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Investigating potential L3 cognate facilitation effects on L2

A study of Spanish-English cognates in L1 speakers of Norwegian

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Abstract

This study investigates the potential cognate facilitation effect from a third language (L3) onto a second language (L2). More specifically, it investigates whether L3 Spanish participants have a cognate facilitation effect when identifying translations for low-frequency English words which have high-frequency Spanish cognates. Several studies suggest that there is a cognate facilitation effect that leads to faster retrieval of cognates in the mind as opposed to non-cognates (Gascoigne, 2001; Kelley & Kohnert, 2012).

Two groups of L1 Norwegian, L2 English participants were included in the study, one whose L3 was Spanish and one whose L3 was German. The participants were exposed to English low-frequency words, half of which had a Spanish high-frequency cognate and half of which were not cognates with Spanish, Norwegian or German. For each word, the participants were asked to identify a Norwegian translation equivalent from a list of four alternatives.

The results showed that the L3 Spanish participants were significantly better at correctly identifying Norwegian translations for the English words which have a Spanish cognate as opposed to the non-cognates. The L3 Spanish group also significantly outperformed the L3 German participants on identifying correct translations for the cognate words. On the non-cognates, however, the L3 German group did significantly better than the L3 Spanish group. These findings suggest that there is a cognate facilitation effect that is present from L3 to L2.

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1 Introduction

This study is concerned with the potential effect of cognate facilitation from a third language (L3) onto a second language (L2). More specifically, it investigates the potential facilitation of cognates from L3 Spanish onto L2 English vocabulary on first language (L1) Norwegian participants. The study considers low-frequency English words that have high-frequency Spanish cognates. Cognates are words that share form and meaning across languages, e.g. *doctor* in English and *doctor* in Spanish. The shared form and meaning is usually due to the two languages sharing an ancestral language or having developed from the same historical source (Katamba, 1994).

A lot of research has shown that knowing cognates in one language can benefit the acquisition of vocabulary in a new language by building on already existing knowledge (Kelley & Kohnert, 2012). Cognates are also acquired faster than non-cognates (Gascoigne, 2001). English and Spanish are two languages that share as many as 10,000 – 15,000 cognates (Leacock, Wood, Sunderman & Schatschneider, 2016, p. 116). Whereas the Spanish versions of the cognates are usually used in everyday language, the English versions of the cognates tend to be less frequently used and are often considered “posh” or learnt words (Katamba, 1994). The reason for this is that while Spanish is derived from Latin, English is a Germanic language, and usually has a Germanic near synonym which is more frequently used.

Although a lot of research has examined the cognate facilitation effect, very few studies have been concerned with the potential effect of an L3 on other, more dominant languages. This thesis set out to investigate whether having the knowledge of an L3 can positively affect L2 vocabulary. Although various research has been carried out in order to examine the cognate effect of the more dominant languages, usually the L1, onto weaker languages, there have not been many studies concerning how an L3 can potentially affect an L2 or an L1. The current study aims to investigate whether there exists a cognate advantage from L3 Spanish on L2 English in L1 Norwegian participants.

For this thesis, the potential cognate facilitation from L3 to L2 will be discussed. Initially, a theoretical background on cognates and the cognate facilitation effect will be provided (Chapter 2). Then, the history and development of the English language will be presented in order to explain the status of cognates in English (Section 2.2). Thereafter the methodology of

the present study is described (Chapter 3), followed by the obtained results (Chapter 4). The results will be discussed (Chapter 5) followed by a conclusion (Chapter 6).

1.1 Research questions

The research questions that guided this study are presented in (1).

- (1) a. Are the L3 Spanish participants better at correctly identifying Norwegian translations for English words that are English-Spanish cognates than words that are not?
- b. Is there a significant difference between the results of L3 Spanish participants and L3 German participants on identifying the correct translations for English-Spanish cognates?
- c. Will the results between L3 Spanish participants and the L3 German participants be different from each other on identifying translations for non-cognates?

2 Background and some previous research

This study is concerned with cognates, more specifically potential cognate facilitation from L3 to L2. The majority of research on cognate facilitation has focused on how an already acquired language can facilitate comprehension in a new language, and most studies have looked at bilinguals rather than multilinguals. For this reason, parts of the previous research presented in this chapter will be based on studies of bilinguals.

2.1 Cognates, false friends and non-cognates

As stated in the introduction, cognates are words that share the same meaning and form across languages (Leacock et al., 2016). This is usually due to the two languages or the two words having the same etymology, that is, having derived from the same historical source (Katamba, 1994). This is emphasized by the meaning of the word *cognate* itself, which derives from the Latin *co-* and *gnātus* which translates to ‘born together’ (Pyles & Alego, 2010). Examples of cross-linguistic cognates are *decision* in English and *decisión* in Spanish or *popular* in English, *popular* in Spanish and *populær* in Norwegian. Cognates may be perfect cognates, with identical spelling and pronunciation, or they may they may differ slightly. The English word *simplify* and the Spanish word *simplificar*, or the English *nose* and the Norwegian *nese* are examples of words that are considered cognates despite not being perfectly identical. The meaning is the same, and there are big overlaps orthographically.

In some rare cases, words share form and meaning across languages although they have not derived from the same source. One example is the English *much*, and the Spanish *mucho*, both meaning ‘‘great in quantity’’ (Merriam-Webster, 2018). These two words have derived from different historical sources and by chance, they are similar (Online Etymology Dictionary, 2018). In other instances, words may have derived from the same source, but developed in different directions with relation to meaning, or they may by chance have the same form, but not meaning, across two languages. Due to the lack of shared meaning, these words are not cognates and are often referred to as false friends (Leacock et. al, 2016). One example of false friends is the English *rope* and the Spanish *ropa*. The Spanish *ropa* means clothes, whereas the English *rope* refers to a very thick, strong string (Cambridge Dictionary, 2017). Non-cognates on the other hand, are words that share meaning but not form (Leacock et. al, 2016).

The English *dog* and the Spanish *perro* are non-cognates, both referring to the four-legged animal, but with their written forms being completely distinct from each other.

2.2 Cognates in language acquisition

Research has repeatedly shown that there exists an advantage in processing and translating cognates versus non-cognates in the acquisition of a new language (Gascoigne, 2001; Blumenfeld & Marian, 2007). Learning a new language involves encoding new words for concepts that the language learner already knows in his or hers first language (Kelley & Kohnert, 2012). It is estimated that in order to understand written texts fluently, a person needs to understand 98% of the words in a text (Bartolotti & Marian, 2016, p. 111). Taking English as an example, 98% coverage means having to learn as many as 8,000-9,000 words, excluding the inflected forms (Bartolotti & Marian, 2016, p. 111). As this demonstrates, acquiring a new language is a challenging task for most people. However, many languages, especially those deriving from the same ancestral language, share cognates, which can facilitate language acquisition (Pyles & Alego, 2010). When cognates are present, having the knowledge of one language can help scaffold meaning in a second, unfamiliar, language. One example from Spanish is given in (2) (my example).

(2) **El doctor y el paciente hablan de las medicinas importantes.**

The doctor and the patient talked about the medicines importants.

The doctor and the patient talked about the important medicines.

An average English speaker with no knowledge of Spanish will most likely be able to decipher many of the words in this sentence due to them being cognates: *doctor* - *doctor*, *paciente* - *patient*, *medicinas* - *medicines* and *important* – *importantes*. As such, chances are that the English speaker will have a fairly good idea of what the sentence is about without having studied Spanish or even having encountered the language before. In this written example, the cognates are almost identical across the two languages. It is worth keeping in mind, however, that orally these elements may be harder to decipher due to phonological differences such as the stress on the word and the pronunciation of individual sounds. These things can create a bigger gap between the two cognates in the spoken domain than in the written (Kelley & Kohnert, 2012). See as examples the phonetic transcriptions of *patient* and

paciente which may be translated roughly as in (3) (my transcriptions).

- (3) Patient: /'peɪ·ʃənt/
Paciente: /paθjéNte/

The examples in (3) show that two words that seem almost identical orthographically, can be pronounced quite differently in two different languages. Although phonological differences can make it more challenging for a language learner to recognize a word, much research still shows that cognates, as compared to non-cognates, are processed at a faster speed and with more accuracy in both written and spoken language (Sánchez-Casas & García-Albea, 2005). The ability of an individual to discern the meaning of an unfamiliar word in one language using knowledge of another is called cognate facilitation (Lijewska & Chmiel, 2014, p. 359). The idea of the existence of a cognate facilitation effect is supported by numerous researchers. Eye-tracking studies (Bartolotti & Marian, 2016) and word recognition experiments (Peeters, Dijkstra & Grainger, 2013) have found evidence in favor of a cognate facilitation in language acquisition. Also in picture naming tasks the cognate facilitation is found to be present. This can be illustrated by Costa, Caramazza and Sebastian-Galles (2000) and their study of Catalan-Spanish bilingual children. They found that the participants were faster and did better when it came to naming cognates in comparison to non-cognates in a picture-naming task. Conducting the same test on a control group consisting of monolingual children, this cognate effect disappeared. These findings suggests that cognates may be stored and retrieved differently than non-cognates in the brain, and this will be discussed further below.

2.3 Cognates and non-cognates in the bilingual brain

Several models aim to explain how languages are represented in the mind of bilingual speakers. What these models have in common is that they assume two levels of representation; the lexical level, containing phonological and orthographic information, and the conceptual level, which contains word meanings (Gascoigne, 2001). Some of these models will be presented below to show illustrate some approaches to language storage and retrieval in the bilingual mind.

One early model of the bilingual memory is the word association model, as presented by Potter, So, Von Eckardt and Feldman (1984). This model suggests that there exist direct links,

both between the lexical representations of the two languages in the mind, and between the first language and the conceptual representation of a word, which is common for both languages (Potter et al., 1984). Essentially, this means that the meaning of a word in an L2 cannot be retrieved directly, but has to be translated into the equivalent word in the L1 before meaning is assessed. In contrast to the word association model, the concept mediation model, formalized by Kroll and Curley in 1988, presents one link between the lexical representation in the L1 and the single conceptual representation, and a different link between the L2 lexical representation and the conceptual representation. The lexical representations are not linked (Kroll & Curley, 1988). In other words, one cannot translate between the two languages without going via the common conceptual representation for the word in question. These two opposing models were later merged into what has come to be known as the mixed model (deGroot & Nas, 1991). This model suggests that both the word association links from the word association model and the conceptual representation links as proposed by the concept mediation model exist.

With the asymmetrical model, Dufour and Kroll (1995) support the idea of a mix of the word association model and the concept mediation model, with links both between the two languages, and between the two languages and the conceptual representation. However, the relationship is asymmetrical, as the link running from the L2 to the L1 is stronger than the link running from the L1 to the L2. This asymmetrical relationship is also the case with the links between the conceptual representation and the languages, but with a strong link between the L1 and the common conceptual representation, and a weaker link between the common conceptual representation and the L2 (Dufour & Kroll, 1995).

