. ICTs used in education have progressed rapidly and dependably in such a way that traditional education methods have left their importance to technological education methods. Technologies and the need for movement of the technology in education to new dimensions have revealed the new notion of mobile learning (m-learning).

Mobile learning (m-learning) is a distance learning model which is designed to meet education needs with the help of mobile devices. Thanks to m-learning, there appeared an education model which can be very beneficial for students. M-learning is a type of learning whose learner is determined previously, is not in a specific location, or benefits the opportunities offered by mobile technologies (Sharples, 2009).

According to Grosso (2003), m-learning is the "obtainment of every kind of information and ability by using mobile technologies". With m-learning, there occur changes in learning environment, with the opportunity of learning independent of time and location; in this context, Keegan (2002) states that m-learning is the type of learning in the future and that learning environment is designed by wireless technologies. Saylor (2012) states that so long as learners move, they also carry the learning environment physically (Grosso, (2003); Keegan, (2002); Saylor, (2012)).

As mobile phones, tablets, and other connected devices become more prevalent and affordable, wireless technology can dramatically improve learning and bring digital content to students. Students love mobile technology and use it regularly in their personal lives. Therefore, it is not surprisingly that young people want to employ mobile devices to make education more engaging and personalize it for their particular needs (Cordock, 2010).

In general, ICTs are a powerful vehicle for enhancing learning, and mobile devices form an essential part of that vehicle. If current ICTs strategies for education begin to include mobile devices along with digital learning materials, support for teachers, and guidelines on best practices, mobile learning will soon become an important part of education.

1.7 Color Psychology

Various research into the physiological effects of color have shown that colors actually have an impact on our lives. Colors manipulate our decision making, convey moods and are closely attached to human feelings. They create conditions that can cause fatigue, increase stress, decrease visual perception, damage eyesight, increase possible worker errors and negatively affect orientation and safety. As a result, there is a reason why people prefer certain colors over others.

According to Angela Wright (2004), color psychology is the recognition of tonal families of color and how they are related to personality types. She also states that some colors give a sense of serenity and calm; these usually lie within the blue side of the spectrum that consists of purple and green, known as the cool side. Others induce rage and make us uncomfortable, or signify passion; these lie within the red spectrum which includes orange and yellow, known as the warm side (Wright, 2014).

Color perception is subjective; however, we recognize psychologically four primary colors: red, blue, yellow and green. They relate respectively to the body, the mind, the emotions and the essential balance between these three. Then, there are eleven basic colors that exist as a result of various combinations of the primary colors. They have a very universal significance regardless their particular shade, tone or tint

and each of them has potentially positive or negative psychological effects (Bleicher, 2005).

According to Bleicher (2005), the positive or negative properties of the eleven basic colors are as follows:

- ✓ Red: (positive) physical courage, strength, warmth, energy, basic survival, stimulation, masculinity, excitement; (negative) defiance, aggression, visual impact, strain.
- ✓ Blue: (positive) intelligence, communication, trust, efficiency, serenity, duty, logic, coolness, reflection, calm; (negative) coldness, aloofness, lack of emotion, unfriendliness.
- ✓ Yellow: (positive) optimism, confidence, self-esteem, extraversion, emotional strength, friendliness, creativity; (negative) irrationality, fear, emotional fragility, depression, anxiety, suicide.
- ✓ **Green**: (positive) harmony, balance, refreshment, universal love, rest, restoration, reassurance, environmental awareness, equilibrium, peace; (negative) boredom, stagnation, blandness, enervation.
- ✓ Violet: (positive) spiritual awareness, containment, vision, luxury, authenticity, truth, quality; (negative) introversion, decadence, suppression, inferiority.
- ✓ Orange: (positive) physical comfort, food, warmth, security, sensuality, passion, abundance, fun; (negative) deprivation, frustration, frivolity, immaturity.
- ✓ Pink: (positive) physical tranquility, nurture, warmth, femininity, love, sexuality, survival of the species; (negative) inhibition, emotional claustrophobia, emasculation, physical weakness.
- ✓ Grey: (positive) psychological neutrality; (negative) lack of confidence, dampness, depression, hibernation, lack of energy.
- ✓ **Black**: (positive) sophistication, glamour, security, emotional safety, efficiency, substance; (negative) oppression, coldness, menace, heaviness.

- ✓ White: (positive) hygiene, sterility, clarity, purity, cleanness, simplicity, sophistication, efficiency; (negative) sterility, coldness, barriers, unfriendliness, elitism.
- ✓ Brown: (positive) seriousness, warmth, Nature, earthiness, reliability, support; (negative) lack of humor, heaviness, lack of sophistication.

1.7.1 Effects of Color on Mobile Application Design

In the field of design, the color acts as a key function that grabs the attention of the users and it is the easiest aspect to remember when it comes to encountering new things for them. Unlike some other media (websites, magazines, television programs, etc.), mobile apps have limited space to make an impression, so making the most of the space by relying on color and emotional tones will have a crucial impact on the final product.

An essential part of the mobile app design is color scheme and its power in apps cannot be underestimated. Moreover, right color scheme not only helps to set the mood for an app, but it also assists users to interact with certain elements and understand important actions within the app (Adoriasoft, 2018).

When making a decision about a color scheme in the app, designers can go two ways: traditional and custom color palettes. Traditional color schemes include analogous, monochromatic, triad, complementary and compound while custom color schemes include categorical, sequential and diverging color palettes. Although they are constantly evolving, the main challenge is the selection that should be, at the same time, trendy enough and effectively supports mobile app usability (Mar, 2013).

Blue color, for example, is one of the most commonly used regarding mobile application design. It is considered to give emotions such as trust, safe and relaxation and pink color is related to candy and sugary items. However, black is one of the most desired colors in the spectrum, it represents power and formality, while red is a color that gives us the sense of importance and notifies to us about a danger as well, it is often associated with places where the user should pay special attention. Finally, for obvious reasons, green is connected to the environment, trees and plants (Mar, 2013).

To sum up, colors absolutely affect human mood and behavior and they have a huge impact on the success of any product. In addition, application design is not only about looking pretty, but also about functionality and usability; therefore, the selection of colors is a decisive stage in the development of a new app, something as simple as a shade of blue can make a big difference in its perception.

1.8 Conclusions of Chapter 1

The main objective of this chapter was to review the bibliography related to general translation and specialized translation, as well as the translation of sociocultural texts. In addition, the differences between lexicography and terminography were addressed and the definition of lexicography, bilingual lexicography and bilingual dictionaries were discussed. Moreover, the role of corpus linguistics, corpus analysis and types of corpora to study certain linguistic phenomena and the concept of bilingual lexicon were analyzed. Finally, the use of the Information and Communication Technologies (ICTs) in education, the importance of mobile learning, the psychology of colors and their effects on application design were explained.



CHAPTER 2: PROPOSAL OF A BILINGUAL LEXICON APP OF SOCIOCULTURAL LEXICAL UNITS (ENGLISH-SPANISH): DATA ANALYSIS AND RESULTS

This chapter is devoted to the presentation of the methodology followed by the authors and the stages of the research. The characterization of the sample is presented and the different stages of the creation of the bilingual lexicon are displayed and described. Also, the specialists' assessment is provided. In the final part, the results of the research are offered.

2.1 Methodology implemented and stages of the research

The methodology of the research followed a mixed-method approach since as a method it focuses on collecting, analyzing, and mixing both quantitative and qualitative data, providing a better understanding of research problems than either approach alone (Plano, 2011).

The research herein presented was carried out at the Universidad Central "Marta Abreu" de las Villas, at the School of Humanities, at the English Language Course with a Second Foreign Language: French. It was focused on the proposal of a bilingual lexicon app to be utilized as an appropriate tool in the subject Translation of Sociocultural Texts in the third year of the above-mentioned degree course.

