

# **FOREIGN LANGUAGE ATTRITION AMONG ENGLISH-SPANISH LANGUAGE STUDENTS DURING A PERIOD OF STUDY ABROAD**

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Student number: 01911910

Supervisor: Mr David Chan

A dissertation submitted to Ghent University in partial fulfilment of the requirements for the degree of  
Master of Translation

Academic year: 2022 - 2023



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## **ABSTRACT**

The decline of a speaker's knowledge of, and proficiency in, a foreign language (FL), also referred to as foreign language attrition, is a genuine and undeniable phenomenon but remains a relatively little researched subject (Schmid, 2023). Research on language attrition in general has mainly focussed on speakers staying abroad for an extended period of time, and not on those residing abroad for shorter periods of time, such as students participating in a study abroad (SA) experience. Therefore, this exploratory study examines whether language students, studying English and Spanish, experienced FL attrition during an Erasmus SA period in either Spain or an English-speaking country. The study explores the role of language use, attitudes, and motivation in the language attrition process, and asks which signs of language attrition the students experienced. Using a self-reporting survey, this study establishes that some students indeed experienced FL attrition and reported language attrition signs. In addition, it was found that language use correlated strongly with reported FL attrition. Motivations and attitudes correlated only slightly. This study provides significant insights into FL attrition of a group often assumed to only experience language gains in a SA context and argues for more research on the topic to be conducted in the future.

Keywords: language attrition, foreign language attrition, FL, study abroad period, SA, Erasmus

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## INTRODUCTION

In Schmid (2011), two German immigrants are introduced who escaped the Nazi terror in Germany and fled to England in the 1920s. Sixty years later, and thus sixty years after living in an English-speaking environment, they were interviewed in German for the Holocaust Memorial Museum in Düsseldorf. However, they both experienced difficulties when speaking their native language, as they sometimes struggled to find the correct German word to use, adopted English prepositions or structures in their German speech, or switched between the two languages.

Losing fluency in one's own native language, or other languages a speaker might know, might be confusing or upsetting but is actually a very common phenomenon called *language attrition*, on which much research has been conducted.

Even though an interest in language attrition can be detected as early as the 16th century, the research field is a relatively new one (Schmid & Mehotcheva, 2012). Mehotcheva (2010) states that research into language attrition before the 1980s was mainly focussed on language shift, which is the recession of a language over the generations, and pathological language loss in individuals experiencing brain-damage due to an injury, a disease, or dementia. Language attrition in healthy individuals, or 'natural' attrition, only began to attract considerable attention after the Conference on the Loss of Language Skills in 1982. This conference was held at the University of Pennsylvania and produced many relevant papers, giving the new research field a push in its further development; much research on the topic has since been conducted.

However, the majority of research into language attrition has focussed on first language (L1) attrition. In comparison, research involving other types of attrition, such as second language (L2) attrition or foreign language (FL) attrition, has been limited regardless of the increasing importance of understanding the fundamentals of such types of attrition, especially given today's society becoming predominantly multilingual (Schmid & Mehotcheva, 2010). The topic of foreign language attrition in particular remains an under-researched area in the field of language attrition and language learning studies; much remains to be researched, discovered, and established on the topic. In her plenary to raise awareness about the attrition of instructed FLs, Schmid (2023) further argues that, to this date, "we can say with certainty that language attrition is a genuine phenomenon and a genuine problem, but one about which we know relatively little" (p. 73). In addition, most language attrition studies have focussed on attrition as a result of an interplay between the L1 and L2. However, L2s/FLs can also have an influence on other L2s/FLs of a speaker, but this also remains under-researched. Jessner et al. (2021) even argue that "research on the attrition of more than one (foreign) language within the individual is virtually non-existent to date" (pp. 19-20). One of the only studies providing evidence for such interplays between FLs, is that of Mickan (2021). Therefore, it could be argued that a research gap can be identified on the influence of one FL on another FL.

Furthermore, language attrition has mostly been studied in speakers living in a foreign environment for an extended period of time, such as the German immigrants mentioned before. Only a smaller number of studies are concerned with language attrition in people residing abroad for a shorter period of time, such as students engaging in a study abroad (SA) programme. The main focus of studies interested in language attrition and the SA context have focussed on the period after the SA experience.

Because of this paucity of existing research on FL attrition caused by an interplay of FLs and during instead of after a SA period instead, it might prove interesting to explore this further. Therefore, the present study asked Flemish language students studying English and Spanish at university, whether they experienced FL attrition of either language during an Erasmus study abroad period. The following research question was formulated:

To what extent do (English-Spanish) language students feel that they experienced foreign language attrition during a period of study abroad?