Another interesting model is the revised hierarchical model, which suggests that less-fluent bilingual access words in the mind differently than more-fluent bilinguals. The model suggests stronger links between words and concepts in so-called forward translations, which are translations from the L1 to the L2, than in backward translations, namely translations from L2 to L1. While the L1 has direct access to the meaning of a word, the L2 has to go via the L1 translation equivalent, as in the word association model (Kroll & Stewart, 1994). However, as Kroll & Stewart (1994) point out, this is only up to a certain point, when the knowledge of the L2 is sufficient so that meaning can be accessed directly. As proficiency increases, the language user will gradually shift towards direct access for the L2 as well (Kroll & Stewart, 1994).

While some of these theories account for variations among bilinguals by proposing different models for less-fluent and more-fluent bilinguals, they do not take into consideration linguistic variables such as cognates. As much research has suggested that bilinguals are faster when retrieving cognates than non-cognates, Gascoigne (2001) wanted to investigate how cognates are stored in the brain, assuming that there would be a difference between cognates and non-cognates. She asked more- and less-skilled bilinguals with English as their L1 and French as their L2 to translate texts, containing both cognates and non-cognates, from French to English. The results showed that although the more-fluent bilinguals did overall better at translating the texts, the less-skilled bilinguals were faster at translating cognates (Gascoigne, 2001, 450). This leads Gascoigne (2001), who supports the mixed model for non-cognates, to present a new and alternative model to account for storage and retrieval of cognates in the mind. Because of their similarity, L1 and L2 lexical representations for cognates have word representation units that are so similar that they overlap in the mind of less-fluent bilinguals, allowing for rapid, direct translations. The more-skilled bilinguals, however, will recognize these as two separate words and go from the L1 lexical representation of the word via the common conceptual representation and to the L2 lexical representation of the word as they do with non-cognates. Gascoigne suggests that this happens due to habit for the more-fluent bilinguals (2001, p. 452). Nevertheless, the result is that the less-fluent bilinguals actually translate cognates faster than the more-skilled bilinguals.

2.4 Cognates and non-cognates in the multilingual brain

Although there has been extensive research on bilinguals and cognates, cross-linguistic cognates in the mind of multilinguals is a less explored field. A multilingual is usually defined as a person who speaks more than two languages (Llama, Cardoso & Collins, 2010, p. 41).

2.4.1 Language acquisition in the multilingual brain

DeAngelis & Selinker (2001) claim that transfer to the L3 can come from either one of the already existing languages in the mind of a language user, and not only the native language. Several studies seem to agree that L3 learners will rely more on the language that is typologically closest to the target language, regardless of other factors such as age of acquisition (Bartolotti & Marian, 2016; Cenoz, 2003). When a bilingual acquire an L3, Bartolotti and Marian (2016) suggest that language learners use a so-called scaffolding model.

This model predicts that language is transferred from either of the existing languages by creating a direct association between a new word and an existing word for the same concepts. In other words, language learners are able to create direct links between a newly acquired word and an already existing one (Bartolotti & Marian, 2016, p. 114). When a language is acquired, the weak, new language is anchored to a strong, existing memory, namely the already existing language (Bartolotti & Marian, 2016, p. 115). If this is applied to the revised hierarchical model, these associations are stronger at the beginning of language acquisition, and then weaken as the new language strengthens. Bartolotti & Marian (2016) presented English-German bilinguals with an artificial language, where some of the words were either similar to German or English words. They found that when the words were similar to one or both of the already acquired languages, this improved word production accuracy. Being able to link novel words to already existing vocabulary in either one of the two languages led to improved memory of these words. These results indicate that bilinguals utilize both languages in the acquisition of an L3, and scaffold knowledge from both languages (Bartolotti & Marian, 2016, p. 134).

2.4.2 The potential effect of an L3 on already acquired languages

When it comes to the potential effect of an L3 on already acquired languages, not much research has been conducted. There is some evidence that a weaker language may affect a stronger language in the mind of the bilingual speaker. This kind of linguistic transfer, from a weaker language onto a stronger language is called reverse transfer (Cook, 2003). In an early study from 1977, Masciantonio investigated the linguistic benefits of learning a second language comparing L1 English speakers who had studied Latin and L1 English speakers who had not studied a foreign language and established that learning Latin positively affected the participants' English vocabulary (Masciantonio, 1977). Although Masciantonio (1977) looked at an L2's effect on an L1, the study is interesting and relevant as it features English and Latin, which share many similarities with Spanish. Looking at the effect of Spanish immersion on L1 English children, Cunningham & Graham (2000) reported a cognate facilitation effect from L2 Spanish to L1 English positively increasing L1 vocabulary size.

In an experiment from 2002, van Hell and Dijkstra looked at multilingual speakers with Dutch as their L1, English as their L2 and French as their L3. These participants were asked to perform a word association task or a lexical decision task in their L1. The stimulus words were either cognates with English or French. They found that the more-fluent L3 participants

were faster when it came to translating words that were cognates as opposed to non-cognates. Looking at less-fluent L3 participants, this cognate facilitation was not found to be present.

2.5 Spanish-English cognates: Historical background

Understanding the history of the English language is necessary when trying to explain its numerous cognates with different languages. This section aims to give an insight into the history of the English language and its relationship with other languages, in particular the Romance languages, throughout the history. English and Spanish are two languages that share many cognates. Leacock et al. (2016, p. 116) suggest that the two languages share somewhere between 10,00 and 15,000 cross-linguistic cognates, and this is estimated to be as much as one-third to one-half of the vocabulary of the average English speaker.

2.5.1 The Indo-European language family

Looking at the myriads of languages existing today it becomes clear that some languages resemble each other, while others are fundamentally different. Support is given to the theory that many of the European and Asian languages spoken today all derive from the same, hypothesized language, known as Proto-Indo-European. There has not been enough evidence to prove that this language really existed, and so where it potentially first originated remains unclear. It is proposed that the oldest Proto-Indo-European may have been spoken around 6,000 years ago (van Gelderen, 2014, p. 39). Although one cannot know for sure that Proto-Indo-European existed, it is assumed that the language spread and developed into many different subgroups or branches. These subgroups are shown in Figure 1.

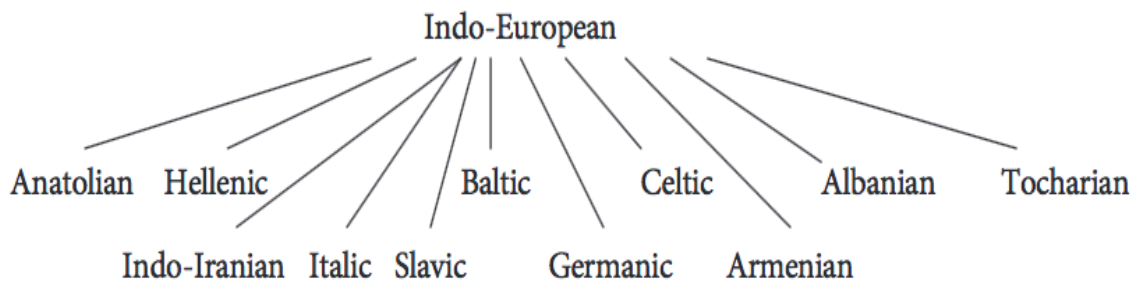


Figure 1. The branches of Proto-Indo-European (van Gelderen, 2014, p. 39).

All these subgroups have their own branches of related languages, many of which exist today. It is worth noting that the two subgroups Tocharian and Anatolian that no longer exist today (Pyles & Alego, 2010). For this thesis, the Germanic and the Italic branches of Proto-Indo-European are of interest, so these will be considered in some more detail. The Italic subgroup includes Latin, from which several languages, known as the Romance languages, descend. The Romance languages are Portuguese, Spanish, French, Italian and Romanian (Pyles & Alego, 2010, p. 68). The Germanic subgroup is further divided into West, North and the now-dead East Germanic branches. The biggest languages in the West Germanic branch are English, German and Dutch, whereas the North Germanic branch includes Norwegian, Swedish, Danish, Icelandic and Faeroese (Pyles & Alego, 2010, p. 68). The languages deriving from the same branch are often related in terms of vocabulary and structure. As an example, we can look at the phrase “good morning” in different Germanic languages as presented in table (5) (my own example).

Table 5. Good morning in Germanic languages

English	Good morning
German	Guten Morgen
Norwegian	God morgen
Dutch	Goedemorgen

This table demonstrates that, even though these phrases are not identical, there are strong resemblances across the different languages. Belonging to the same branch of the Proto-Indo-European language family, the Germanic languages share many structural similarities. It is worth noting, however, that it is the structural similarities of the languages, more than their common vocabulary that make them Germanic. Looking at the structure of the languages, there are some differences separating English from the other languages mentioned, such as the lack of systematic V2 order. In other words, in English the verb does not systematically occur as second in the sentence, as it does in the other Germanic languages. Despite some differences, however, the structure is mainly Germanic, although English contains a vast amount of vocabulary that has been adopted from other languages (van Gelderen, 2014).

This section has aimed to demonstrate that many of the languages spoken today share a common background and are related in one way or another. This explains why many

languages, and especially those belonging to the same subgroup or branch, share so many similarities. However, this is not enough to account for the numerous cognates that exist between English and Spanish. In order to understand this, one must first understand the history of the English language.

2.5.2 The development of the English language

The English language contains a vast mix of loan words from various languages. As Baugh & Gable puts it, English has “an unusual capacity for assimilating outside elements” (2002, p. 5). In this section we will see how the English spoken today came about and how Romance languages have affected English, leading to the numerous English-Spanish cognates which are the basis for this thesis.

The Celts were the first people to arrive at what is today known as the British Isles. Although there is uncertainty as to their exact time of arrival it is assumed that this was around 3,000 years ago (van Gelderen, 2014). To this day, Celtic languages are still alive in Ireland, Wales and Scotland (van Gelderen, 2014). From around 55 B.C., however, the Romans arrived, and what would later become Britain was now under Roman rule (Pyles & Alego, 2010). For the next four hundred years, Latin was the official language on the British Isles, although the majority of the Celts still used their own languages (Pyles & Alego, 2010, p. 95). Some words that were borrowed from Latin in this period and that are still used in English today include *wall*, *kitchen*, *wine*, *to preach* and *street* (van Gelderen, 2014, p. 95).

It is worth noting that what is today known as English first started developing some four hundred years later, when many of the Romans who inhabited the British Isles left in order to defend Rome, that was under attack. The absence of a strong central power controlling the area created an opportunity for other people to invade Britain, and the first Germanic invasions began around year 449 (Milward, 1989). This marks the beginning of what is today known as Old English, which with time has developed into the English spoken today. This is also the period when the people living in England began referring to themselves as English and the area where they lived as England - the land of the Angles (Pyles & Alego, 2010, p. 96). Old English was mostly based on the Germanic languages spoken by the intruders, which were Anglos, Saxons, Jutes and Frisians. These people, although they belonged to different tribes, spoke languages that were related to each other (Pyles & Alego, 2010).