The whole research process consisted of three main stages:

The first stage was a bibliographic review in order to construct a theoretical framework to systematize the main concepts associated with the topic of the research and their relationships. Therefore, concepts such as translation, lexicography, corpus linguistics, terminography, bilingual lexicon, bilingual dictionaries, ICT's in education, effects of color on mobile application design were analyzed and systematized.

The second stage was devoted to the needs analysis concerning the translation tools of the subject Translation of Sociocultural Texts. Its purpose was to fulfill the second specific objective of the research. Thus, 15 third-year students were given a

survey to determine their perceptions concerning the subject Translation of Sociocultural Texts.

In the third stage, a bilingual lexicon app (English-Spanish) of sociocultural lexical units was built. The theoretical framework analyzed in Chapter 1 was taken as the basis for designing and building the app proposed. Finally, the lexicographical product was assessed using the specialists' criteria.

2.2 Stages for building the Bilingual Lexicon (English-Spanish) App of Sociocultural Lexical Units

As it has been previously analyzed in the introduction, the limited vocabulary competence of third-year students concerning sociocultural topics on the one hand and the insufficient availability of bilingual reference sources for the subject Translation of Sociocultural Texts on the other were the compelling reasons for the creation of the Bilingual Lexicon (English-Spanish) app of sociocultural lexical units. The creation of the app proposed consisted of six interrelated stages:

- 1) Diagnosing the needs of third-year students regarding the translation process of sociocultural texts
- 2) Building a bilingual lexicon (English-Spanish) of sociocultural lexical units in Portable Document Format (.pdf format)
- 3) Creating a database from the lexicon using Microsoft Excel
- 4) Creating an Android app using Android Studio from the lexicographical database elaborated in Microsoft Excel
- 5) Assessing the application proposed through specialists' criteria
- 6) Final edition of the bilingual lexicon app

2.2.1 Diagnosing the needs of third-year students regarding the translation process of sociocultural texts

In order to diagnose the needs of third-year students regarding the translation process of sociocultural texts, a survey (Appendix 1) was applied to 15 third-year students since the subject Translation of Sociocultural Texts is taught in this academic year; also their willingness to collaborate was considered.

The results of the survey are summarized in Table 1 below:

Table 1

Students' perceptions concerning the subject Translation of Sociocultural Texts										
Availability of	Enough	Few	Insufficient							
bilingual reference sources for the subject	33.5 %	26.6 %	40 %							
Difficulty of the	Very complex	Complex	Easy							
Subject	100 %									
Vocabulary range	Large	Limited	Poor							
1 2 2 2 2 2 3 2 3 3 7 2 3 7 9 9		66.7 %	33.3 %							

All these data confirmed the necessity to build a lexicographical tool for the subject Translation of Sociocultural Texts.

2.2.2 Building a bilingual lexicon (English-Spanish) app of sociocultural lexical units in Portable Document Format (.pdf format)

At this stage, a bilingual lexicon (English-Spanish) of sociocultural lexical units was built. This was the result of the term paper presented by the authors of the present diploma paper in the academic year 2016-2017 (Gretter Pérez Rivero, 2017).

In this bilingual lexicon more than 70,000 lexical units were compiled from texts used in the subject Translation of Sociocultural Texts, which were in turn taken from the *Encarta Encyclopedia 2009*. Basically, the topics were related to Discrimination; Civil Rights Movement in the United States; Child Abuse; Domestic Violence; Art, Literature and Education (Music, Painting, Sculpture, Architecture, Theater, Motion Picture); Sports Athletics (Boxing, Football, Baseball; Camping, Fishing, Hunting); Exhibitions and Expositions; Hotels.

The Software AntConc 3.5.0 (Windows) was used to process the texts to obtain the word list. In addition, the computer program Visual Basic made possible to extract the databases from different dictionaries to compile the definitions added to the word list. The texts were compiled taking into account transmission mode, level of specialization, language, date of publication and type of texts.

Table 2 below summarizes the features of the texts compiled:

Table 2

Transmission mode	Written and transformed into txt format.		
Level of specialization	Texts of different domains dealing with sociocultural issues		
Language	All the texts were originally published in English		
Date of publication	Texts published from 2000 to 2009		
Type of texts	Expository texts		

The final result was a document in .pdf format with the information of the lexical units (Screenshot 1)

Chapter 2: Proposal of a Bilingual Lexicon App of Sociocultural Lexical Units (English-Spanish):

Data Analysis and Results

abandon 1: dump, ditch, discard, dispose of, throw out, throw away, 2: desert, leave, walk out on, forsake, leave behind, 3: end, call off, cancel, give up, stop, 4: lack of restraint, lack of inhibition, recklessness, lack of control abandon n. impulsividad, falta de control, falta de inhibición abandon v. abandonar, dar la espalda a, dejar desamparado, dejar tirado, desamparar, desasistir, desertar, desproteger; dejar de intentar, renunciar abandon a sinking ship abandonar un barco naufragante, abandonar un barco que se está hundiendo en el mar; abandonar una organización o empresa que se está por fracasar

abandon hope perder las esperanzas, renunciar, darse por vencido; abandon hope (give up, give in, despair, loose hope, surrender)

abandon oneself v. abandonarse

abandon oneself to venderse a

abandon ship abandonar un barco que se esta hundiendo, abandonar un barco naufragante en el mar; abandonar una empresa u organización que está por fracasar

abandon verb (p. & pp. abandoned, present participle abandoning, 3 p.p.s. abandons) 1 transitive verb leave somebody behind: to leave somebody or something behind for others to look after, especially somebody or something meant to be a personal responsibility pets abandoned by their owners 2 transitive verb leave place because of danger: to leave a place or vehicle, especially for reasons of safety and without intending to return soon had to abandon their vehicles in the snow 3 transitive verb renounce something: to renounce or reject something previously done or used The practice was abandoned long ago. 4 transitive verb give up control of something: to surrender control of something completely to somebody else As troops closed in the town was abandoned to its fate. 5 transitive verb halt something in progress: to stop doing something before it is completed, usually because of difficulty or danger abandoning the rescue attempt 6 o abandon yourselfreflexive verb give in to

abc kit equipo contra gases

abc warfare guerra abc

abcoulomb (pl. abcoulombs) noun unit of electrical charge: the centimetergram-second unit of electrical charge equal to ten coulombs

abdominal adj. abdominal

abdominal band n. faja abdominal, faja de compresión ajustable usada después de una cirugía abdominal; faja usada por las embarazadas

abdominal belt cinturón abdominal

abdominal breathing noun breathing that includes abdominal muscles: breathing supplemented by abdominal wall muscles that compress the contents of the abdomen and indirectly raise the diaphragm

abdominal cavity cavidad abdominal

abdominal pain dolor abdominal

abdominal section sección abdominal

abdominal section section abdomin

abdominal typhus tifus abdominal

abdominally adv. através del abdomen, del abdomen, en el abdomen abel n. abel, segundo hijo de adán y eva que fue asesinado por su hermano caín (bíblico)

abel ayerza n. abel ayerza (1861-1918), físico argentino abel janszoon tasman n. abel janszoon tasman (1603-1659), navegante y explorador holandés, primer europeo que llegó a tasmania y nueva zelandia abelcet n. abelcet, nombre de marca de un medicamento para tratar severas infecciones micóticas (manufacturado por la compañía lipsome) abele (pl. abeles) noun TREES Same as white poplar (sense 1) abelia (pl. abelias) noun flowering bush: a widespread ornamental bush. Flowers: white to purple, tubular. Native to: East Asia. Genus: Abelia Abelian group Abelian group (pl. Abelian groups) noun interchangeable algebraic group: an algebraic group in which the result of the operation is independent of the sequence of the operands, e.g. ab ba or a b b a

