CHAPTER TWO

Review of Related Studies and Literature

2.1 Introduction

In order to conduct this study, this researcher has reviewed several relevant publications that deal with this topic of language borrowing in the field of computer language, and parallel studies in other fields. These publications consist of dissertations, journals, symposiums and articles that analyze this linguistic phenomenon from different angles and perspectives. These publications have been written by researchers from Spain and also from Latin American countries, providing a rich array of scenarios and examples that have been very useful in the development of this study.

This study has also reviewed several books published in topics closely related to the focus of this study, both as a theoretical framework for the analysis of data and also as sources of general linguistic knowledge necessary to have a comprehensive understanding of the topic and be able to explain it and analyze it properly.

2.2 Related Literature

The literature found in this topic agrees unanimously that English is a major lexifier in Spanish computer language. It is important to note at this time the nature of the Spanish language in terms of its morphophonemic structure in order to fully understand the findings of this study, as they relate to their English counterpart. Even though these two languages share the same protolanguage (Indo-European), Spanish belongs to the branch of Romance languages while English belongs to the branch of Germanic

languages; therefore their morphophonemic differences. However different these languages are from each other, it is said that "Germanic languages such as English and German are genetically related to the Romance languages such as French and Spanish. All these national languages were once regional dialects" (Fromkin, Rodman & Hyams, 491). This genetic relationship between the two languages can be seen in figure 2.1. Historical Linguistics is the branch of Linguistics that identifies and studies these relationships, being this figure the product of the study conducted by Crowley. The literature also shows the division of these languages and their common protolanguage as a starting point for further morphological analysis (de la Cruz, et, al, 54). The research done by Tosi is used as a parallel case study to be compared to the literature found in cases of anglicisms in Spanish. Another reason for this inclusion is the fact that this chapter reviews the work of Arturo Tosi, who presents a similar word-borrowing scenario in which the Italian language also creates anglicisms in the field of computer language for functional reasons. In this case, the Spanish language has been paired with the Italian language due to their grammatical proximity, as being both members of the Romance languages as shown below in Figure 2.1.
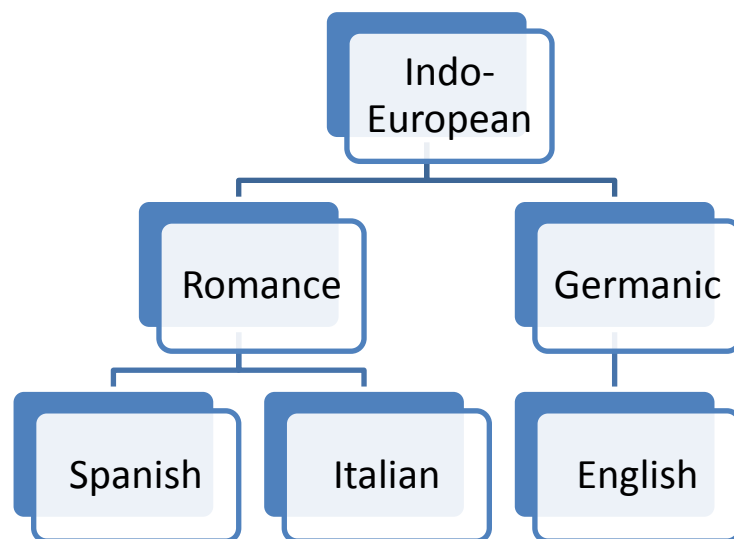

Figure 2.1 Indo-European Language Family

Both English and Spanish follow a Subject-Verb-Object (SVO) sentence order formation, however the constituents of a sentence can have different positions within itself. For instance, while adjectives precede nouns in English, the opposite tends to occur in the Spanish language, with the exemption of poetic language, where the order can be reversed. Examples of these word order differences as seen in nominal phrases in Spanish are provided in Table 2.1.