The Viking attacks, from around 793 up to 1066, introduced even more Germanic loanwords to the English language, this time from people speaking Old Norse, the language from which today's North Germanic languages derive. Many of the words that were introduced in this period are still in use in English today, including words like *scream*, *life* and *word* (van Gelderen, 2014, p. 75).

During the Old English period there was Latin influence by Roman missionaries who travelled around the British Isles, but the Romance influence would be further strengthened by the Norman invasion in 1066 which led to many new loanwords from French (van Gelderen, 2014). The French influence on English is often divided into two phases, the first starting with the Norman invasion in 1066 and lasting to 1250, and the second from 1250-1500. The second phase will be further discussed in the below section.

Around year 1150, Old English began developing into what is known as Middle English. This development took place from around 1150 up until the 1500s, and at this point, numerous French and Latin loan words entered the English vocabulary. From around 1250 onwards, the French people living in England began adopting English and to use it instead of their native French (van Gelderen, 2014). However, the French speakers were adding French vocabulary to the English they were learning and so this is also the period in which the influence of French is the greatest. Some researchers suggest that as many as 10,000 French loanwords entered the English language in this period (van Gelderen, 2014). These are words for food, learning, law, government and religion, in addition to other general words (van Gelderen, 2014, p. 104). Examples of some of the French loanwords from this period that are still used in English today are included in Table 6 below.

Table 6. French loan words in English

Government	government, royal, state, authority, prince, duke, duchess
Food	dinner, supper, feast, appetite, taste, salmon, beef, pork, lemon, orange
Learning	study, anatomy, geometry, grammar, logic, medicine
Religion	salvation, temptation, baptism, communion, mercy

(van Gelderen, 2014, p. 99).

At this point the reader should keep in mind that as French and Spanish both are descendants of Romance and related in terms of vocabulary. For this reason, many of the French words that entered the English language are cognates with Spanish.

Between the 1500 and 1660 the English vocabulary grew vastly and many of the new words were loanwords from either Greek or Latin. As we have seen, there had been some Latin influence before, with vocabulary mostly concerned with religion and military. The loanwords from Latin from the 1500 onwards were quite different. English was not considered an elegant and sophisticated language the same way that Latin and Greek were, and in an effort to enrich the language, many Latin words were borrowed, often concerned with science and technical improvements. Examples of words from this period include medical terms, such as *penicillin*, *spectrum* and *pneumonia* from Latin. Greek loan words include *urban*, *urge*, *metaphor* and *dialogue* (van Gelderen, 2014, p. 177). These words were considered more elegant and they often did not have a pre-existing English term, as they were concerned with new discoveries. Even today, much of this scientific vocabulary from Latin and Greek is used, such as in the field of medicine (van Gelderen, 2014). In this period, quite a few words were also borrowed from Spanish, although many of these were words that had recently been acquired by the Spaniards themselves by the Native Americans they had met during the colonization period. Examples include *barbecue*, *cocoa*, *potato*, *tobacco* and *tomato* (van Gelderen, 2014, p. 178).

2.6 Germanic and Romance synonyms

One effect of the extensive borrowing of words from other languages, especially those of Germanic and Romance origin, is that there are often two near synonyms referring to the same object in English, one deriving from Germanic and the other deriving from Romance (Katamba, 1994). What is typical about the words that are of Romance origin, which is where we will find the Spanish cognates, is that they are usually so-called learned words. As the history of the English language shows, both Latin and French was brought to England by educated people, and later, Latin words were adopted in order to make English sound more elegant as Latin had status as a more educated, enriched language. The Germanic version of the word, on the other hand, is more likely come across as common and be used in everyday language (Katamba, 2014). Let us consider an example. The word *get* derives from Germanic and has a frequency of 750 per million words, whereas the Romance *obtain*, which means the same thing, has a frequency of 42 per million words (Francis & Kucera, 2005). Another

example can be the Germanic *before*, with a frequency of 1016 per million words, and the Romance synonym *prior*, with a frequency of 47 per million words (Francis & Kucera, 2005).

One effect of this is that words that are of low frequency in English may be much more common as a cognate in a Romance language, such as Spanish, because here, the word is the informal version that is used in everyday speech. Take as an example the word *spouse*, referring to a married person, considered in relation to their partner (Cambridge Dictionary, 2017). In English, the word *spouse* is not frequently used, appearing only 7 times per one million words according to the corpus by Francis and Kucera (2005). Its Spanish cognate, on the other hand, *esposo/a* appears 107 times per million words, and is therefore much more frequently used in Spanish (Davies, 2005). English have other, more common words for *spouse*, namely *husband* and *wife*, which are of Germanic origin and appear respectively 131 and 228 times per million words (Online Etymology Dictionary, 2018).

3 Methods

The aim of this study is to investigate the potential cognate facilitation effect of L3 onto L2, looking at L1 Norwegian participants with English as their L2 and Spanish as their L3. A control group of L1 Norwegian participants with L2 English and L3 German also participates in the study.

3.1 Hypotheses

Three hypotheses were made as presented in (3).

(3) a. Hypothesis 1:

The L3 Spanish participants will do better at identifying the correct Norwegian translations of English low-frequency words that have high-frequency Spanish cognates than the low-frequency words that are not cognates with either Spanish, German or Norwegian.

b. Hypothesis 2:

The L3 Spanish participants will do better at identifying Norwegian translations for English low-frequency words with Spanish high-frequency cognates than the L3 German participants.

c. Hypothesis 3:

On the translation of non-cognate words the L3 Spanish group and the L3 German group will score approximately similar.

The predictions were made based on the previous research on cognates, supporting a cognate facilitation effect.

3.2 Developing the experiment

The finished survey consists of 50 English words, divided into 16 verbs, 16 nouns and 18 adjectives. Half of the words are English-Spanish cognates, where the Spanish words have a higher frequency than the English. The other half consists of English words that are not

cognates with Spanish, German or Norwegian but matched the cognates in frequency and word class.

When finding cognates for the experiment, it was important that these were words that were more common in Spanish than in English. The Spanish versions of the cognates had to be words that most of the L3 Spanish participants would recognize, whereas the English words should be rarer and not part of English everyday language. To determine this, I used words frequency per million words, as well as a pilot study. The mean average frequency per million of the English cognates and their matched non-cognate words is 2.36, whereas for the Spanish cognates and matched non-cognates, the mean average frequency per one million is 57.36. The frequency of the words varies, in order to avoid floor or ceiling effects, but all Spanish words have a higher frequency, and thus, they are more common in Spanish than the English cognates are in English.

The word frequencies of the English words were checked using Kucera and Francis' corpus *Frequency Analysis of English Usage* from 1982, and checked against their updated version from 2005. For the frequency of the Spanish words I used Davies (2005). The Spanish frequency list has a corpus of 20 million words, and so the frequencies for the Spanish words were divided by 20 in order to find the frequency of the words per million. When checking frequency for the Spanish adjectives, both male and female forms are included, e.g. *tranquilo* and *tranquila*, as this varies in Spanish according to the gender of the noun it modifies. In English, no distinction is made on the adjectives between masculine and feminine as there is only one form, e.g. *tranquil*. For verbs, I chose to include only the infinitival form in both languages. The Spanish language has a higher number of inflectional forms than the English as the verbs are inflected for person as well as tense, and so there is no reason to believe that the English word would be more frequent if all the tense forms were added. For the nouns, only the singular form is included. As both languages have a singular and a plural form of the noun, there is no reason to think this would have affected the frequency significantly.

When it came to the non-cognate filler words, which make up half of the words in the experiment, they are picked so that each cognate has a non-cognate that is matched in word class and frequency. In order to see whether the cognate facilitation effect is really present, it is important to make sure that these words do not have cognate words in Spanish, German and Norwegian. I used my intuition as a Norwegian speaker to decide whether these were

cognates with Norwegian, and I asked German and Spanish native speakers to help me check for cognates between English and Spanish/German. The words were also checked against the Online Etymology Dictionary (2017) to see whether they had the same etymology as German, Spanish or Norwegian in order to discover potential cognates. It should be noted that as these languages are very intertwined in terms of vocabulary, as we saw in Chapter 2, it cannot be guaranteed that these words do not have cognate words in Norwegian, Spanish or German. However, if these cognates exist they are not obvious and probably less common in these languages than in English as both native speakers and the Online Etymology Dictionary failed to recognize them.

The experiment itself consists of 50 English words which were presented on a screen, one at a time, and a sheet containing four Norwegian translation alternatives per English word. One of the four alternatives is the correct Norwegian translation of the English word, whereas the rest have different, unrelated meanings and thus, are wrong. The Norwegian translation is used as a tool to check the participants' English comprehension of the words. Although this included having to add a third, and irrelevant, language to the experiment, I considered this the best way to see which words were understood by the participants. Another option considered was to include English alternatives. However, this would have made it difficult to determine whether wrong answers were due to the target word being difficult to understand for the participants, or one or more of the alternative answers. The correct alternatives were found listed as the Norwegian translations of the English words in the English-Norwegian dictionary *Engelsk ordbok* (2013). The wrong alternatives were chosen from the same dictionary. In order to try to match the four alternative translations, I chose words belonging to the same word class and checked them briefly against the Norwegian frequency list *Norsk frekvensordbok* (Heggstad, 1982). This corpus is based on the frequency of words appearing in Norwegian newspapers. However, as it is quite old I chose to rely on my own intuition as a native speaker of Norwegian as well, to decide which words matched in frequency. Some of the correct alternatives consisted of more than one word in the Norwegian translation (i.e. *å gi fra seg røyk – to fume*) so it was made sure that some of the wrong alternatives throughout also consisted of multiple words.

The requirements for a word to be considered a cognate in this study is that the English and the Spanish words have a high transparency, meaning that they have significant overlap in both form and meaning. The differences occurring between the English and the Spanish

words, in addition to minor spelling changes, are usually related to suffixes and inflections. For infinitive verbs, English and Spanish typically have different sets of endings. Whereas the English verbs often end in *-e*, the Spanish verbs have an *-er*, *-ar* or *-ir* ending. The English *fume* and the Spanish *fumar*, or the English *esconce* and the Spanish *esconder* demonstrate this. For nouns and many adjectives, the tendency is that the Spanish words contain one extra vowel at the end of the word in addition to the spelling differences, such as with for example the English *edifice* and the Spanish *edificio*, *ascent* and *ascenso*, *matrimony* and *matrimonio*.