Screenshot 1. Resulting bilingual lexicon in pdf. format

2.2.3 Creating a database from the lexicon using Microsoft Excel

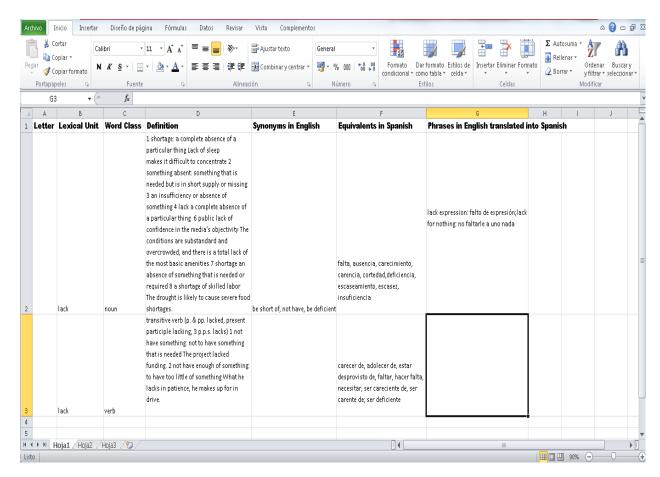
For building the Microsoft Excel database, each lexical unit was carefully introduced taking into account all the information provided in the lexicon (Word class; Definition in English or Spanish; Synonyms in English; Equivalents in Spanish; Phrases in English translated into Spanish)

The lexicographical database created in Excel is composed of eight columns organized as illustrated in Table 3:

F В C Α D Ε G Letter Lexical Word **Definition Equivalents** Phrases in Synonyms unit class in English in Spanish **English** translated into Spanish

Table 3: Columns included in the lexicographical database

The eight columns are more thoroughly shown on Screenshot 2. The lexicographical database presented serves as the basis for the bilingual lexicon app proposed in this diploma paper.



Screenshot 2: lexicographical database created (Excel)

As illustrated in Screenshot 2, when an entry does not display certain kind of information (synonyms in English, phrases in English translated into Spanish, etc.), the cell is left empty.

2.2.4 Creating an Android app using Android Studio from the lexicographical database elaborated in Microsoft Excel

After creating the lexicographical database, a group of Computer Engineering students from Universidad Central "Marta Abreu" de Las Villas developed the bilingual lexicon app (BiLexicon). The students collaborated and worked together with the authors of this diploma paper throughout the planning, design and elaboration process.

The bilingual lexicon app proposed was designed for Android. This operating system was used considering the practicality and employment of Android in Cuba and specifically in Universidad Central "Marta Abreu" de Las Villas. The Android version 4.0.3 was selected as the minimum requirement for the installation of the app because of its advantages and widespread use.

Advantages of using Android platform in Cuba

Android is an operating system which uses free software. At present, most of the smartphones and tablets in Cuba work off-line and with free software due to connectivity limitations in the country. A free software gives the user the freedom to share, study and modify it (Stallman, 2018). It has become the foundation of a learning society where people share the knowledge in a way that others can build upon and enjoy.

Advantages of using Android 4.0.3 for the app

Android 4.0 is a code named "Ice Cream Sandwich" released in October 2011. Android IC 4.0 makes common actions more visible and lets users navigate with simple, intuitive gestures. Android 4.0 introduces the new font "Roboto" which makes reading easier and gives a magazine-like interface to it. Its multitasking feature has become easier and more visual (Liu, 2012).

Advantages of using Android Studio

Android Studio is the official integrated development environment (IDE) for developing Android Apps by Google. It is based on JetBrains' IntelliJ IDEA software and has features which help developers in creating Android App. Android Studio is available for free download on Windows, Mac OS X and Linux. To install it on the PC it only needs a minimum ram of 2GB and 500 MB disk space as system requirements (Saini, 2016).

In the application development process, the steps recommended in the *Android Studio Development Essentials* (Smyth, 2014) were taken into consideration:

- a) Defining the Project and software development kit (SDK) Settings
- b) Creating an Activity
- c) Modifying the Example Application

- d) Reviewing the Layout and Resource Files
- e) Previewing the Layout

As stated in Chapter 1 color plays an important role in designing mobile apps. Therefore, the bilingual lexicon application proposed was designed using various ranges of blue considering the Google's Palette of colors (Image 1).

Red F44336	Deep Orange #FF572 2		Amber	Yellow FFEB3 B	Lime CDDC3 9	Light Green 8BC34 A	Green 4CAF5 0	Teal 00968 8	
Cyan 00BCD 4	Light Blue 03A9F4	Blue 2196F 3	Indigo 3F51B5	Deep Purple 673AB 7	Purple 9C27B0	Pink E91E6 3	Brown 795548		Blue Grey 607D8 B

Image 1. Google's Palette of 19 color names (Mar, 2013)

Macrostructure of the bilingual lexicon app

The bilingual lexicon herein proposed is regarded as a restricted lexicon, since the words listed belong to a certain part of the total lexicon of a language (English). The general organization of the bilingual lexicon app is designed to be user-friendly, clear and easy to understand with user-oriented features.

The bilingual lexicon app is presented by an icon (Image 2) created to introduce the name of the bilingual lexicon app (BiLexicon).

Chapter 2: Proposal of a Bilingual Lexicon App of Sociocultural Lexical Units (English-Spanish):

Data Analysis and Results

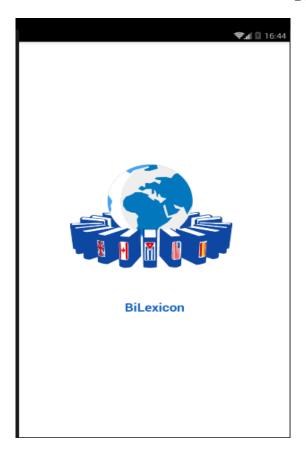


Image 2. BiLexicon Icon

On the upper part of the main screen there is a status bar, a search bar, a text field, and a few icons to help users in their search (Image 3). As can be noted, the user interface of the app is mainly blue (different shades) in order to be perceived as stylistically clean and aesthetically pleasing.

Chapter 2: Proposal of a Bilingual Lexicon App of Sociocultural Lexical Units (English-Spanish):

Data Analysis and Results



Image 3

Users are provided with a drawer which gives them access to every option of the app. The drawer has four independent links which give the users some other information about the app (Image 4).

Chapter 2: Proposal of a Bilingual Lexicon App of Sociocultural Lexical Units (English-Spanish):

Data Analysis and Results

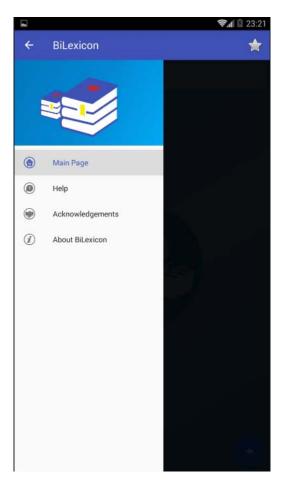


Image 4

Links:

- 1- **Main page:** it redirects users to the Main Page in which the search bar and the information of the lexical units is found.
- 2- **Help:** it readdresses users to the Help section in which all the essential information to use the app is provided.
- 3- **Acknowledgements:** it acknowledges the people who made possible the creation of the app.
- 4- **About BiLexicon:** it provides the date of creation, the authors, the developers, the target users, the number of lexical units, the sources, as well as the minimum requirements for cellphones and tablets.

The entries of the bilingual lexicon app are arranged alphabetically to facilitate its use. The definitions in English and Spanish are placed below the lexical unit.

As a unidirectional bilingual lexicon, it is composed of a single section containing the lexical units, along with its word classes, definitions in English and Spanish, synonyms in English, equivalents in Spanish and phrases in English translated into Spanish (Images 5 and 6).