Table 2.1 Nominal-Adjectival Order in Spanish Nominal Phrase

Nominal Phrase in Spanish	Literal Translation	Gloss
la casa blanca	the house white	*the white house*
la bandera nacional	the flag national	*the national flag*
el análisis lingüístico	the analysis linguistic	*the linguistic analysis*
el hombre alto	the man tall	*the tall man*

As far as the word formation processes in English and Spanish are concerned, both languages possess similar processes: derivation and inflexion. A very important process that is studied here, and which is utilized by both languages is the one of affixation, as in the corpus of this study, English loaned root words take Spanish suffixes to create the anglicisms that are being analyzed here. Therefore, even though these two languages have differences in their phonetic and syntactic systems, they share morphological processes which allow them to blend and create anglicisms. The phonetic differences have a role in Chapter 4 when identifying the features of these blends and how they adjust to the phonetic requirements of the borrowing language.

It must be pointed out as well the fact that when one refers to the Spanish language, two varieties are identified: Peninsular Spanish and Latin American Spanish. While the former is spoken in Spain, the latter is spoken in Latin America: from Mexico down to

Argentina, including some Caribbean countries such as Cuba, Puerto Rico and Dominican Republic, as well as a vast population of Spanish-speaking people who reside in the Unites States of America. Even though Castillian Spanish, commonly known simply as "Spanish", is the language most spoken throughout Spain, "It is worth noting that Spain not only has a number of regional varieties but also has several other languages spoken within its borders, e.g. Catalan, Galician and the non-Indo-European language Basque" (Collins & Mees, 2003). Within the Latin American variety of Spanish, many differences can be found from one country to another in terms of pronunciation, and even in their lexicon, mainly due to their contact with existing local cultures, as well as other cultures imported during or after colonial times. This was the case of African slaves, brought primarily to the Caribbean by the Spanish conquistadores to work primarily in plantations. Another example of variations among Latin American Spanish is Argentinean Spanish, which went through intonation and lexical changes after the vast migration of Italians to this country in the 20th century. For the purposes of this study, this researcher focuses on the Latin American variety; first for being his native language, and second for being the variety of Spanish most widely spoken in the world. Massive immigration of Latin Americans to Spain in the last decades makes these figures somehow inaccurate in terms of the amount of people living in Spain who speak the Peninsular Spanish variety, but according to trueknowledge.com, the population of Spain as of March of 2011 is estimated at about 45 million people. Just to put facts in perspective, the same source provides an estimated population of about 111 million people for Mexico alone. Besides these demographic figures, it was found in the literature that many of these anglicisms are originated in South and Central America, which is the area where they are employed the most (Dominguez, 33).

To make the distinction between Peninsular Spanish and Latin American Spanish more clear and pragmatic, it could be said that: "Travelers to Spain who know a Little American Spanish are often surprised to encounter speakers to appear to have a lisp" (Fromkin, et al, 536). The author provides some examples of how these two varieties of Spanish differ, such in the case of Latin American Spanish [s] being pronounced in Spain as [Θ]. Later, the author concludes: "Of course if you've read this book you know that this is a dialectal variation" (Fromkin, et al, 536). Therefore, for the effects of this study, the researcher does not make any differentiation between these two dialectal varieties in terms of their phonetic and morphological analysis.

In conclusion, it could be said that the Spanish dictionary now includes lexical units that derive from the English language, that function as real Spanish lexical units, adapting themselves to a new scientific and linguistic realities (Dominguez, 2001). This point of view also contrast with Montseny's, who states that anglicisms only occur in spoken discourse. In this case, not only anglicisms have proven to also appear in written discourse, but they have gone as far as being accepted in official Spanish dictionaries such as the one published by the RAE. This fact changes the status of anglicisms in the field of Informatics, from being informal spoken lexical units to being formally accepted lexical units that can be used in written discourse as well, even in more formal settings.