Most of the English-Spanish cognates in this experiment share meaning, although some differ slightly across the two languages. Let us consider this point in some detail. The Spanish verb *cantar* means to sing, whereas the English *chant* refers to a more specific form of singing, defined by Cambridge Dictionary (2017) as *to repeat or sing a phrase continuously* and translated into Norwegian as *messe, rope* (Kirkeby, 2013). In one case, with the English *arbor* and the Spanish *árbol*, the meaning is not the same, as *arbor* is defined by Cambridge Dictionary (2017) as a *sheltered place in a garden formed by trees and bushes* or as the Norwegian dictionary (2013) suggests, *løvhytte*, a cottage made from leaves. In Spanish, the word *árbol* simply means tree. In retrospect, these meanings are so distinct that they should perhaps not have been considered cognates and included in the survey, but the two meanings are still closely connected as a *place formed by trees* certainly evoke connotations to trees. As the word *árbol* is very common in Spanish as the most frequently used word to refer to a tree, I was curious to see if the participants would recognize this and connect the meanings compared to the more direct cognates.

Usually, a cognate is defined as, in addition to being similar in form and meaning, having the same etymology, i.e. deriving from the same historical source (Katamba, 1994). In this study, the most important requirements are that the English and the Spanish words share form and meaning. The cognates are checked briefly against the Online Etymology Dictionary (2017), but not all words have a clear etymology and so it cannot be guaranteed that they derive from the same source. One example is the English word *ensconce* and the Spanish *ensconder*, which means to shelter oneself (Cambridge Dictionary, 2018). In Spanish it has a wider usage, and is used also in the meaning of hiding something. In this case, the etymology of the English word is unknown, and it is considered to be derived either from Latin, like the Spanish word, or from Dutch. However, as the meanings have developed over time and become intertwined with each other, this should not affect the participants when doing the

experiment. First and foremost, it is the similarities that make the cognates easy to remember and not their etymology.

3.3 The pilot study

Before conducting the full-scale experiment several pilot studies were carried out. It was important to find English-Spanish cognates that participants with Norwegian as their L1, English as their L2 and Spanish as their L3 were likely to know in Spanish but not in English. Although the frequency lists gave good indications that the Spanish cognates were frequently used and should be easy to understand for most Spanish speakers, I wanted to make sure that this applied to L1 Norwegians with Spanish as their L3. I asked six L1 Norwegians who had studied Spanish at university level to translate a list of Spanish words into Norwegian. Some of the words in the first pilot study were not understood by most of the participants, and so I changed the words so that all six participants knew the meaning of the Spanish words. The final list of Spanish cognates were words that they could easily translate from Spanish to Norwegian.

When I had a list of high-frequency Spanish, low-frequency English cognates, I asked six people with university level education, but who had not studied languages, to translate the English words into Norwegian. This gave me the opportunity to once again edit the list, this time to rule out some words that all the participants were able to translate, suggesting that these were too common in English and that knowing them would not be due to a cognate facilitation effect. In the second pilot study some of the participants knew some words but most of the words proved to be a challenge to all of them, strengthening the assumption that the Spanish words are more common in Spanish than the English words are in English.

I also carried out the same pilot studies on a 10th grade L3 Spanish class at a lower secondary school in Trondheim, as well as a control group consisting L3 German students of the same age as I was hoping to be able to include school students in the test as well. From the results it became evident that the Spanish proficiency level of the students, who were 14 and 15 years old and had studied Spanish for about two years, was too low, and neither the Spanish nor the German students were able to understand most of the English words. The cognates that the Spanish students did know and were able to translate, were words that were of high frequency in English as well, and some of which were cognates with Norwegian, e.g. *recepiconista* –

receptionist – resepsjonist. For this reason, I decided to conduct my study on people with a higher level of Spanish.

A background questionnaire was also included in this study, and this was also pilot tested on eight native speakers of Norwegian to ensure that the questions were easily understandable.

3.4 Background questionnaire

Before conducting the experiment, the participants were asked to fill in a background questionnaire answering questions about their language background and rating their proficiency level of English, and, for the L3 Spanish group, of Spanish (see appendixes D and E). The self-rating scales were based on the Common European Framework of Reference for Languages (2001), which divides language users into three divisions and six levels from ranging from beginner A1 to proficient C2. The questionnaires were predominantly identical for both the L3 Spanish and the L3 German participants. However, the L3 Spanish participants, composing the target group of the experiment, were asked some questions that were excluded from the background questionnaire given to the L3 German participants. In addition to being asked to rate their own Spanish proficiency level, they were also asked whether they had lived abroad (where, and for how long) and whether they had studied English. I later realized that it was a mistake not to ask these questions to the L3 German group, as this information would be interesting when looking at the results. I contacted the 23 participants from the L3 German group to ask for this information and had them match their answers with their first background questionnaire.

3.5 Participants

Two groups of participants were recruited to the study: native speakers of Norwegian who studied or had studied Spanish (n=27) and a control group consisting of native speakers of Norwegian who studied or had studied German (n=23) at university level. All participants were adults (i.e. 18 years or older). The majority of the students were recruited from NTNU Norwegian University of Science and Technology, Trondheim, whereas additional participants were recruited through personal networking. For the Spanish group, 17 of the participants were students of the one year study program in Spanish at NTNU, four were Spanish teachers working in schools and the final six were students doing Spanish didactic studies as part of their teacher training program. In the L3 German group, nine of the

participants were students of the one year study program in German at NTNU, four were bachelor's or master's students, three were German teachers working in schools, three were teacher training students of German didactics and the remaining four were former bachelor's and master's students of German. One person in the German group reported being bilingual with Danish as the additional L1 and one reported having Tamil as an additional L1. These were not excluded from the results.

Although I did not ask in the questionnaire about the start age for Spanish, I later got in touch with the Spanish participants to ask whether anyone had learned Spanish prior to English, e.g. that they had Spanish as their L3 and English as their L2. There were two of the participants who did not reply to this, but the other 24 participants reported confirmed did learn English before Spanish. It can be assumed that this was the case also for the remaining two that did not reply, as they did not report having lived abroad or having had parents speaking to them in another language than Norwegian while growing up. In the Norwegian school system, English is introduced approximately from age 6, whereas Spanish is introduced at the earliest around age 13. In the L3 German group, all participants reported having English as their L2.

3.6 The finished experiment

The final experiment was composed of a test including a total of 50 English words, cognates and non-cognates, which each had 4 Norwegian translation alternatives, as well as a self-report questionnaire. The participants were not informed that the study investigated the cognate facilitation effect. Before conducting the experiment, the participants were asked to fill in the background questionnaire.

All participants were handed a numbered list containing the Norwegian translation alternatives. They were exposed to a screen, where a number would tell them which word was next to help them keep track, as the English words were not shown on the written material. Then, an English word was shown on-screen for four seconds, followed by a number referring to the next word for four seconds. This gave them in total eight seconds to read the word, chose a translation from the four Norwegian alternatives and prepare themselves for the next word. The cognates and the non-cognates were mixed randomly to try to avoid the participants seeing a pattern and realizing that they were asked to translate cognates. As soon as all the words had been shown on screen the papers were collected to avoid that the

participants could go back and change their answers. To ensure anonymity for the participants, the sheets containing the translation alternatives were all numbered randomly, and the students were asked to write the same number on their background questionnaire. This way, results and language background could be matched later in case someone had to be discarded due to for example native language and in order to compare results and language background. The study was registered with the Norwegian Centre for Research Data (NSD).

4 Results

The following provides an overview of the results from the experiment conducted on two groups of participants with L1 Norwegian L2 English but who differed in terms of their L3, which was either Spanish or German. The results from the 50 participants that were included were handled in Microsoft Excel and IBM SPSS Statistics.

4.1 Cognates and non-cognates

The maximum possible score on the cognate words was 25 points (1 point per correct answer). For the L3 Spanish group, the highest individual score was 23 and the lowest was 9. For the L3 German group highest individual score was 24 and the lowest 3. The standard deviation of 3.57 for the L3 Spanish group versus 4.66 for the L3 German group show that the results of the L3 Spanish group varied less within the group. In addition to that, the L3 Spanish participants scored higher on average ($M = 16.9$) than the L3 German participants ($M = 14$).

Table 3. Mean scores on cognates

Spanish speaking participants (n=27)		German speaking participants (n=23)	
Mean score	Std. Deviation	Mean score	Std. Deviation
16.93	3.57	14.04	4.66

I conducted an independent sample t-test to see whether the difference between the two groups was significant. The scores of the L3 Spanish group ($M = 16.93$, $SD = 3.57$, $n = 27$) were hypothesized to be higher than the scores of the L3 German group ($M = 14$, $SD = 4.66$, $n = 23$). This difference was significant with $t(48) = 2.51$, $p = .01$ (1 tail), suggesting that the L3 Spanish group was significantly better at identifying the correct translations for cognate words.

The maximum score on the non-cognate filler words was 25 points (1 point per correct answer). The lowest score in the L3 Spanish group was 3 and the highest was 19. In the L3 German group the lowest score was 4 and the highest was 22. Table 4 presents the mean average scores and the standard deviation for non-cognates in each of the participating

groups. Here, the mean average was lower among the L3 Spanish participants ($M = 9.37$) than among the L3 German participants ($M = 13.35$).

Table 4. Mean scores for non-cognates

L3 Spanish participants (n=27)		L3 German participants (n=23)	
Mean	Std. Deviation	Mean	Std. Deviation
9.37	3.99	13.35	4.47

I conducted an independent sample t-test on the results of the non-cognate words. The scores of the L3 Spanish group ($M = 9.37$, $SD = 3.99$, $n = 27$) was hypothesized to be similar to the scores of the L3 German group ($M = 13.34$, $SD = 4.46$, $n = 23$). However, the difference was significant at $t(48) = -3.32$, $p = .02$ (2 tail), suggesting that the L3 German group was significantly better at correctly identifying translations for the non-cognate words.

As we can see from the mean average results by the L3 Spanish group on their ability to correctly identify translations for cognates ($M = 16.93$) and non-cognates ($M = 9.37$), there was a big difference between the two sets of words. I conducted an independent sample t-test on the L3 Spanish group, comparing the mean results of the two word groups to see if this difference was significant. This showed that the L3 Spanish group scored significantly higher on the cognate words ($M = 16.93$, $SD = 3.57$, $n = 27$) than they did on the non-cognates words ($M = 9.37$, $SD = 3.99$, $n = 27$). This difference was significant with $t(27) = 7.33$, $p = .00$ (1 tail).

I conducted the same independent sample t-test on the L3 German group, comparing the results on identifying translations for cognates ($M = 14.04$, $SD = 4.66$, $n = 23$) and non-cognates ($M = 13.35$, $SD = 4.47$, $n = 23$). Here, the difference was not significant at $t(23) = 0.48$, $p = .32$ (1 tail).