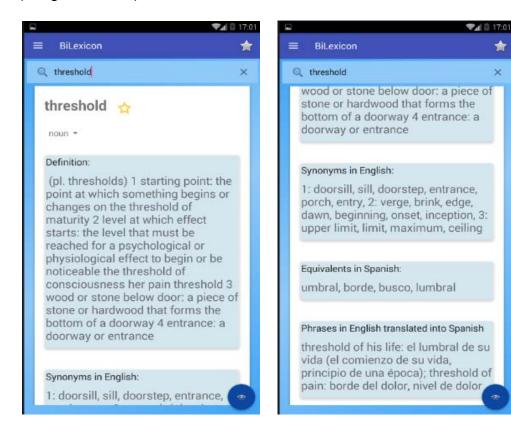


Image 5 Image 6

Microstructure

Below the lexical unit it is shown all the lexicographic information on a specific lemma. All the definitions are formulated in accordance with English language lexicographical traditions. Every time the users look up a lexical unit, they will find frames on the main page with the following information:

- First, the word class
- Second, the definition of a lexical unit in Spanish or English

- Third, synonyms in English
- Fourth, equivalents in Spanish
- Fifth, phrases in English translated into Spanish

Since some lexical units do not display information on each frame, these frames are not included on the main page. As all the lexical units have been compiled from different sources, they do not necessarily have all the information in each of the frames. In addition, users will only find lexical units belonging to sociocultural topics. Taking into consideration that the sociocultural area is so vast, only a sample of more than 32 428 lexical units was included in the app.

2.2.5 Assessment of the application proposed through specialists' criteria

After creating the bilingual lexicon app, the criteria of specialists were of paramount importance in order to assess its validity. Hence, the researchers selected eleven professors from both the English Language Department and the Foreign Language Department of the *Universidad Central "Marta Abreu" de Las Villas* with knowledge on translation and didactics, as well as four specialists with experience in Android technology from the same University.

The professors with knowledge on translation and didactics were given the created bilingual lexicon app and a survey containing indicators and a scale (Appendix 3). The indicators were taken from (Singh, 2003). According to this author, the tremendous inflow of information generated from a vast range of sources has become essential to evaluate the information for conducting quality research. Singh proposed these indicators:

- Purpose (what is the purpose of the dictionary)
- Authority (identification of author or publisher)
- Accuracy of information
- Objectivity (information should not be biased)
- Currency (how current is the publication and its updates)
- Reliability (of sources)
- Coverage (information presented should be comprehensive)

Format and presentation (source format and how easy is information retrieval)

From the above-mentioned indicators, the authors of the present diploma paper established the following assessment criteria:

- ✓ Purpose
- ✓ Accuracy of information / Reliability
- ✓ Coverage
- ✓ Objectivity
- √ Format and Presentation
- ✓ Originality

The scale selected to assess these indicators were **very adequate**, **adequate** and **inadequate**.

As previously stated, the bilingual lexicon app was assessed by eleven professors with knowledge on translation and didactics from both the English Language Department and the Foreign Language Department: Silvia Alonso Paz (PhD), Juana Idania Pérez Morales (PhD), Dianaleis Maza Amores (M.Sc.), Yuliet González Madariaga (M.Sc.), Alicia Moya Torres (M.Sc.), Osvaldo Betancourt Rodríguez (M.Sc.), Humberto Miñoso Machado (M.Sc.), Juan Carlos Rodríguez Pozas (M.Sc.), Marilín Morales Triana (Trainee), Ania Niubó Hernández (Instructor) and Dainiel Rodríguez Mesa (Instructor). The following results were obtained (Appendix 4):

Purpose: all professors (100%) considered that the bilingual lexicon app was a *very* adequate tool to improve student's performance when translating sociocultural texts.

Accuracy of information / **Reliability**: all professors (100%) coincided that the information used is updated and comes from reliable sources.

Coverage: ten professors (90, 9%) assessed the proposal as *very adequate* and one (9, 1%) as *adequate* since they considered that the information presented is comprehensible. Regarding the amount of lexical units, eight professors (72, 7%)

thought that it was *very adequate*, while three of them (27, 3%) considered that it was *adequate*.

Objectivity: nine professors (81, 8%) assessed the bilingual lexicon app as *very* adequate and two (18, 2%) as adequate taking into consideration the information bias.

Originality: 100% of the professors assessed the design and appearance of the app with the highest criterion (*very adequate*).

Format and presentation: ten professors (90, 9%) assessed the bilingual lexicon app as *very adequate* and one (9, 1%) as *adequate* in terms of information access and retrieval.

In general, professors from the English Language Department and the Foreign Language Department assessed the app as a useful tool for improving the translation of sociocultural texts. The authors of the present diploma paper would like to remark some of the opinions given by three professors. Full Professor Juana Idania Pérez Morales stated that the bilingual lexicon app was a "(...) very important practical contribution for the subject and a useful tool not only for undergraduate students at the UCLV but also for professional translators". Associate Professor Dianaleis Maza Amores also declared that the app "(...) will definitely contribute to the work with the course of translation, making it easy, feasible and totally practical as well as reliable and accurate". Finally, Associate Professor Alicia Moya Torres proposed to upload the course Translation of Sociocultural Texts along with the bilingual lexicon app in Moodle platform in the section *Entrenamiento en traducción en Lengua Inglesa* from the *Diplomado en Lengua Inglesa* con un enfoque intercultural para la colaboración internacional.

Considering that the bilingual lexicon app herein proposed was created for an Android platform, it was also appropriate and indispensable to assess its validity taking into account the criteria of specialists with experience in the Area of Android technology. For this purpose, the created app and a survey in Spanish containing indicators and a scale (Appendix 5) were given to four Computer Engineering Specialists.

The indicators in this survey were adapted from the ones provided by Javier Cuello and José Vittone in the book *Diseñando App para Móviles* (Javier Cuello, 2014).

According to them, a mobile app needs to be reviewed on a number of criteria in order to assess its value. These authors proposed the following indicators:

- Experiencia del usuario (basadas en la simplicidad, conocimientos y costumbres, y el modo de navegación intuitiva)
- Interacción y formas de sostener el móvil
- Orientación del terminal
- Patrones de interacción (navegación, acciones, cuadros de diálogo, notificaciones y gestos)
- Estilo de la interfaz
- Interfaces nativas o personalizadas
- Identidad visual
- Pantalla inicial e iconos
- Retícula de maquetado
- Color y detalles visuales
- Tipografía, lenguaje y ortografía
- Animación de la App

From the above principles, the authors of the present paper established the following evaluation criteria:

- ✓ Estilo de la interfaz (diseño atractivo y simple para los usuarios)
- ✓ Identidad visual (icono de la app)
- ✓ Color y detalles visuales (en estrecha relación con el icono de la app)
- ✓ Tipografía (estilo de caracteres claro y legible)
- ✓ Originalidad (app nueva)
- ✓ Patrones de interacción (navegación entre contenidos fácil e intuitiva)

The scale selected to assess these indicators were **muy adecuada**, **adecuada** and **inadecuada**.

Following these criteria (Appendix 5) the app was assessed by four specialists with knowledge in Android technologies. One specialist was Ernesto Díaz López MSc. professor of Computer Systems at *Universidad Central "Marta Abreu" de Las Villas*. Another specialist was Rosendo Moreno Rodríguez PhD in Science and Technology (Computer Science) and professor at *Universidad Central "Marta Abreu" de Las Villas*. The app was also assessed by José Daniel Rodríguez Morales, professor of Computer Programming at *Universidad Central "Marta Abreu" de Las Villas*. The other specialist in charge of assessing the bilingual lexicon app was Fredy Yasmany Chávez Ramírez professor of Introduction to UML at *Universidad Central "Marta Abreu" de Las Villas*.

The following results were obtained (Appendix 6):

Estilo de la interfaz: all the specialists (100%) assessed the bilingual lexicon app as *muy adecuada*.

Identidad visual: three specialists (75%) assessed the app as *muy adecuada* and one specialist (25%) assessed it as *adecuada*.

Color y detalles visuales: three specialists (75%) assessed the app as *muy adecuada* and one specialist (25%) assessed it as *adecuada*.

Tipografía: the four specialists (100%) coincided in assessing the proposal with the highest criterion (*muy adecuada*).