2.3 Related Studies

In the study "*Algunas consideraciones acerca del tecnolecto en computacion*" (Some considerations about the technical dialect in Informatics), the researcher **Marta Montseny Infante** explains that the borrowing of technical lexicon occurs due to the

communication necessities of the speaker (68). She also indicates in her study the three processes that the Spanish language goes through whenever English technical terminology does not have an equivalent meaning in Spanish. The first process is the substitution of these words for existing Spanish words taking in consideration the semantic variation. The second one is the fabrication or coinage of a new word in Spanish. Lastly, the third process consists of borrowing a foreign word and adjusting it to comply with the phonological and grammatical requirements of the Spanish language (69). This study differs with the processes stated in chapter one, as Montseny does not include code-switching as one of them. Instead, she first talks about calques, secondly she refers to the coinage of new words, and lastly to loan blends. This research focuses on the third approach, as only these processes are analyzed from the available data. Another finding in the study performed by Montseny, and which is relevant to the present research, is that computer terms in English were usually found to be much shorter than their Spanish equivalent (73). This finding is useful when analyzing the productivity of loanwords and their contribution to neologisms in the Spanish language, which is the third research question of this study. Even though she touches on the objectives of this research, her study highlights the features found in the morphological transformations found in loan blends in the field of Informatics, she does not provide with substantial evidence to support the existence of these findings. It is important to note that Montseny emphasizes in her study that the anglicisms she has identifies only occur in spoken discourse. This research explains in chapter 4 how this is not longer true, as social networking web pages emerged after her research was conducted, and therefore nowadays they can also be observed in written discourse. In fact, nowadays, as computers become more accessible to the general public and the Internet allows computer users to be interconnected in the form of forums, chat rooms and social network sites, most of these anglicisms related to computer language take place in

written discourse. The corpus of her study is composed for the most part by verbs, and therefore it has been used by this research as secondary data. The verbs used from her study and their corresponding Spanish terms and English gloss are included in Table 2.2.

Table 2.2 Samples of Anglicisms

Anglicism	Spanish	Gloss
resetear	restablecer	*to reset*
suichear	cambiar	*to switch*
escanear	pasar por el escaner	*to scan*
mapear	representar graficamente	*to map*
forwardear	retransmitir	*to abort*

Santiago Posterguillo, in his journal "*La influencia del inglés de Internet en la lengua Española*" (The influence of Internet English in the Spanish language), also studies the phenomenon of language borrowing in the field of computer language, providing morphophonemic adaptation analysis, but also providing a sociolinguistic perspective to this topic. According to him: "This study has been carried out from a new analytical framework which we have labeled <<netlinguistics>>" (Posterguillo, 117). By this, he refers to the language used in the net (Internet), which is the focus of his study. The author emphasizes the great terminological pressure that English applies over Spanish, mainly due to sociopolitical and economic factors. These factors are directly linked to the fact that the Unites States holds the leading position in the scientific and technological fields, and therefore its high development in Informatics. Posterguillo has gone so far as to call this phenomenon of technological dominance, an "Informatic revolution". Even though he also gives credit for these developments to

Japan and various European countries, it is the Unites States which he highlights the most, mentioning also that the Internet was created in this country. According to Posterguillo, the quick acquisition and adaptation of new lexical units from the English as the *lingua franca* in the field of Informatics by other languages should be the object of further study. This new analytical framework which he labels "netlinguistics" would be, according to him, a sub-discipline of linguistics that could find its natural space between sociolinguistics and computational linguistics. This study explains how, from its origins, computer programming language was created by and for English speaking users. This created incompatibility problems with other languages, which had different orthographic requirements, or did not use the Roman alphabet. These problems are still present in modern times, even though new programming languages have eliminated this issue. This has been explained by him as the consequence of a historical technological inheritance from the English language, which still prevails over languages such as Spanish. Even though nowadays there are ways to write properly characters that are exclusive to the Spanish language, users choose to make use of the English terms or omit the Spanish orthographic markers due to the complexity of the key strokes required to produce them. In other words, even though the production of these Spanish characters is possible, it is still more convenient and faster for computer users to write these terms in English. Some of these characters are the consonant "ñ", or other orthographic markers that are not present in the English language, such as accentuated vowels: "á", "é", "í", "ó" and "ú", or the phonetic marker "ü", which indicates the necessity to pronounce this particular vowel under certain circumstances.