Four of the 27 L3 Spanish participants had studied English at university level. Their mean average score on identifying translations for cognates ($M = 20.5$), and their mean average on identifying translations for non-cognates ($M = 10$) was somewhat higher than that of the rest of the L3 Spanish participants both on cognates ($M = 16.3$) and on non-cognates ($M = 9.26$). Six of the L3 German participants had studied English at university level. Their mean average

score on cognates was 17.3. The rest of the group had an average score of 12.8. Their mean average score on non-cognates was 15.2, which was higher than the rest of the group (M = 13.4).

Four of the 27 L3 Spanish participants had spent more than six weeks living abroad in an English-speaking country and they scored on average 14.4 on identifying cognate translations and 11.7 on identifying correct translations for non-cognates, which was slightly higher than the rest of the group. One of the 23 L3 German participants had spent more than six weeks living abroad in an English-speaking country and was able to correctly identify translations for 14 of the cognates and 14 of the non-cognates, scoring almost similar to the results of the rest of the group.

4.2 Self-rated proficiency and score - correlation

The participants in both groups were asked to rate their English proficiency level using the reference levels of the CEFRL (2001). Table 5 shows the self-reported proficiency levels for the L3 Spanish group by numbers and percentage and the mean scores obtained by each group on the translation of cognates and non-cognates.

Table 5. Self-reported proficiency level English and mean scores on cognates.

Self-reported English proficiency level	L3 Spanish participants	Percentage	Mean scores on cognates	Mean scores on non-cognates
C2	3	11.1%	20.7	8
C1	15	55.5%	17.4	10.2
B2	3	11.1%	16.7	8.5
B1	3	11.1%	14	9
A2	3	11.1%	15.3	8
A1				
Total	27	100%		

As Table 5 shows, the mean score on cognates is higher when the English proficiency level is reported to be higher, suggesting a correlation between English proficiency level and word

knowledge. Conducting a correlation analysis on the mean scores on cognates and proficiency level using Spearman's rho correlation analysis gives us ($r_s = .489$, $p = .010$) which indicates a significant correlation between the participants self-reported English level and the results on the participants' ability to correctly identify translations of cognates. Looking at the non-cognates, the mean score do not increase as the proficiency level increases. Using the Spearman's correlation analysis, the results indicate that there does not seem to be a correlation between self-reported English level and ability to translate non-cognate words ($r_s = .069$, $p = .732$).

Table 6 shows the same participants, namely the L3 Spanish group, but here, they are divided into groups based on their self-reported Spanish proficiency level. One person did not answer the question regarding Spanish proficiency level on the background questionnaire, and so the participant number is (n=26) rather than (n=27).

Table 6. L3 Spanish group self-reported Spanish proficiency level

Self-reported proficiency level	Spanish-speaking participants	Percentage	Mean scores on cognates	Mean scores on non-cognates
C2				
C1	2	8%	12.5	8
B2	9	28%	16.8	9
B1	10	40%	16.8	10.2
A2	4	16%	17.75	8
A1	1	4%	23	23
Total	26	100%		

Here, we can see that the overall Spanish proficiency level as reported by the participants is lower than the reported English level (see Table 5). Interestingly, when the Spanish self-reported proficiency level goes up, the mean score on cognates goes down. Conducting the Spearman's correlation analysis shows that the results were not statistically significant ($r_s = -.292$, $p = .147$). Conducting the Spearman's rho correlation analysis on the non-cognates gives us a significant correlation ($r_s = -.591$, $p = .001$), indicating that there exist a correlation between Spanish self-rated proficiency level and the ability to identify correct translations for non-cognates.

Table 7 shows the distribution of the self-rating of English proficiency by the German group.

Table 7. L3 German group self-reported English proficiency level

Self-reported proficiency level	L3 German participants	Percentage	Mean scores on cognates	Mean scores on non-cognates
C2	4	17.4%	17.5	16.5
C1	13	56.5%	14.2	14.8
B2	6	26%	11.3	8
B1				
A2				
A1				
Total	23	100%		

As this table shows us, the L3 German participants rated their English to be somewhat higher than that of the L3 Spanish speaking group. Using the Spearman's correlation analysis to determine whether there is a relationship between the L3 German participants self-rated proficiency and their score on cognates shows that the results are not significant ($r_s = .360$, $p = .091$). Conducting the same test on the non-cognates, the results are significant ($r_s = .678$, $p = .00$), indicating a correlation between the results on the translation of non-cognates and self-reported English proficiency level in the L3 German group.

4.3 Frequency

When looking at the results, the cognate words can be divided into three categories based on the participants' scores. The first group consists of words for which more than 70% of the participants in both groups had chosen the right translations for the cognate words. Although these words have a low frequency in English, they were the most frequently used words in English of the cognates on the test ($M = 3.7$). The second group consists of words where the L3 German and the L3 Spanish group answered very similar, and where around 50% of the participants in each group identified the correct translations for the cognates. The third and largest group contains words where the difference between the L3 Spanish group and the L3

German group is high, in favor of the L3 Spanish group, suggesting that the knowledge of these words may be helped by knowing Spanish. These words and the percentage of participants knowing them in each group are included in Table 8.

Table 8. Words with a big difference between L3 Spanish and L3 German participants.

Cognate	L3 Spanish score in percent	L3 German score in percent	English frequency	Spanish frequency	Word class
Amiable	81%	52%	2	16	Adjective
Diverting	89%	22%	2	36	Adjective
Edifice	85%	22%	3	47	Noun
Enamoured	74%	39%	1	25	Adjective
Ensconce	74%	52%	2	12	Verb
Facile	93%	35%	1	163	Adjective
Felicitous	59%	26%	1	104	Adjective
Salubrious	33%	13%	2	26	Adjective
Tranquil	100%	74%	2	42	Adjective
Vend	78%	30%	6	69	Verb
Verdant	41%	13%	1	60	Adjective

I also wanted to investigate whether there existed a correlation between frequency of the Spanish cognates of the English words and score on the cognates for the L3 Spanish participants, predicting that the more frequent words would also be more known to the participants. I conducted a Pearson's *r*. correlation analysis on the cognate words, looking at their frequency in Spanish and the scores of the participants. There was no correlation between the two variables ($r = .067$, $n = 25$, $p = .067$).

5 Discussion

This study reported on two groups of multilingual L1 Norwegian participants. One group consisted of 27 L2 English participants with Spanish as their L3. The other group consisted of 23 L2 English participants with German as their L3. The experiment investigated their ability to identify the correct Norwegian translation of English low frequency words. Half of the words in the experiment had a high frequency Spanish cognate and the other half did not have a cognate in Spanish, German or Norwegian. There were three hypotheses that guided the study. For expository convenience they are repeated in (4).

- (4)
- a. Hypothesis 1:
The L3 Spanish participants will do better at identifying the correct translations of English low-frequency words that have high-frequency Spanish cognates than the low-frequency words that are not cognates with either Spanish, German or Norwegian.
 - b. Hypothesis 2:
The L3 Spanish participants will do better at identifying the correct translations for English low-frequency words with Spanish high-frequency cognates than the L3 German participants.
 - c. Hypothesis 3:
On the translation of non-cognate words the L3 Spanish group and the L3 German group will score approximately similar.

In the following, the results reported in Chapter 4 will be discussed in the context of these hypotheses and some previous research.

5.1 Recognition of cognates and non-cognates in the Spanish L3 group

Hypothesis 1 was concerned with how the L3 Spanish group recognizes cognates and non-cognates. This was investigated by considering the participants' ability to select the correct Norwegian translation equivalents of English words. It was hypothesized that the L3 Spanish participants would be better at correctly identifying the translation of cognates than non-

cognates, based on the assumption that cognates are known to facilitate faster language comprehension and retrieval and that they are easier to acquire than non-cognates (Kelley & Kohnert, 2012; Malabonga et al., 2008; Sánchez-Casas & García-Albea, 2005). Although most previous research on cognates and cross-linguistic transfer has investigated the effect of the dominating L1 on L2, it was hypothesized that these multilingual participants with Spanish as their L3 would benefit from knowing the Spanish high-frequency cognates of the English words, seeing as the Spanish word would be more common than the English one.

Hypothesis 1 was supported by the results. The reported results shows that the L3 Spanish participants scored significantly higher on identifying the correct translation of the words that were cognates (mean = 16.93) than the words that were non-cognates (mean = 9.37). The cognate and the non-cognate words were matched pair-wise for frequency and word class and these results strengthen the idea that there is a cognate facilitation effect, and that this is present also from the L3 to the L2.

There are numerous studies that have investigated the cognate facilitation effect and obtained results supporting its existence. It should be mentioned, however, that most of the studies have looked at L2 and L1, and used different methods than those presented in the present study. Costa, Caramazza and Sebastian-Galles (2000) found a positive effect for cognates as opposed to non-cognates when conducting a picture-naming task on Catalán-Spanish bilinguals, suggesting faster retrieval of cognates in the mind. Leacox et al. (2016) also observed a cognate facilitation on cognates as opposed to non-cognates when investigating L1 Spanish learners of L2 English in that cognate meanings were recognized faster and more accurate than non-cognates. As emphasized above, these studies differ from the present study in many ways. Nevertheless, they are interesting as they, too, support the notion that a language acquired after another can affect the more dominant language in the mind.

Gascoigne (2001) suggests that cross-linguistic cognates are stored and retrieved differently in the mind of bilinguals and multilinguals than non-cognates and presents new models to account for these differences. The non-cognate model is similar to the standard mixed model as presented by deGroot & Nas (1991), where there are separate links from the L1 and the L2 to the conceptual representation of a word in the mind. Cognates, on the other hand, conform to a different model. Due to the similarity of two cross-linguistic cognates there is only one single link to the conceptual representation, allowing for a faster translation between the

languages (Gascoigne, 2001). Looking at the present study, each of the English words that constituted this experiment were shown on a screen for four seconds, followed by a screen showing a number to indicate the next word for four seconds before a new word appeared. This meant that the participants had only eight seconds to read the English word, read the four Norwegian translation alternatives, pick what they thought was the correct translation and get ready for the next word. In other words, there was little time to think and the decision of which Norwegian translation to pick had to be made quite rapidly and instinctively. As there was a short amount of time available it should be considered that this may be due to the faster retrieval of cognates in the mind, which can suggest that the cognate status facilitate fast retrieval of a word's meaning rather than actual knowledge of the word. It is possible that the cognates are just retrieved faster than the non-cognates, and that the participants perhaps would have been able to correctly identify more of the non-cognates as well if they had more time to consider the options.

Before taking part in the experiment, the participants were asked to rate their English proficiency level based on the reference levels by the Common European Framework of Reference for Languages (2001). There seems to exist a positive correlation between the self-reported English proficiency level by the L3 Spanish participants and the score on cognates. This correlation is significant, suggesting that as the English proficiency goes up, the score on cognates increases as well. In other words, the L3 Spanish participants who rated their English proficiency level as high actually correctly identified more of the English words than those of the L3 Spanish participants who rated their English proficiency to be lower. For the results of the non-cognate words, however, no correlation was found. A possible explanation of why there is a correlation between self-reported English proficiency level and the score on cognates could be that a person whose English proficiency level is high, and who also speaks Spanish, probably has been exposed to the cognates in both languages, as opposed to the non-cognates, which has only been encountered in English. As cognates are acquired more easily than non-cognates (Malabonga et al., 2008) the participant may know these better and recognize them faster than the non-cognates.