Originalidad: was also assessed with the highest criterion (*muy adecuada*) by all specialists (100%).

Patrones de interacción: was also assessed with the highest criterion (*muy adecuada*) by all specialists (100%).

Overall, all specialists assessed the bilingual lexicon app as very user-friendly.

2.2.6 Final edition of the bilingual lexicon app

After the completion of all the stages for building the bilingual lexicon app, the subsequent step was the final edition of the bilingual lexicon considering the specialist's criteria. Their suggestions were carefully analyzed and followed. Accordingly, new

lexical units such as "cultural", "culture" (as a noun), "society" (as a noun) which are essential in the field, were added in the app (Images 7, 8 and 9). In addition, the **Help** section was reconfigured to allow every mobile phone with Android 4.0 to access it without shutting the app down (Image 10) and an explanatory note regarding the lexical units of the app was included (Image 11). A User's Guide (Appendix 7) was also included to facilitate the use of the app.

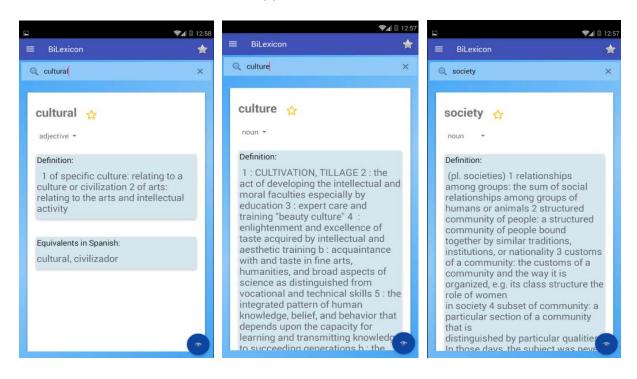


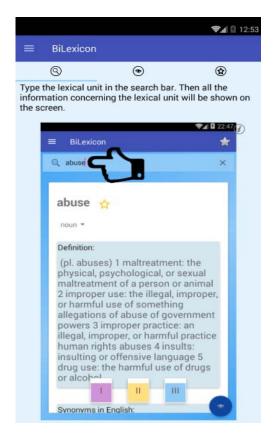
Image 7. Cultural Ir

Image 8. Culture

Image 9. Society

Chapter 2: Proposal of a Bilingual Lexicon App of Sociocultural Lexical Units (English-Spanish):

Data Analysis and Results





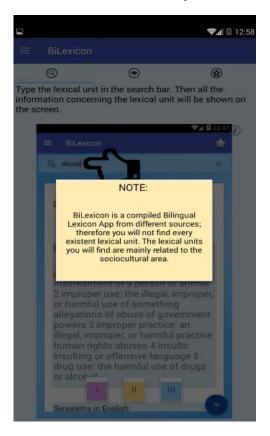


Image 11. Note

2.3 Conclusions of Chapter 2

In the current chapter the methodology followed by the authors and the stages of the research were presented. In addition, the characterization of the sample and the creation of the app were displayed and described. Finally, the assessment of the app by professors and its final edition were provided.



CONCLUSIONS

Although there is still much to do in the use of bilingual lexicons for the development of terminological applications to help students of the degree course English Language with a Second Foreign Language: French at Universidad Central "Marta Abreu" de Las Villas in the process of translation, the present diploma paper is an important step towards this goal. It is a modest contribution to the process of teaching and learning of Translation, specifically for the subject Translation of Sociocultural Texts. Therefore, these conclusions can be drawn:

- Several topics were approached in the comprehensive literature review in order to lay the foundations for this diploma paper. Fundamental concepts such as general, specialized and sociocultural translation, the close relationship and the differences between Lexicography and Terminography in the creation of terminological products were analyzed. Furthermore, issues regarding bilingual dictionaries, corpus linguistics, bilingual lexicon, its macrostructure and microstructure were discussed. Notions on the use of Information and Communication Technologies (ICTs) in education and the effects of color on mobile application design were also considered.
- ➤ The needs of third-year students regarding the translation process of sociocultural texts were diagnosed through a survey applied to 15 third-year students. As a result, almost all the students considered that the availability of bilingual reference sources for the subject was either few or insufficient and all of them agreed that subject was very complex due to their limited and poor vocabulary range. These results corroborated the necessity to build the app.
- The methodology followed for the creation of the app was carefully described. The creation of the bilingual lexicon app consisted of six main stages. These included: diagnosing the needs of third-year students regarding the translation process of sociocultural texts, building a bilingual lexicon (English-Spanish) of lexical units from sociocultural texts in Portable Document Format (.pdf format), creating a database from the lexicon using Microsoft Excel, creating an Android

app using Android Studio from the lexicographical database elaborated in Microsoft Excel, assessing the application proposed through specialists' criteria and the final edition of the bilingual lexicon app. The resulting app contains 32 428 entries which were taken from the texts used in the subject Translation of Sociocultural Texts. This app is intended to meet the needs of third-year students for studying and practicing translation.

Following the assessment criteria established by the authors, eleven specialists from both the English Language Department and the Foreign Language Department as well as four specialists in Computer Engineering assessed the bilingual lexicon app herein presented. They agreed that the app is accurate and user-friendly. Therefore, the bilingual lexicon app is an effective tool to enhance the sociocultural lexical competence of third-year students of the English Language Course with a Second Foreign Language: French and it represents a valuable contribution to improve the quality of translation of sociocultural texts by these students.



RECOMMENDATIONS

The present diploma paper is included in the field of bilingual lexicography and it could be a significant contribution for the availability of lexical resources for the subject Translation of Sociocultural Texts in the third-year of the course English Language Course with a Second Foreign Language: French. As a result, the following recommendations should be taken into consideration:

- > To continue this line of research in future projects to meet the needs of the students and teachers.
- > To create a new section (Spanish-English) in order to make the proposed bilingual lexicon an ampler lexical resource.
- > To continue increasing the size of the database to improve the bilingual lexicon app.
- > To validate the effectiveness of the bilingual lexicon app proposed after one academic year benchmarking.



BIBLIOGRAPHY

- Adoriasoft. (2018). *Mobile App Design: 14 Trendy Color Schemes*. Recuperado el 2 de April de 2018, de Mobile App Design: 14 Trendy Color Schemes.
- Albert, M. (1990). 'n Bepaling van Afrikaanse vakleksikografiese behoeftes.
- Alberts, P. M. (1988). Leksikografiese ontleding van Afrikaanse en Afrikatale-leksikons.
- Albirini, A. (2006). Teacher's Attitudes toward Information and Communication Technologies. Columbus.
- Baguslawski, Andrzej. (1983). An analysis of promise. Warszawa/ Poland: Elsevier B.V.
- Bejoint, H. (1981). *The Foreign Student's Use of Monolingual English Dictionaries*. Oxford: Oxford University Press.
- Bergenholtz, Henning and Tarp, Sven. (1995). Manual of Specialized Lexicography. The Preparation of Specialized Dictionaries. Amsterdam/Philadelphia: John Benjamins.
- Berkov, Valerij P. (1973). A Modern Bilingual Dictionary- Results and Prospects.
- Bleicher, S. (2005). Contemporary Colour: Theory & Use. New York.
- Bourdieu, P. (1984). Questions de sociologie. Paris.
- Callison-Burch, A. I. (2015). *A Comprehensive Analysis of Bilingual Lexicon Induction*. Association for Computational Linguistics.
- Christensen, R. (2002). Effect of Technology Integration Education on the Acttitudes of Teachers and their Students.
- Cordock, R. P. (2010). The Future of Mobile Learning.
- Creswell, J. W., & Plano Clark, V. L. (2011). Designing and conducting mixed methods research (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Crowder, S. I. (2001). Discovering the Magic Box. Local Appropriation of Information and Communication Technologies (ICTs).
- Darbelnet, J. (1964). Sémantique différentielle.
- Darbelnet, J. (1970). Dictionnaires bilingues et lexicologie differéntielle.
- Dash, N. S. (2005). The Art of Lexicography. Kolkata, India: Indian Statistical Institute.
- Dorney, Z. (1989). Research Methods in Applied Linguistics. Quantitative, Qualitative, and Mixed Methodologies. Moscú: Editorial Progreso.
- Duranti, A. (1997). Linguistic Anthropology. Cambridge: Cambridge University Press.
- Eksteen, L. (1985). Leksikografie-aangeleenthede in Suid-Afrika.
- Farlex, I. (2003-2018). *TheFreeDictionary.com*. Recuperado el 9 de April de 2018, de TheFreeDictionary: es.thefreedictionay.com
- Fuertes-Olivera, P. A. (2010). *Specialized Dictionaries for Learners*. Berlin/New York: Galter de Gruyter GmbH & Co. KG.
- García, Dailenys and Chavéz, Marisleidy. (2011). The Use of an English-Spanish Parallel Corpus for the Study of Translation.