Posterguillo also provides in his study with a diagram that shows the processes by which new Internet terminology in English is generated. This is important to consider, as this study looks at ways of producing neologisms in Spanish using English words as root or free morphemes and applying suffixation, which is a process present in these

two languages. This process ocurrs especially in verbal neologisms in the field of Informatics. Other processes such as acronyms have also been detected but limited to the creation of nominal neologisms. In this diagram, the author represents the work done by Shortis in 2001 as following:
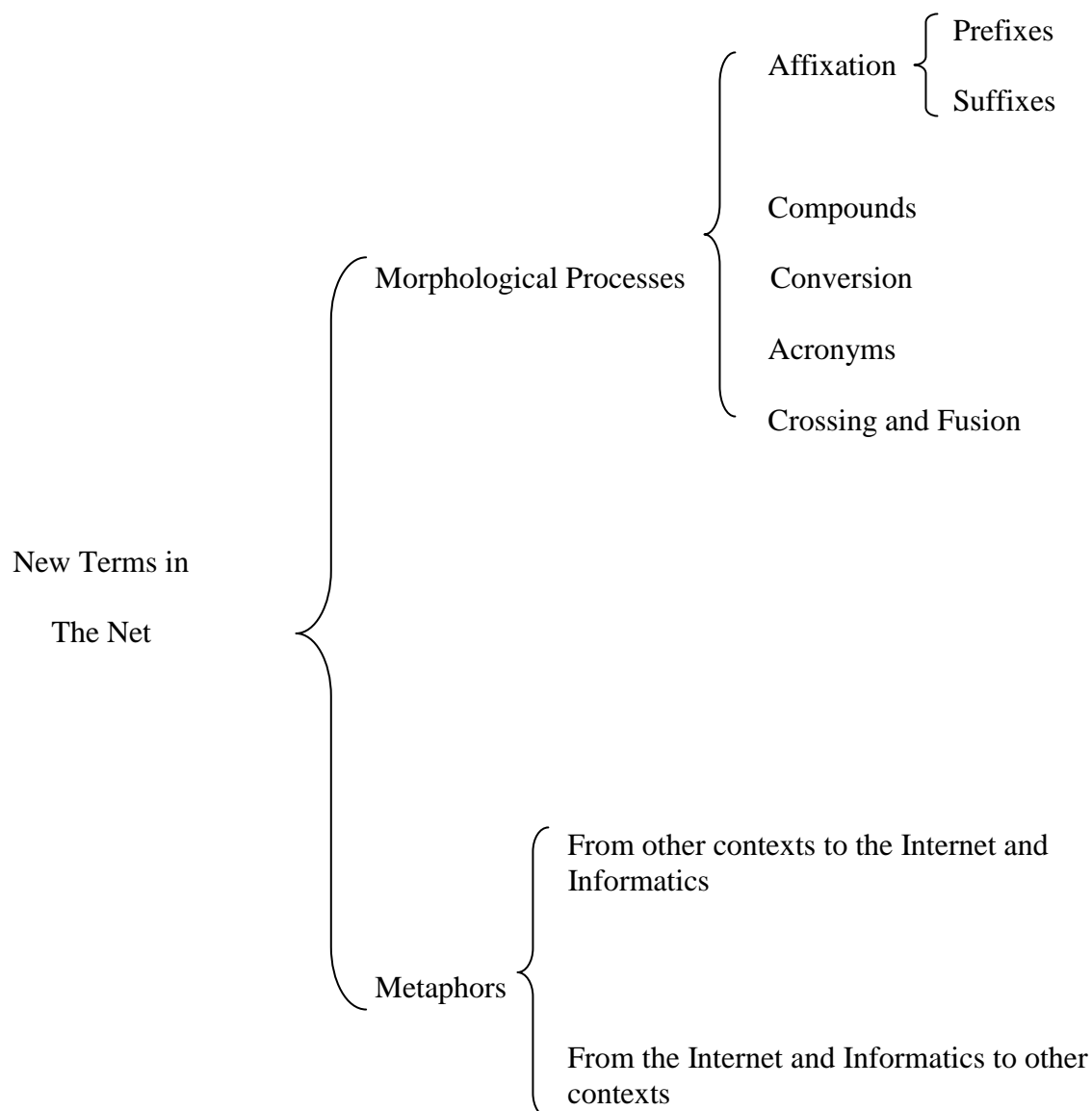
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                                                              ⎧ Prefixes
                                              Affixation ⎨
                                                              ⎩ Suffixes