Looking at the results for the L3 German group there does not seem to be a correlation between the reported English proficiency level and their ability to correctly identify cognate words. For non-cognates, on the other hand, this correlation was found to be significant. It is

hard to suggest why there seems to be a correlation between self-reported English proficiency level and non-cognates for the L3 German participants.

In addition to rating their own English proficiency level, the L3 Spanish participants were asked to rate their Spanish proficiency level, following the same framework by CEFRL (2001). A significant correlation between L3 Spanish proficiency level and the score on non-cognates was observed, however, it is most likely that this is coincidental. Interestingly, no correlation was found between the Spanish self-rated proficiency level and whether the participants were able to correctly identify the translations for the cognates or not. In fact, as self-rated Spanish proficiency level went up, the score on cognates went down, although the difference was not significant. This is an interesting finding, suggesting that a high level of Spanish is not necessary in order to benefit from the cognate facilitation effect on low-frequency English, high-frequency Spanish cognates. Even at lower proficiency levels, frequent L3 cognates can facilitate comprehension in L2.

This is consistent with Gascoigne's (2001) theory of cognate retrieval. Although she looked at bilinguals and not multilinguals, her results showed that less-skilled bilinguals were faster than more-skilled bilinguals on translating cognates. Gascoigne (2001) suggests that this is because, while the more-skilled bilinguals have different links to the conceptual representation of the word in their mind, these two links overlap in less-skilled bilinguals, allowing them to translate the cognates in a more rapid fashion. Gascoigne's study differs from the present study, as the participants were asked to translate sentences from French into English. In other words, the participants had to come up with words themselves. The present study, on the other hand, is concerned with the participants' ability to recognize translations of cognates as opposed to non-cognates. Nevertheless, these two studies are similar in that they both allowed a short amount time for the participants to think. Assuming that the links between L1 and L2, as presented by Gascoigne (2001), also connects between an L3 and the other languages, one can assume that the more-fluent L3 participants have separate links between the languages, whereas the links in less-fluent L3 Spanish participants overlap, allowing for faster retrieval and thus, a higher score on the cognate words.

5.2 Spanish-English cognate comprehension in L3 Spanish vs L3 German speakers

Hypothesis 2 predicted that the L3 Spanish target group would achieve an overall higher score than the L3 German participants on correctly identifying translations for cognate words. This assumption was based on the frequency of the English words (mean = 2.32 per million) and the Spanish cognates (mean = 47.92 per million), in addition to the results from the pilot study, which indicated that the Spanish version of the cognate words in the experiment were words that the majority of the participants in the L3 Spanish group would be familiar with. The L3 German participants, on the other hand, would lack this benefit, and thus, achieve a lower score. The results were consistent with the hypothesis. On average, the Spanish-speaking participants (mean = 16.93) did pick the correct translation for more of the cognate words than the German-speaking participants did (mean = 14) and this difference was significant. These results, too, indicate that a cognate facilitation effect exists and that it is present also from L3 to L2. Results from a study by Bartolotti & Marian (2016) indicate that language learners scaffold cognate vocabulary from L1 and L2 in the acquisition of an L3. The present study, however, may suggest that scaffolding can occur also from the L3 to the L2 in the acquisition of new vocabulary.

One can discuss, however, whether it is the case that the L3 Spanish participants simply have a higher English proficiency level than the L3 German participants and that this can account for their higher score. However, there are two factors contradicting this. First, as mentioned in the previous section, all participants were asked to rate their own English proficiency level. The German-speaking group rated themselves to have a slightly higher English proficiency level than the Spanish participants. Of course, people may over- or underrate themselves, which should be taken into consideration. Nevertheless, this gives some indications as of the English proficiency level of the participants. Furthermore, on correctly identifying translations for the non-cognate words, the L3 German participants (mean = 13.35) did significantly better than the L3 Spanish group (mean = 9.37) which also suggests that the L3 Spanish participant does not have an overall higher English proficiency level than the L3 German group. Essentially, this implies that even though the L3 Spanish participants' English proficiency level was lower than that of the L3 German group they were significantly better at identifying correct translations for cognate words and this strengthens the idea of a cognate facilitation from L3 to L2.

It should also be added that, when asked about their English background, 15% or four of the 27 L3 participants reported having studied English at university level, as did six of the 23 L3 German participants, which accounts for 26% of the group. Participants who had studied English at university level scored above average on identifying translations for both cognates and non-cognates in both groups. One of the 23 L3 German participants had spent more than six weeks residing in an English speaking country as had four of the 27 Spanish speaking participants. Looking at these participants, the mean average score was very similar to that of the other participants. This may imply that, as both the cognate and the non-cognate words are of low-frequency, these may be encountered more often in an educational setting than in an everyday setting living abroad. However, we lack important background information and sufficient participants to support this claim any further.

5.3 Non-cognate comprehension in L3 Spanish vs. L3 German speakers

Hypothesis 3 predicted that the Norwegian participants with Spanish as their L3 would score similar to the Norwegian participants who has German as their L3 on the translation of low-frequency English words that were not cognates with Spanish, German or Norwegian. The self-rated proficiency of English suggested that the L3 German participants had a slightly higher English level than the participants in the L3 Spanish group. However, as the participants from both groups seemed to have more or less the same educational background, I hypothesized that the results would not be significantly different. The results were not consistent with the prediction. In fact, the German-speaking group scored higher than the Spanish-speaking group on the translation of cognates, and this difference was found to be significant. In other words, the L3 German participants, who scored almost similar on the cognates (mean = 14.04) and the non-cognates (mean = 13.35) scored significantly higher than the Spanish-speaking participants on the translation of non-cognates (mean = 9.37). What is interesting is that although the Spanish-speaking participants were significantly better at identifying English words that had a Spanish cognate (mean = 16.93), the L3 German group obtained a better score on the translation of non-cognates and an overall more stable score. This further strengthens the idea that the cognate facilitation exists, also from L3 to L2. For the L3 German group, the score of the cognates (mean = 14.04) and the non-cognates (mean = 13.35) were very similar. They were tested for significance, and no significance was found. This suggests that while the results of the L3 German group can seem to be related to

their English proficiency, there seem to be something more facilitating the recognition of cognates for the L3 Spanish group.

5.4 Differences between cognates

As mentioned in chapter 4, when looking at the results of the collected data, the cognate words could be roughly divided into three groups, based on the scores of the participants on each of the words. These three groups are discussed below.

5.4.1 High scores on cognate comprehension by both groups

The first group consists of the words where more than 70% of the participants in both the L3 Spanish group and the L3 German group had chosen the correct Norwegian translation for the English words with Spanish cognates. Here, the L3 German group picked the right translation for 92% of the cognates, which was slightly more than the L3 Spanish participants with 86%. Essentially, these were words that the majority of the participants from both groups knew. Seven of the 25 cognate words that were part of the experiment fell into this category. When considering the frequency of the words in this group it becomes evident that these are the words that have the highest frequency in both English and Spanish of the cognates in the test. The mean average frequency in English of the seven words in this group (mean = 3.7) was higher than both the second group (mean = 1.14) and the third group (mean = 2.09) of cognates, which will be considered in more detail below. Although the words in this test all were considered to be low-frequency words in English, the results suggest that these are words that most Norwegians that are studying or have studied at university level recognize, regardless of them having a high-frequency cognate in another language. This is further supported by the fact that the L3 German participants, who rated their English proficiency level to be higher than that of the L3 Spanish participants, were slightly better at identifying the correct translations for these words.

In this group there were two words for which all the 27 L3 Spanish participants managed to pick the right translation, namely *tranquil* and *signify*. *Tranquil* has a frequency of 2 in English and the Spanish cognate, *tranquilo*, has a frequency of 42 per million in Spanish. 74% of the L3 German participants also picked the right translation for this word. All L3 Spanish participants also picked the correct translation for the word *signify*, as did 96% of the L3 German participants. It is interesting that all 27 L3 Spanish participants picked the right

translation for these words, but as the percentage of L3 German speakers who picked the right translation is also very high, this does not seem to imply a cognate facilitation. Although these words have a low frequency, they may be more common outside the material that Kucera and Francis (2005; 1982) used. Brysbaert & New (2009) suggest that the corpus presented by Kucera & Francis is inadequate, as it is based on written material. The problem, they claim, is that written text is often edited, and that lexical variation is usually exaggerated, in order to avoid repeating the same word over and over (Brysbaert & New, 2009, 979). They suggest that in order to get a real insight into everyday language exposure, one should turn to television, internet and other forms of multimedia, such as movies. Perhaps these words occur more often in these medias than in the material used by Kucera & Francis (2005; 1982).

Each of the cognates in the experiment had a matched word which was neither a cognate with Spanish, German or Norwegian and that was of the same word class and English frequency. Here, the L3 German participants recognized on average 56% of the words, while the L3 Spanish participants knew on average 45% of the words. These results are somewhat surprising, as one would think that words of the same frequency should be equally recognizable for the participants. Again, one can suspect that the problem can be that the frequency list is based on written material, as suggested by Brysbaert & New (2009) and thus, do not give a correct indication as to the actual exposure that the Norwegian participants experience of the words. It is possible that these words will occur more in the polished written language than in for example television and on the internet, and that this is part of the reason why they are less recognizable. One could also consider the fact that, as mentioned in chapter 2, many of the English words that are English-Spanish cognates have a more frequently used Germanic doublet, whereas the Romance words, which are the English-Spanish cognates, often are considered so called learned words (Katamba, 1994). The participants in this test all were or had been students at university level, and it is possible that the participants in both groups may have encountered the cognate words of the experiment more often in educational settings than the non-cognates and that this contributed to their ability to recognize them.

To sum up, it seems like the English cognate words in this group were words that most participants recognized regardless of them being cognates with Spanish. The L3 German participants did overall better at identifying the correct Norwegian translation on both cognate and non-cognate words, although both groups did well. This is consistent with their own self-rated English proficiency.

5.4.2 Medium score on cognate comprehension by both groups

The second group consists of seven cognates where the German and the Spanish participants answered very similarly, but in comparison to the first group the scores were lower. The L3 German group correctly identified 55% of the translations, which was slightly higher than the L3 Spanish group, with 46%. These scores were very similar to the scores on non-cognates. The L3 German group correctly identified 56% of translations for the non-cognate words, and the Spanish participants correctly identified 49% of the translation for the non-cognate words. It is likely that these results are due to the participants' English proficiency level.