- García; Linet and Delgado, Marlis. (2012). A Lexicon of English and Spanish Lexemes with Identical or Similar Orthography.
- Gomleksiz, M. N. (2004). Use od Education Technology In English Classes.
- Goodenough, W.H. (1981). Culture, language, and society. London: The Benjamin/Cummings Publishing Company.
- Granados, Ariadna. (2016). A Bilingual Glossary (English-Spanish, Spanish-English) of Socioeconomic Terms.
- Greenbaum, S. (1996). Comparing English Worldwide: The International Corpus of English. Oxford.
- Gretter Pérez Rivero, Á. M. (2017). Building a bilingual lexicon (English-Spanish) of content words in sociocultural texts. Santa Clara. Term Paper (2016-2017)
- Grosso, C. D. (2003). Flexiblelearning. Obtenido de www.fexiblelearning.net.au
- Haensch, Günther. (1997). Los diccionarios del español en el umbral del siglo XXI. Salamanca: Universidad de Salamanca.
- Hamers, Josiane F. and Blanc, Michel H. A. (1989). Bilinguality and Bilingualism. Second Edition. Cambridge University Press.
- Hatim, M. &. (2004). Translation, an Advanced Resource Book. London: Routledge.
- Hausmann, Franz-Josef. (1988). "Grundprobleme des zweischprachigen Wörterbuchs". In: Hyldgaard-Jensen & Zettersten.
- Hirst, G. (2004). Ontology and the Lexicon. Berlin: Springer.
- Householder, F. W. (1967). Problems in Lexicography. Bloomington: Indiana University.
- Huang, J. (1987). Establishing a Typology for Bilingual Dictionaries.Lexicographical Studies, Issue No. 2, Shanghai: Shanghai Lexicographic Press.
- J. Anderson, V. T. (2002). Information and Communication Technology in Education.
- Jackson, H. (2002). *Lexicography: An Introduction*. London and New York: Taylor & Francis Routledge.
- Jackson, Howard. *The Bloomsbury Companion to Lexicography*. Howard Jackson and Contributors, 2013.
- James, G. (1998). Towards a Typology of Bilingualised Dictionaries. Huang & Chen (eds., 1998).
- Javier Cuello, J. V. (2014). *Diseñando apps para móviles.* South Carolina USA: CreateSpace Independent Publishing Platform.
- Josh. (2 de July de 2018). *GottaBeMOBILE*. Recuperado el 16 de March de 2018, de GottaBeMOBILE: https://www.gottabemobile.com/android-vs-iphone-android-better/
- Keegan, D. (2002). The Future of Learning.
- Kennedy, Graeme. (1998). An Introduction to Corpus Linguistics. London and New York: Longman.
- Kromann, H. P., Riiber, Th. And Rosbach P. (1984) "Active" and "Pasive" Bilingual Dictionaries: The Scerba Concept Reconsidered.

- Landau, S. I. (2001). *Dictionaris: The Art and Craft of Lexicography.* New York/Cambridge: Cambridge University Press.
- Litkowski, K. C. (2006). *Computational Lexicons and Dictionaries*. Maryland: Elsevier Publishers, Oxford.
- Louw, Phillip. An Integrated Semasiological and Onomasiological Presentation of Semantic Information in General Monolingual Dictionaries as Proposed in H.E.
- Liu, P. (2012, May 5). *AndroidQueries.com*. Retrieved April 10, 2018, from AndroidQueries.com: http://androidqueries.com/benefits-android-4-0-ice-cream-sandwich-over-android-2-3-gingerbread-702.html
- M.Al-Kasimi, A. (1977). Linguistics and Bilingual Dictionaries. Leiden: E.J. Brill.
- Mar, W. (2013). *Color Selection*. Retrieved March 8, 2018, from Color Selection: http://www.wilsonmar.com/1colors.htm
- McArthur, Tom. (1986). The History of Lexicography. R.R.K. Hartmann
- Murray, J. W. (1978). Bilingual Lexicography: Theoretical Foundations and Practical Methodology with Special References to French and English. Canada.
- Newmark, P. (1988). A Texbook of Translation. New York: Prentice Hall.
- Newmark, P. (1988). *Approaches to Translation* (Vol. Volume 2: Readings in General TRanslation Theory). New Jersey: Prentice Hall, Inc.
- Nida, E.A. (1964). Towards a science of translation, with special reference to principles and procedures involved in Bible translating. Leiden: E.J. Brill.
- Nida, E.A., & Taber, C.R. (1982). *The theory and practice of translation.* Leiden: E.J. Brill.
- Oakes, M. P. (1998). Statistics for Corpus Linguistics. Edinburg.
- Pelgrum, W. J. (2001). Obstacles to the Integration of ICTs in Education: Results from a Worlwide Educational Assessment.
- Peng, H. Y. (2008). *Chinese Lexicography: A History from 1046 BC to AD 1911*. New York: Oxford University Press.
- Piotrowski, Tadeusz. (1994) *Problems in bilingual lexicography.* Wydawnictwo Uniwersytetu Wrocławskiego. Wrocław.
- Plano, J. W. (2011). *Designing and conducting mixed methods ressearch (2nd ed).* Thousand Oaks, California: Sage Publications, Inc. .
- Prochasson, E. M. (2011). Bilingual Lexicon Extraction from Comparable Corpora Enhanced with Parallel Corpora. En E. M. Prochasson, *Proceedings of the 4th Workshop on Building and Using Comparable Corpora* (págs. 27-34). Portland, Oregon: Université de Nantes.
- Sager, J. (1990). A Practical Course in Terminology Processing. Amsterdam: John Benjamins.
- Saini, A. (2016, January 7). *AbhiAndroid*. Retrieved March 4, 2018, from AbhiAndroid: http://abhiandroid.com/androidstudio/
- Saylor, M. (2012). The Mobile Wave: How Mobile Intelligence Will Change Everything.

- Scerba, L.V. (1940). Towards a General Theory of Lexicography. In International Journal of Lexicography. Volume 8. Oxford: Oxford University Press.
- Sharples, G. V. (2009). Meeting the Challenges in Evaluating Mobile Learning.
- Singh, S. (2003). Evaluation of Electronic Reference Sources. *DESIDOC Bulletin of Information Technology*, 43-47.
- Smith, A. (1958). Aspects of Translation. London: Secker & Warburg.
- Smyth, N. (2014). *Android Studio Development Essentials Second Edition.* South Carolina USA: CreateSpace Independent Publishing Platform.
- Stallman, R. (2018, March 24). *Libre Planet Freedom Embedded*. Retrieved April 8, 2018, from Libre Planet Freedom Embedded: https://www.fsf.org/about/what-is-free-software
- Taber, A. E. (1982). The Theory and Practice of Translation. Leiden: E. J. Brill.
- Talabán, N. Z. (2011). A University Handbook on Terminology and Specialized Translation. Netbiblo S.L.
- Tinio, V. L. (2002). ICT in Education.
- Trask, R. L. (1999). *Key Concepts in Language and Linguistics.* London and New York: Taylor & Francis e-Library, 2005.
- Tymoczko, E. G. (2002). *Translation and Power .* Boston: University of Massachusetts Press.
- Van Sterkenburg, Piet. *A Practical Guide to Lexicography*. John Benjamins Publishing Company. Amsterdam / Philadelphia, 2004.
- Vittone, J. C. (2013). *Diseñando apps.* Catalina Duque Giraldo.
- Wilson, M. (2013). *Color Selection*. Recuperado el 8 de March de 2018, de Color Selection: http://www.wilsonmar.com/1colors.htm
- Wolfgan, Klein (1986). Second Language Acquisition. United Kingdom: Cambridge University Press.
- Wright, A. (2014). Color Psychology.
- Zgusta, L. (1971). *Manual of Lexicography.* Prague: Publishing House of the Czechoslovak.