Chapter 2 will discuss this main research question in more depth and formulate some additional sub-research questions on factors influencing the language attrition process such as attitudes, motivation and language use, as well as signs of language attrition. Even though aspects such as attitudes and motivation are qualitative in nature, applied linguistics does rely on quantitative data to study them, as numbers make quantitative analyses easier to conduct (Fryer et al., 2018). In this way, the present study also relied on a quantitative data collecting method, a survey, to gather data for the purpose of answering the research questions. However, it should be noted that the present study is exploratory in nature, and thus does not intend to provide conclusive results or make generalisations, but rather to provide insight into a topic little is known about and perhaps raise the interest of future researchers on the topic for it to be studied in more depth in the future.

This study is divided into five chapters. Chapter 1 will provide a review of the existing literature on language attrition. Chapter 2, as already mentioned, will elaborate on the research question, sub-questions, and hypotheses. In chapter 3, the methodology of the present study will be described, and Chapter 4 will give an overview of the obtained results and data. Chapter 5 will discuss the results, answer the research questions, describe the main limitations of the present study, and give some recommendations for future research on the topic.

## 1 REVIEW OF THE LITERATURE

This chapter on the existing language attrition research will define language attrition and discuss the factors of importance in the language attrition process. It will also describe the hypotheses on and the most frequent linguistic characteristics of language attrition, to end with a short note on the study abroad context. Even though this literature review aims to support research into foreign language (FL) attrition, it is important to include information about first language (L1) and second language (L2) attrition, in order to provide a better and more complete understanding of the research field.

### 1.1 Defining language attrition

According to the Collins English Dictionary, attrition can be defined as “the act of wearing away or the state of being worn away” (HarperCollins, 2014). Within the field of linguistics, **language attrition** refers to the process of speakers experiencing a change in their language use and linguistic knowledge to such an extent that their fluency in that language can *wear away* (Schmid, 2013). However, this phenomenon used to be referred to with the term *language loss*, but as Schmid (2011) points out, this term is somewhat problematic and unspecific, as it can refer to different concepts in linguistic research. Next to it referring to the linguistic knowledge of an individual speaker changing or reducing, the term *language loss* can also be used to refer to processes of languages going extinct, declining, or transforming into other languages over the years (Schmid, 2011). Therefore, to avoid such ambiguity, *language attrition* is used as “a more accurate and specific term for the loss of a language by a healthy individual (that is, loss which is not caused by brain injury or some pathological condition [...])” (Schmid, 2011, p. 3). Furthermore, Schmid mentions that by using the term *language attrition* instead of *language loss*, the gradual process of an individual speaker’s forgetting linguistic knowledge can be interpreted more broadly.

**Language attrition** refers to a change in linguistic behaviour of a speaker, which can be characterised by changes in the vocabulary, grammar, or pronunciation of the language (Schmid, 2013). With language attrition, a speaker might experience that they stop using certain lexical elements, pronounce some words or sounds differently, or use simpler grammatical structures (Schmid, 2011). However, language attrition is often found to be temporary, meaning that language knowledge does not entirely fade from an individual’s memory (Mickan, 2021). Rather the individual is not able to access certain linguistic features when the need arises. Therefore, according to the literature, language attrition can be considered an access problem, rather than actual language loss, and can be influenced by various factors, such as a reduced amount of language use and contact, speaker’s attitudes or motivation, or other sociolinguistic factors (Schmid, 2011). Language attrition research distinguishes different types of language attrition, as discussed in the following paragraphs.

**First language (L1) attrition** refers to a speaker living in an L2 environment for an extended period of time and experiencing changes in the use of their native or first language (Schmid, 2013; Yılmaz & Schmid, 2017). L1 attrition, and language attrition in general, can be influenced or caused by many factors. However, the two most significant factors consist of the L1 being used less, due to less access to the language in the new living environment, and the dominant contact language (L2) competing with and exerting an influence on the L1 (Yılmaz & Schmid, 2017). Therefore, first language attrition “can become highly noticeable in speakers who have migrated to another country and henceforth lived in an L2-dominant environment” (Schmid, 2013, p. 117).

**Second language (L2) attrition** is the attrition of a language a speaker has learned or acquired later in life (Mehotcheva, 2010; Schmid & Mehotcheva, 2012). This makes the two types of attrition different from each other and L2 attrition more complex than L1 attrition (Bardovi-Harlig & Stringer, 2010). However, L1 and L2 attrition also have some features in common, the most relevant being that L2 attrition also occurs in a setting where the L2 is used only rarely and is not the main means of communication (Schmid, 2011). Therefore, studies into L1 and L2 attrition often share the same elements or apply the same hypotheses, taking into account the additional variables that L2 attrition involves (Bardovi-Harlig & Stringer, 2010).