5.4.3 Cognates with significant differences between L3 Spanish and L3 German participants

The third and largest group consists of cognate words where the L3 Spanish group scored significantly higher than the L3 German group on identifying translations. These constituted 11 out of the 25 cognates that were part of the experiment. On average, the L3 Spanish participants correctly identified the translation of 73% of these cognates, whereas the L3 German participants picked the right translation on 34% of the words. Looking at the frequency of the cognates in this group, the mean average frequency of these cognates was 2.09 in English, in comparison to 54.5 in Spanish. These results can imply that the L3 Spanish group benefited from knowing the words in Spanish and that the cognate facilitation effect was present. This is further strengthened by the fact that the L3 German group scored higher on identifying translations for the matched non-cognates. Here, the L3 German participants correctly identified 52% of the translations whereas the L3 Spanish group correctly identified 41%.

Looking at the cognates in the third group, it is interesting to consider the word classes. Of the 11 words that constitute this group, there is one noun, two verbs and eight adjectives. This means that out of the nine cognate adjectives that were part of this test, only one is not in this group. It is hard to pinpoint why the L3 Spanish group were so much more successful at identifying these adjectives than the L3 German group. Typologically, none of these adjectives were so-called perfect cognates. All had minor differences in spelling across the two languages as was the case with the majority of the cognates in the experiment and they also differed amongst themselves with regards to endings. As such, it is hard to suggest a clear reason why just these adjectives would be more easily recognized than the other words in the experiment.

As mentioned in Chapter 3, one cognate word was included in the experiment that differed more in meaning between Spanish and English than the other cognate words did. The word *arbor* was defined by Cambridge Dictionary (2017) as a *sheltered place in a garden formed by trees and bushes* and had a frequency of 1 per million (Kucera & Francis, 2005; 1982). In Spanish, the word *árbol* means tree and has a frequency of 35 per million words (Davies, 2005). I was curious to see whether a cognate with such an indirect connection across two languages could possibly create a facilitation effect, and I assumed that none or very few of the participants would know the meaning of the English word *arbor*. As expected, the two meanings were too distinct for the participants to instinctively connect them. 22% of the L3 German participants and 15% of the L3 Spanish participants identified the correct translation of the word. These two words did not share the same meaning, although their meanings were related. This can perhaps be seen to support Gascoigne (2001) who suggest although there exist a cognate facilitation effect that is helpful when making rapid translations from L3 to L2, the words have to be closely related in order for the cognate facilitation effect to take place. Here, too, one can suspect that the scores could have looked different if the participants had more time to think, but for a cognate facilitation effect to take place, the meanings assumingly needs to be more closely related.

5.5 Summary

One could argue that all three hypotheses that guided the study were borne out. As hypothesis 1 predicted, L3 Spanish participants were significantly better at correctly identifying Norwegian translations for English words with Spanish cognates than they were at identifying the right translation for non-cognates. They also outperformed the L3 German participants on correctly identifying translations for cognates, which is consistent with hypothesis 3. Hypothesis 2 predicted a similar score by the two groups on identifying translations on non-cognate words. The results showed that the L3 German participants did significantly better than the L3 Spanish participants on this task. This does not, however, discard the potential cognate facilitation effect. As the L3 German participants' score on cognates and non-cognates were very similar their results can seem to be due to their English proficiency level. For the L3 Spanish participants, however, there were big differences on their scores on cognates and non-cognates and so a cognate facilitation effect seems to have occurred.

6 Conclusion

In this thesis, the potential benefit of L3 Spanish on L2 English vocabulary in L1 Norwegian participants has been investigated. A group of L1 Norwegian, L2 English participants with Spanish as their L3, as well as a group of L1 Norwegian, L2 English, L3 German were part of the experiment. The participants were asked to select Norwegian translations for English low-frequency words, half of which had Spanish high-frequency cognates and half of which were not cognates with Norwegian, Spanish or German. The L3 Spanish participants were significantly better than the L3 German participants at identifying the correct translation from English to Norwegian on the cognate words, which indicates that there is a cognate facilitation effect that is present from L3 to L2 and that this potentially can help increase L2 vocabulary size. Furthermore, the significant difference on the non-cognates in favor of the L3 German group, as well as the significant difference between the scores on cognates and non-cognates by the L3 Spanish group seem to suggest that this difference is due to a cognate facilitation effect and not because the L3 Spanish group has a higher level of proficiency in English. Although there are limitations to this study, the results clearly indicate that the cognate facilitation effect is present from L3 to L2.

6.1 Limitations and suggestion for further research

There are several limitations to the present study. It goes without saying that the low number of participants is a limitation. Additionally, the participants in the two groups are quite diverse, ranging from students in their first year of studies to experienced teachers of the target languages. More matched participants would have been an advantage. The proficiency level of the participants' L2 and L3 were not measured directly. Rather, the participants were asked, due to practical reasons, to rate their own proficiency level, based on their own evaluations. Obviously, this may not give an accurate picture of their proficiency level. In addition, the participants were not asked for their start age of the different languages, although they were asked about the order in which they acquired the languages. More detailed information could have been useful and given an opportunity to look more in depth on the results for each individual.

Various measures can be taken in order to further investigate the potential cognate facilitation effect of an L3 on L2. It would be necessary to replicate the study on larger groups and with

more words. It could also be an idea to look at different word classes in relation to cognate facilitation, as this study, although containing very few words, shows that adjectives were correctly identified to a greater extent than verbs and nouns. Of course, this would have to be investigated on a much bigger scale. It would also be interesting to more closely examine the background factors of the participants to look for correlations. Furthermore, it could be interesting to investigate these kinds of cognates and non-cognates in experiments where the participants had more time to consider the words, or where translation alternatives were not provided, in order to examine whether this cognate facilitation effect facilitates fast retrieval of words or whether it can be said to facilitate language knowledge.

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Appendix A

Relevance for teaching profession

Working on this thesis has given me a deeper understanding of how language acquisition works, which I believe will be valuable knowledge for me to take with me as a future teacher of foreign languages. Additionally, it has made me aware of the potential of using cognates as a tool in foreign language teaching. Many people seem to be under the impression that all other languages should be excluded in the instruction of a foreign language. However, as the work with this thesis has shown me, one can actually use other languages to strengthen the target language by working to create a cognate awareness in the foreign language classroom.

Both the English and the foreign languages subject curricula emphasize that students shall learn to use different strategies for language acquisition. I believe that creating awareness around different learning strategies can help make the language learning easier. Helping the students build bridges between languages by introducing cognates may make language learning seem like a less daunting task and help motivate and give confidence to students who struggle.

This thesis has given me an insight into the history of the English language, which can be used as a tool to explain certain aspects of English in the language classroom, as well as in teaching about English-speaking countries, as emphasized by the English subject curriculum. As this thesis has shown, English often have two near synonyms referring to the same item, and this knowledge can be used to teach students about different language styles for different purposes.

I hope that this will enhance my practice as a teacher and I look forward to incorporate knowledge I have obtained by writing this thesis into my work as a teacher.

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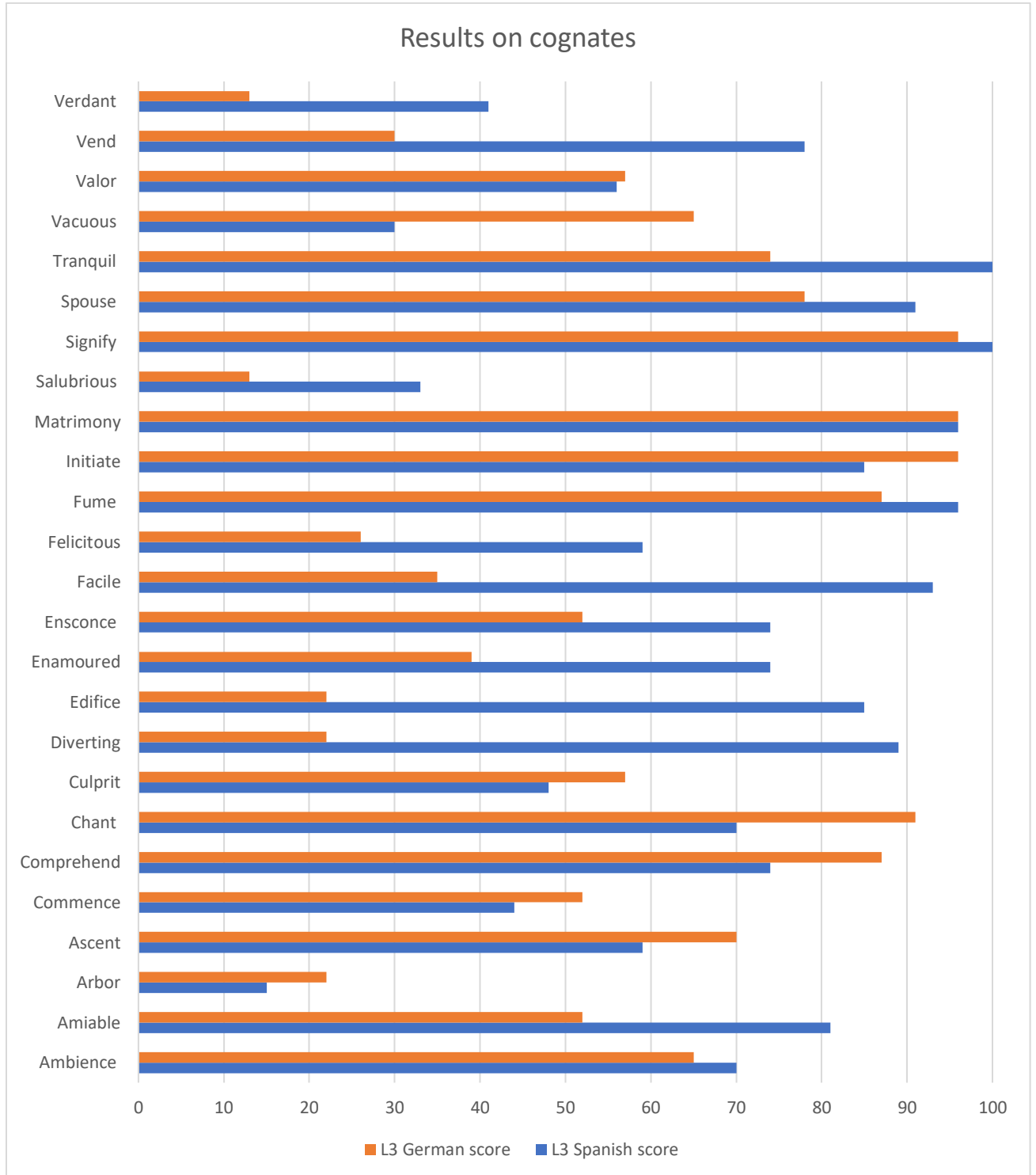
Appendix B

Appendix B presents the 25 cognate (with Spanish cognate word) and the 25 non-cognate words from the experiment. Please note that the each non-cognate words are matched with a cognate concerning word class and frequency.