APPENDICES

APPENDICES

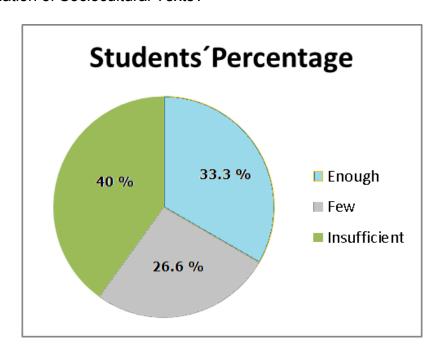
Appendix 1: Survey applied to third-year students to examine their perceptions concerning the subject Translation of Sociocultural Texts

The present survey is aimed at determining the students' perceptions concerning the subject Bilingual Lexicon of Content Words in Sociocultural Texts that is taught in the third year of the degree course English Language Course with a Second Foreign Language: French at the Central University "Marta Abreu" of Las Villas. We thank you in advance for your help since your considerations will help improve students' performance in the translation process.

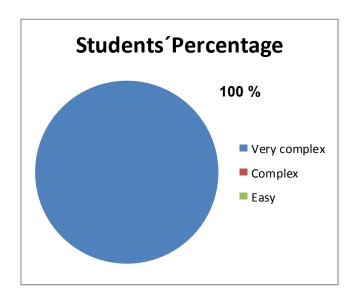
1-How do you assess the availability of b Translation of Sociocultural Texts?	oilingual reference sources for the subject
a) enough b) a few c) _	insufficient
2- Which of the following tools do you have a	at hand when translating sociocultural texts?
monolingual dictionaries	bilingual dictionaries
glossaries on socio cultural texts	thesauri
encyclopedias	others. Specify
3- In my opinion, the translation of Sociocultu	ural texts is:
a) very complex b) complex	c) Easy
3- How do you assess your vocabulary rang	ge concerning the language of Sociocultural
Texts?	
a) large b) limited c) _	poor

Appendix 2: Results provided by the survey applied to students of the third year of the degree course English Language with a Second Foreign Language: French, from the Universidad Central "Marta Abreu" de Las Villas.

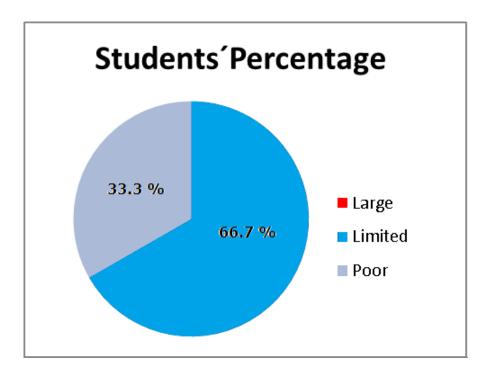
1- How do you assess the availability of bilingual reference sources for the subject Translation of Sociocultural Texts?



2- In my opinion, the translation of sociocultural texts is:



3- How do you assess your vocabulary range concerning the language of sociocultural texts?



Appendix 3

Survey applied to the specialists in the area of translation and didactics for the assessment of the bilingual lexicon app (English-Spanish) for mobile phones and

Tablets for the subject Translation of Sociocultural Texts

Dear professor,

Taking into consideration your expertise, high instructional level and professionalism the authors would like to submit the proposal of a Bilingual Lexicon App to your assessment. The bilingual lexicon app (English-Spanish) for mobile phones and tablets for the subject Translation of Sociocultural Texts is a tool presented in Android platform. This app was the result of the bilingualization of the authors' compilation of 32428 lexical units obtained from texts used in the subject Translation of Sociocultural Texts. Its aim is to facilitate the process of translation of sociocultural texts for third-year students. It is essential for the authors to receive substantial input on how the lexical units or entries were presented, as well as opinions on the quality and relevance of the

To assess the proposal it is required to cross on one of the given assessment criteria. The scale is rated from **Very Adequate**, **Adequate to Inadequate**. If your evaluation is **Inadequate**, please feel free to express your reasons and suggestions in the section Observations.

proposal. Hence, the authors kindly request your collaboration. Thank you very much in

advance and your criteria will be considered for its improvement.

Personal data:
Full name:
Scientific degree:
Academic Degree:
Subjects taught in the academic course

Years of experience:

Indicators	Very adequate	Adequate	Inadequate	Observations
Purpose				
If the lexical units presented fulfill the objective of the app				
If the app meets the objective for which it has been created				
Accuracy of information / Reliability				
if the information used is from reliable sources				
if it contains updated information				
Coverage				
if the information presented is comprehensible (meanings of words)				
if the app contains a representative amount of terms on the field				
Objectivity				
if the information is not politically, gender, race biased				
Format and Presentation				
if the information can be easily accessed and retrieved				
Originality				
if its format and design are appealing to you				

The authors would appreciate if you added some comments for improvement:

Appendix 4: Results from the survey applied to specialists belonging to the English Language Department and the Foreign Language Department.

Indicators	Very adequate	Adequate	Inadequate	Observations
Purpose	11(100 %)			
If the lexical units presented fulfill the objective of the app	,			
If the app meets the objective for which it has been created	11(100 %)			
Accuracy of information / Reliability	11(100 %)			
if the information used is from reliable sources				
if it contains updated information	11(100 %)			
Coverage	10(90.9 %)	1(9.1 %)		
if the information presented is comprehensible (meanings of words)				
if the app contains a representative amount of terms on the field	8(72.7 %)	3(27.3 %)		
Objectivity if the information is not politically, gender, race biased	9(81.8 %)	2(18.2 %)		
Format and Presentation if the information can be easily accessed and retrieved	10(90.9 %)	1(9.1 %)		
Originality if its format and design are appealing to you	11(100 %)			

Appendix 5: Request for Computer Sciences specialists' evaluation of the bilingual lexicon app for mobile phones and tablets for the subject Translation of Sociocultural Texts (English-Spanish)

Encuesta para especialistas en Ingeniería Informática con conocimientos en tecnología Androide con el objetivo de evaluar la aplicación BiLexicon.

La presente aplicación androide se realizó como parte de la tesis de grado de los estudiantes de la carrera de Lengua Inglesa con Segunda Lengua Extranjera: Francés Gretter Pérez Rivero y Leonardo Riverón Rodríguez. La misma es un léxico que reúne una vasta colección de palabras del idioma inglés tomadas de los textos utilizados en la asignatura de Traducción de Textos Socioculturales que se imparte en el tercer año de la carrera. Dentro de la información de las entradas, se incluye: la categoría gramatical de la palabra, la definición en inglés o en español, los sinónimos en inglés, los equivalentes en español, las frases en inglés con su traducción al español, elementos que convierten esta app en una herramienta útil para el mejoramiento de las habilidades de traducción en los estudiantes de la carrera Lengua Inglesa con Segunda lengua Extranjera: Francés, de la universidad "Marta Abreu" de Las Villas. Teniendo en cuenta su experiencia y profesionalidad, les presentamos esta aplicación androide para conocer su evaluación sobre la misma. Ante todo, muchas gracias y es muy importante que sepan que su criterio será muy valioso para esta tesis de grado.