                                              Compounds

                 Morphological Processes      Conversion

                                              Acronyms

                                              Crossing and Fusion
New Terms in

  The Net

                                              From other contexts to the Internet and
                                              Informatics

                 Metaphors

                                              From the Internet and Informatics to other
                                              contexts
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Figure 2.2 Morphological Processes in English Neologisms

In the case of the Spanish language, whenever new lexical units are incorporated to the computer language field, it is possible for most of these processes to take place. However, this study focuses on the affixation process, as it is the one which applies to loan words. Specifically, as the analysis of the corpus proves in this study, Spanish uses

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exclusively the suffixation of English root words to create new lexical units in verbs utilized in computer language. Acronyms are used only in the creation of nouns, and metaphors apply to calquing, a process that is explained more in detail in Chapter 4 of this research.

The work of Marri has been described by **Arturo Tosi** when explaining how new English words have been dealt with historically and their relationship with the Italian language. At first, referring to the 1960's and before, words used to be translated or calqued into Italian. In the 1970's and 1980's, translations starting to disappear and loan blends became more evident. Finally, nowadays translations are avoided and are considered not attractive both aesthetically or regarding their standardization: "These adaptations sound artificial to anybody who has even a limited experience of computers" (Tosi, 220). Given the almost identical grammar between Italian and Spanish, the study by Tosi has been given serious consideration. As it can be observed in appendix #1, Italian is, as well as Spanish, part of the Romance languages and therefore closely related to each other genetically. Furthermore, the findings of his study, as far as the patterns found in the morphological structure of loan blends of English and Italian words in computer language, coincide greatly with the objectives of this study and are useful in the analysis stage of this study by means of comparison. Tosi explains that the infinitive verbal ending "are" in Italian, which is the equivalent for the Spanish first-conjugation verbal ending "ar", is the one that borrows English verbs in computer language and blends with them to create new verbs used in computer language. In the case of Italian, however, the loan blends found in the corpus used by Tosi do not show the addition of a character between the English verb and the Italian verb ending. Hence, in the Italian language, loan blends take the English verb roots and they are directly suffixed with the Italian verbal ending "are". Examples of these anglicisms found in the Italian language are displayed in figure 2.5, where they are

shown with their corresponding English gloss. These anglicisms given by Tosi are referred by him as semi-transformed borrowings, used mostly by young people when they encounter the need of certain computer operation, and therefore the need of a verbal form for English words that are normally introduced to the borrowing language as nouns. The samples of these terms are shown in Table 2.3 below.

Table 2.3 Samples of Anglicisms in Italian

Anglicism	Italian	Gloss
zappare	Trasmettere	*to zap*
mixare	Mescolare	*to mix*
linkare	Collegare	*to link*
deletare	Cancellare	*to delete*

Another study relevant to this research is the journal *English loanwords in Spanish computer language*, written by **Isabel de la Cruz Cabanillas, Cristina Tejedor Martínez, Mercedes Díez Prados** and **Esperanza Cerdá Redondo**. This study analyzes anglicisms and their morphological adaptation after they are borrowed by the Spanish language in the field of computer language. However, the focus of this study is the gender assignment and plural formation of nouns. Furthermore, when referring to anglicisms found in Spanish computer magazines, this study highlights: "…there is an increasing tendency for English loanwords to keep their original spelling and plural form due to the greater knowledge of the English language on the part of the Spanish readers" (65). This finding complements Montseny's third process in regards to the use of loanwords in Spanish computer language. The rational is that the more familiar users become of the English language, the more likely it is for loanwords to occur naturally and the less need for translations or coinage of new terms. This finding is also in

accordance with Marri's contemporary approach to the treatment of loanwords, by which translations have been replaced nowadays by loan blends in the Italian language. Regarding the gender assignment of nouns, this research found that out of the gendered nouns, 81.84% of them were masculine. However, 67% of the total corpus analyzed did not have gender markers. As far as the plural formations are concerned, the study found that 85.61% of the corpus analyzed appeared in the singular form. Some of the nouns studied in this research are shown in Table 2.4 below.