English cognate word (frequency)	Spanish cognate word (frequency)	Matched non-cognate	Word class
Ambience (1)	Ambiente (135)	Vigil	Noun
Amiable (2)	Amable (16)	Lackadaisical	Adjective
Arbor (1)	Árbol (35)	Hearsay	Noun
Ascent (1)	Ascenso (15)	Larder	Noun
Commence (3)	Comenzar (54)	Ignite	Verb
Comprehend (5)	Comprender (65)	Epitomize	Verb
Chant (2)	Cantar (27)	Shirk	Verb
Culprit (2)	Culpable (21)	Demise	Noun
Diverting (3)	Divertido/a (35)	Slovenly	Adjective
Edifice (3)	Edificio (47)	Upsurge	Noun
Enamoured (1)	Enamorado/a (25)	Gritty	Adjective
Ensconce (2)	Esconder (12)	Impale	Verb
Facile (1)	Fácil (163)	Fickle	Adjective
Felicitous (1)	Feliz (104)	Vindictive	Adjective
Fume (1)	Fumar (16)	Obliterate	Verb
Initiate (5)	Iniciar (48)	Holler	Verb
Matrimony (3)	Matrimonio (67)	Antler	Noun
Salubrious (2)	Saludable (26)	Slothful	Adjective
Signify (2)	Significar (10)	Hanker	Verb
Spouse (7)	Esposo/a (107)	Warden	Noun
Tranquil (2)	Tranquilo/a (42)	Ravenous	Adjective
Vacuous (1)	Vacío (4)	Vexatious	Adjective
Valor (1)	Valor (213)	Thimble	Noun
Vend (2)	Vender (18)	Stifle	Verb
Verdant (1)	Verde (60)	Tepid	Adjective

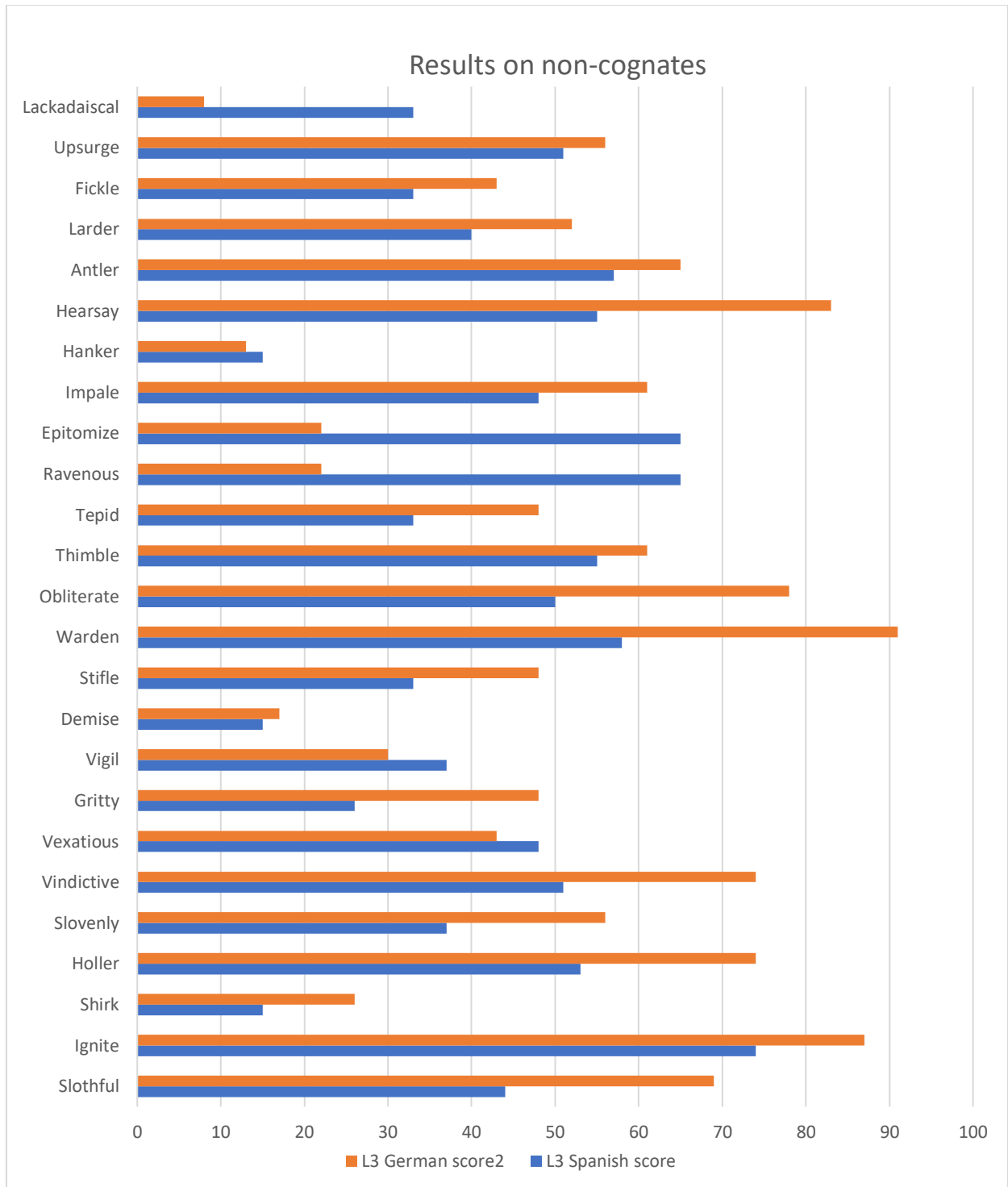
Appendix C

Results on cognates by L3 Spanish and L3 German participants in percent.



Appendix D

Results on non-cognates by L3 Spanish and L3 German participants in percent.



Appendix E

Background questionnaire L3 Spanish participants.

1. Hva er morsmålet ditt?

- Norsk
- Engelsk
- Annet (vennligst spesifiser): _____

2. Hvilke andre språk snakker du? Vennligst spesifiser hvilke språk og nivå (grunnleggende – mellomnivå – avansert): _____

3. Har du vokst opp med foreldre som har brukt andre språk enn norsk hjemme?

- Nei
- Ja (vennligst spesifiser hvilke(t) språk): _____

4. Har du en diagnose som potensielt kan påvirke språklæringen din (feks. Aspergers, dysleksi, nedsatt hørsel)?

- Nei
- Ja (vennligst spesifiser): _____

5. Har du bodd utenfor Norge i mer enn seks uker?

- Nei
- Ja (vennligst spesifiser hvor, og hvor gammel du var): _____

6. Har du tatt andre fag på universitetet hvor hele eller deler av pensum og forelesninger har foregått på engelsk?

- Nei
- Ja, delvis på engelsk (vennligst spesifiser fagområde og antall studiepoeng):

Ja, alt var på engelsk (vennligst spesifiser fagområde og antall studiepoeng):

7. Hvordan vil du rangere din egen engelskkompetanse?

- Grunnleggende (A1):** Jeg kan forstå og bruke enkle setninger.
- Grunnleggende (A2):** Jeg kan forstå vanlige setninger, og kommunisere med andre i enkle samtalesituasjoner.
- Mellomnivå (B1):** Jeg forstår hovedinnholdet i klar, standard tale om kjente emner og lese og skrive enkle sammenhengende tekster.
- Mellomnivå (B2):** Jeg kan forstå lengre sammenhengende tale og lese lengre tekster om ulike temaer.
- Avansert nivå (C1):** Jeg kan uttrykke meg selv spontant og flytende, og kan bruke språket effektivt i sosiale og akademiske sammenhenger.
- Avansert nivå (C2):** Jeg forstår alt jeg hører og leser og kan uttrykke meg spontant, flytende og presist.

8. Hvordan vil du rangere din egen spanskkompetanse?

- Grunnleggende (A1):** Jeg kan forstå og bruke enkle setninger.
- Grunnleggende (A2):** Jeg kan forstå vanlige setninger, og kommunisere med andre i enkle samtalesituasjoner.
- Mellomnivå (B1):** Jeg forstår hovedinnholdet i klar, standard tale om kjente emner og lese og skrive enkle sammenhengende tekster.
- Mellomnivå (B2):** Jeg kan forstå lengre sammenhengende tale og lese lengre tekster om ulike temaer.
- Avansert nivå (C1):** Jeg kan uttrykke meg selv spontant og flytende, og kan bruke språket effektivt i sosiale og akademiske sammenhenger.
- Avansert nivå (C2):** Jeg forstår alt jeg hører og leser og kan uttrykke meg spontant, flytende og presist.

The L3 Spanish participants were later contacted orally and asked about which language they learnt second and third after their native language.

Appendix F

Background questionnaire L3 German participants.

1. Hva er morsmålet ditt?

- Norsk
- Engelsk
- Annet (vennligst spesifiser): _____

2. Hvilke andre språk snakker du? Venntligst spesifiser hvilke språk og nivå (grunnleggende – mellomnivå – avansert): _____

3. Har du vokst opp med foreldre som har brukt andre språk enn norsk hjemme?

- Nei
- Ja (vennligst spesifiser hvilke(t) språk): _____

4. Har du en diagnose som potensielt kan påvirke språklæringen din (feks. Aspergers, dysleksi, nedsatt hørsel)?

- Nei
- Ja (vennligst spesifiser): _____

5. Hvordan vil du rangere din egen engelskkompetanse?

- Grunnleggende (A1):** Jeg kan forstå og bruke enkle setninger.
- Grunnleggende (A2):** Jeg kan forstå vanlige setninger, og kommunisere med andre i enkle samtalsituasjoner.
- Mellomnivå (B1):** Jeg forstår hovedinnholdet i klar, standard tale om kjente emner og lese og skrive enkle sammenhengende tekster.
- Mellomnivå (B2):** Jeg kan forstå lengre sammenhengende tale og lese lengre tekster om ulike temaer.
- Avansert nivå (C1):** Jeg kan uttrykke meg selv spontant og flytende, og kan bruke språket effektivt i sosiale og akademiske sammenhenger.

Avansert nivå (C2): Jeg forstår alt jeg hører og leser og kan uttrykke meg spontant, flytende og presist.

The L3 German participants were later contacted again and asked the following questions:

1. Har du tatt andre fag på universitetet hvor hele eller deler av pensum og forelesninger har foregått på engelsk?

Nei

Ja, delvis på engelsk (vennligst spesifiser fagområde og antall studiepoeng):

Ja, alt var på engelsk (vennligst spesifiser fagområde og antall studiepoeng):

2. Har du bodd utenfor Norge i mer enn seks uker?

Nei

Ja (vennligst spesifiser hvor, og hvor gammel du var): _____

3. Hvilket språk lærte du først av engelsk og tysk?

Engelsk

Tysk