Grado científico:

Años de experiencia:

Asignatura que imparte:

Centro de Trabajo:

Parámetros	Muy adecuada	Adecuada	Inadecuada
Estilos del interfaz			
Identidad visual			
Color y detalles visuales			
Tipografía			
Originalidad			
Patrones de interacción (acciones)			

Apreciaríamos mucho sus consideraciones:

Appendix 6: Results from the survey applied to Computer Engineering specialists.

Parámetros	Muy adecuada	Adecuada	Inadecuada
Estilos del interfaz	4(100 %)		
Identidad visual	3(75 %)	1(25 %)	
Color y detalles visuales	3(75 %)	1(25 %)	
Tipografía	4(100 %)		
Originalidad	4(100 %)		
Patrones de interacción (acciones)	4(100 %)		

Appendix 7: User's guide for BiLexicon

Bilingual Lexicon App for Mobile Phones and Tablets User's Guide

Authors: Gretter Pérez Rivero

Leonardo Riverón Rodríguez

Universidad Central "Marta Abreu" de Las Villas

About the app

BiLexicon is an app designed for third-year students of the degree course English Language with Second Foreign Language: French. Users can find updated, accurate and pertinent information about lexical units from the sociocultural area. Its purpose is to help third-year students in the process of learning translation in the subject Translation of Sociocultural Texts.

This Manual provides a detailed description to use the bilingual lexicon app

Section 1 deals with the start of BiLexicon

Section 2 deals with the search in the app

Getting Started

1. Turn on your mobile phone or tablet and copy the "BiLexicon App" by means of Bluetooth or Zapya from a given source (it can be a computer or another mobile phone or tablet (Figures 1, 2 and 3).



Fig. 1 Icon shown on the computer Fig. 2 Icon shown on the mobile phone

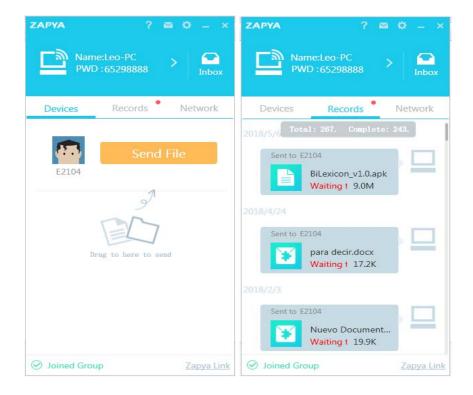


Fig. 3 Zapya in computer format

- 2. Once the app has been copied, touch the icon on the screen of the mobile phone or tablet and install it on the device.
- 3. After installment, press the icon on the display of your mobile phone or tablet and enjoy it (Fig. 4).

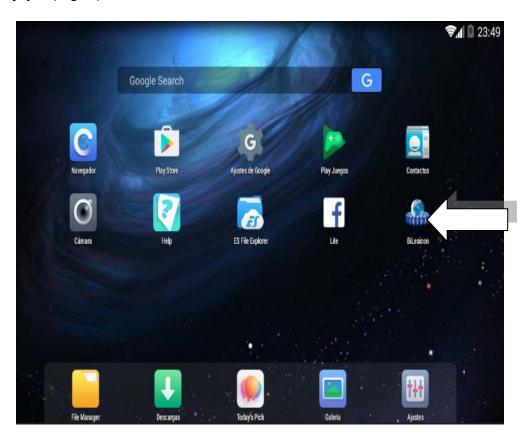


Fig. 4 Starting BiLexicon

Searching in BiLexicon

1. After accessing BiLexicon, the starting screen will show you the name of the app (Fig. 5).



Fig. 5 Starting screen

2. Once inside the app, the screen will show the main page with a status bar, a search bar, a text field, and a few icons (Fig. 6).



Fig. 6 Main page

3. The app provides you with a drawer which gives access to every option by means of four independent links (Fig. 7)

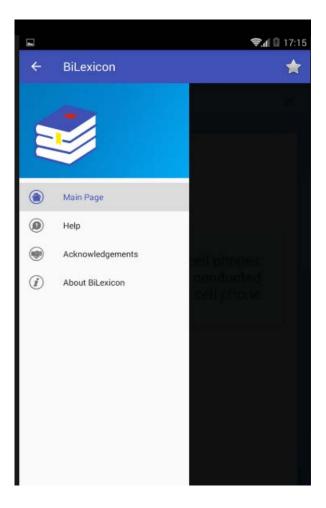


Fig. 7 Drawer

- Main page: it redirects users to main page in which the search bar and the information of the lexical units is found.
- **Help:** it readdresses users to the Help section in which all the essential information to use the app is provided.
- **Acknowledgements:** it acknowledges the people who made possible the creation of the app.

- About BiLexicon: it provides the date of creation, the name of the authors and developers, the target users, the number of lexical units, the sources, as well as the minimum requirements for cellphones and tablets.
- 4. As a unidirectional bilingual lexicon, it is composed of a single section containing the lexical units, along with its word classes, definitions in English and Spanish, synonyms in English, equivalents in Spanish and phrases in English translated into Spanish (Fig. 8 and Fig. 9).

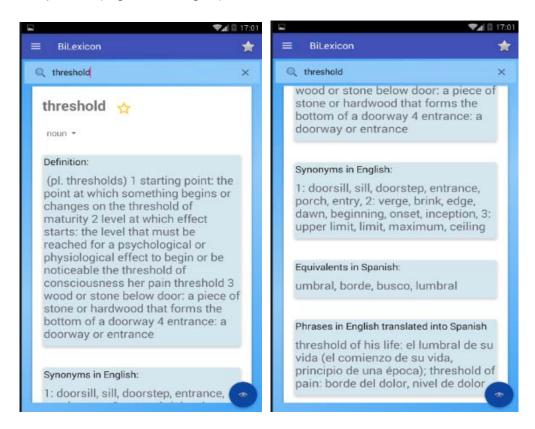


Fig. 8 Fig. 9

5. BiLexicon has a **Favorites section**

A star next to the lexical unit will allow you to add it into the **Favorites** section to facilitate its location on the main page (Fig. 10). To eliminate the lexical unit from this section just press the trash bin icon on the right side of the screen (Fig. 11).

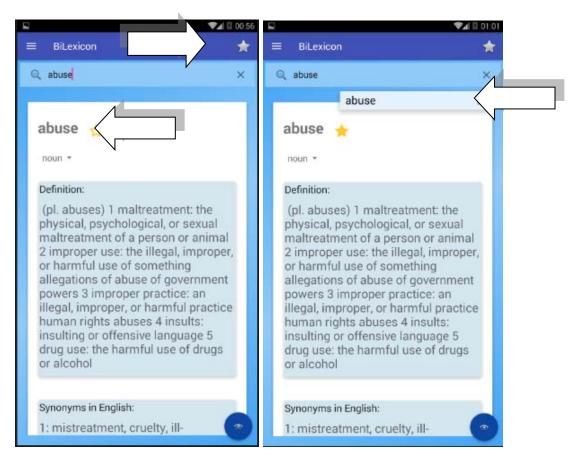


Fig. 10 Fig. 11

6. BiLexicon gives you the opportunity to save your last searches in the **Recent section**:

An eye at the right bottom of the main page (Fig. 12) will allow you to see the recent searches. The last lexical unit consulted will be shown on the screen by sliding from the right side to left side (Fig. 13).

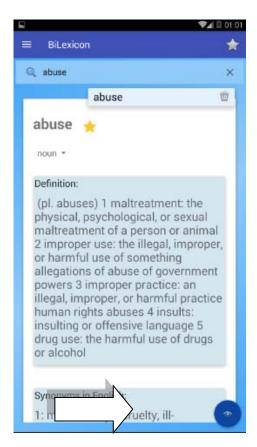




Fig. 12 Fig. 13