Table 2.4 Samples of Nominal Anglicisms in Spanish

Anglicism	English
megapíxeles	megapixels
módem	modem
cibercafés	cyber café
interfaz	interface

Nora Victoria Solis Aroni published a thesis in the UNMSM University in Peru, where she performs a linguistic analysis of anglicisms in the field of Informatics. Her research provides with valuable information in both the classification and analysis of these anglicisms. Her study consists of first dividing English word borrowing into three types: loan words, loan blends and loan-shifts. These three types of word borrowing processes are then analyzed in the following levels of language: phonologic, morphologic, lexical and semantic. The present study focuses on the second type of word borrowing identified (loan blend), where there is a morphemic substitution in the word, with the closest equivalent from the lending language. Even though this study also looks at the phonetic changes found in anglicisms, the main area of interest remains focused into her discoveries in morphological change in an attempt to answer this

study's research questions. Her research is the only one found to provide with solid explanations that justify the morphological processes studied here. This research coincides with the explanation given by Tosi, by which English words are introduced into foreign languages in the form of nouns, and only then, when facing the need of performing specific functions, they are transformed into verbs. According to Solis, nouns are turns into verbs in the Spanish language by adding the suffix "ear", and therefore when the users of the language borrow an English noun, they automatically add this suffix to it to convert it into a verb that fulfill their functional needs. This is how Solis justifies the existence of the "e" vowel before the Spanish verbal ending of choice: "ar".

The journal "*Morfologia y productividad del lexico económico*" (Morphology and productivity of the Economics lexicon) written by **Maria Cecilia Ainciburu** studies loan blends and their productivity, but specifically in the field of Economics. Nevertheless, she provides with insights which are useful to this study, as the aims of her research are similar. She states that in the field of Economics, the word-formation process which is the most productive, but problematic, is the one of lexical borrowing (185). She also admits that the field of Economics follows a process of inclusion of new lexical items, but not as fast as in the field of Informatics. In both cases, however, even the specialists have a hard time keeping up with the speed at which these new lexical units are being included in the Spanish language (190). According to this author, without neologisms, the language would be a system which would not evolve. Because a large number of neologisms derive from lexical borrowing, they are found in every area of the language. The author goes a bit further and divides lexical borrowings into two categories: denotative borrowings, which are borrowed out of the necessity to label products or concepts originated in foreign countries, and connotative borrowings, which consists of a linguistic reproduction originated in the prestige that certain

civilizations or cultures have over others, or simply by ignorance (185-186). The author also mentions that some individuals use specialized terms to appear more knowledgeable in certain topic, coinciding with the same sociolinguistic approach presented by Posterguillo. Ainciburu explains her finding by stating that people who specialize in a particular field tend to further their knowledge reading publications in English. According to her, if individuals read specialized English publications, borrowing lexical units from it to be incorporated into another language is only a step away (187). The author also touches on the topic of morphological productivity by pointing out that there are a series of proposed translations that turn out to be anti-natural and anti-economic in Spanish, such as the words "mercadotecnia" for *marketing* or "renta de un producto o servicio" for *leasing*. These terms are not productive, as they don't follow the tendency for shorter and therefore economic terms. Because sometimes translations do not quite carry the equivalent meaning of the original word, or because its lack of productivity, then anglicisms are preferred instead.

Finally, Ainciburu talks about the attitude of individuals and institutions towards anglicisms. She states that there must be a sense of tolerance towards what is sometimes considered as language barbarisms (189). For this reason, she explains, this issue affects even E/LE (Spanish as a Foreign Language) classroom settings, where students and teachers must keep a flexible attitude towards the language. Students must have a double receptive strategy, elastic enough to comprehend the variants of the language use, but also rigorous so it allows the student to utilize the new terminology respecting the character of the language. On the other hand, teachers are expected to develop a sociolinguistic competence that would allow them to distinguish among the accepted and non accepted uses of neologisms, including slang terminology, so that students can make an educated choice based on the different contexts in which the neologism is used (190).

The journal written by **Elena Domínguez Mejías**: *"Los anglicismos en el Diccionario de la RAE"* (Anglicisms in the RAE dictionary), explains some of the characteristics identified in anglicisms and how they are being formally introduced to the Spanish official dictionary over time as the field of Informatics becomes more prominent in today's world. She also mentions that some anglicisms have gone through different types of adaptations and others have remained as borrowings (Dominguez, 28). The former concept refers to the English words that have been transformed to fit the Spanish language requirements (loan blends), while the latter refers to loan words, which do not go through any transformation, but instead, are used in their original form.

The present research is related to the previous studies, as it looks at the same linguistic phenomenon, but with a different aim in mind. This research picks-up where other studies left off in terms of morphological analysis, and also expands the scope by adding the morphological productivity variable to its objective. When dealing with loan blends, Dominguez explains that there are several cases of assimilation into the borrowing language. These adaptations can be found in the following manners: phonetically, morphologically, grammatically and semantically. Regarding the first type of adaptation, it is said that these translations consist in the use of intonation markers and phonetic changes. Some of these examples are shown in Table 2.5.

Table 2.5 Samples of Loan-blend Anglicisms

Anglicism	English gloss
cómic	Comic
champú	Shampoo
túnel	Tunnel
fútbol	Football

As far as graphological or morphological adaptations, these take place because the graphological systems of the English and Spanish languages vary greatly. The author also states that there are combinations of letters in English that could not be pronounced properly by a Hispanic speaker (Dominguez, 30). Examples of this adaptation are given in Table 2.6. Among the features of grammatical adaptations found by this author are the fact that the majority of anglicisms are nouns, with a much lower production of verbs and adjectives. Also, it is noted that because English does not have gender assignments to its nouns, and Spanish does, then this language must select a gender for these anglicisms. It was observed that the preferred way of adapting nouns is to assign them masculine nouns. This observation also coincides with the findings of de la Cruz, et al, whose study focuses on the gender assignment and plural formation of nouns borrowed from English. If the lending language would have been a language that possesses gender on its nouns, then these transformations would not have been necessary. The adjustments found in these instances are explained more in detail in chapter 4, as they are also found in the corpus of this study.

Table 2.6 Samples of Anglicised Graphology

Anglicism	Gloss
zum	Zoom
chut	Shoot
chequeo	Check
crac	Crack

In the case of Montseny's study, she stated that these loan blends occur only in spoken discourse, and therefore she regarded the study of the phonetic adaptation of these words in their written form as not necessary. The current study takes these

changes in consideration, as nowadays these loan blends occur in both spoken and written discourse due to the technological changes that have occurred since the publication of her research.

In the study conducted by de la Cruz, et al, the phenomenon of loan blends is analyzed in detail but it is only applied to the gender assignment and plural formation processes of nouns. The current study builds up on her findings but focuses on the morphology of verbal formations instead. This study provides with a rich source of anglicisms and a good analysis of their role in Spanish computer language.

Lastly, the study performed by Tosi is used as a point of reference from the perspective of a sister Romance language going through a similar linguistic transformation. However similar the morphological transformations of Italian and Spanish are, Tosi limits himself to point out some of these transformation patterns, but does not provide with a deeper analysis that explains their existence. This study uses Tosi's study as a parallel source of information and identifies the morphological patterns that occur in Spanish, and also explains the nature of these transformations.

Regarding the topic of morphological productivity, a study found in the literature review revealed that Spanish has a low productivity level: "Most Spanish word-formation rules have such a low productivity that it was generally easy to identify the 'leader word' or, more often, 'leader group' of neologisms" (Singh & Starosta, 198). This definition is contrasted to the concepts provided by Bauer in order to determine whether productivity plays a role in the creation of new cyber verbs in Spanish or not.