**Foreign language (FL) attrition** was first considered to be the same as L2 attrition, usually making no distinction between the two, as they both imply the attrition of a language learned or acquired later in life. However, “a foreign language learned at school can hardly be compared to a naturalistically acquired L2 as in the case of bilingual speakers” (Mehotcheva, 2010, p. 4). By using the term L2, it is assumed that all L2s are acquired in the same way and can also be treated the same (Jessner et al., 2021). However, the amount and quality of input and use differs vastly between languages acquired implicitly, naturalistically, unintentionally, and in an immersion setting, and languages acquired explicitly, formally, and school-instructed in settings focussed on input, explicit processes, and rules. Therefore, a distinction has to be made between L2s and FLs, and thus also between L2 and FL attrition. The present study will follow the distinction made in Schmid and Mehotcheva (2012), who refer to an L2 as a second language unintentionally acquired, and to an FL as a language acquired intentionally at school.

## 1.2 Factors influencing language attrition

In Schmid (2013) and Schmid and Mehotcheva (2012), it is argued that (foreign) language attrition is a phenomenon with a high variability, meaning that speakers can be susceptible to language attrition in different ways; and when they experience language attrition, can do so to different extents and be influenced by different factors. Furthermore, as mentioned before and as established by Bardovi-Harlig and Stringer (2010), it is argued that L1 and L2 attrition share many features, but that the latter is more complex because of some additional linguistic and extralinguistic variables. Therefore, while L1 and L2

attrition studies have shared many similarities and have followed the same ideas and theories, the additional variables must also be taken into account when studying L2 attrition.

However, (foreign) language attrition remains an under-researched aspect of the research field with much uncertainty concerning the factors involved in or influencing the language attrition process. Research has also not yet been able to explain the differences in susceptibility to attrition, attrition rates, populations, or types of attrition, but did identify some factors that are recommended to be taken into account when studying language attrition among speakers. Such factors can aid speakers to retain a language, so it can be argued that the same factors also play a role in the attrition of a language (Schmid & Mehotcheva, 2012). In the following paragraphs and sections, these factors will be described. It should be noted, however, that this list of factors is not comprehensive, and other factors might also influence the language attrition process. Furthermore, only a selection of these factors will be extensively discussed, as not all were of particular interest in view of the research questions.

A distinction between two groups of factors can be made: personal factors relating to the individual speaker and external factors relating to the language circumstances. Personal factors can be further divided into background factors and internal or psychological factors. Background factors include age, age when FL learning started, age at beginning of attrition, language aptitude, manner of acquisition of the FL, attained proficiency, gender, and education. Internal or psychological factors include factors such as identity, emotions such as stress and anxiety, attitudes towards the language and its culture, and motivation to maintain the language. The second group of factors, external factors, include quality of language use, amount of language use and rehearsal, amount of contact and input, duration and nature of the immersion period, time since attrition started, and cross-linguistic influence of multiple languages stored in a speaker's memory. To be able to conduct research on FL attrition with the aim of answering the research questions of the present study, it is necessary to explain the following three factors in more depth: cross-linguistic influence, language use, and attitudes and motivation.

### 1.2.1 Cross-linguistic influence (CLI)

Language attrition implies that a speaker has acquired or learned at least two languages. Regardless of the many variables that can influence attrition, the main principle always remains: when we learn a new language, "competing entries and categories are established in the brain for items, features or rules which already exist in the native language" (Yılmaz & Schmid, 2017, p. 2). Therefore, a bilingual or multilingual speaker might notice a change in their language use, due to the multiple languages stored in their memories constantly influencing each other, transferring information to each other, or competing with each other (Schmid, 2011). Such processes of influence, transfer, or competition are examples of cross-linguistic influence (CLI). Even though the extent to which it contributes to language attrition has not yet been established, it is an important factor in the language attrition process, because it can cause for speakers to speak with an accent, use grammatical rules inconsistently, or have a

less extensive vocabulary. Such signs can be considered language attrition signs, making it relevant to mention CLI as a possible cause for language attrition (Schmid 2011, 2013; Mehotcheva, 2010).

At the root of CLI lies the idea that already acquired languages will influence all languages acquired later on, because this knowledge of previously learned languages is constantly present in a speaker's memory and cannot be stopped from being present (Schmid, 2011). This mechanism can be applicable to the L1 influencing the L2 of a bilingual speaker, but also for previously learned L2s/FLs influencing other L2s/FLs acquired by a speaker later in life. This influence between languages causes items with similar meanings to be activated at the same time when a speaker wants to recall an item in a certain language. For example, when a speaker wants to recall a word in one language, words with the same meaning but in the other language(s) will also be activated and start to compete with each other. The speaker may then not be able to recall the word they want to use, because the word in a different language is stronger, making them hesitate or use the word of the other language. In this way, CLI can be visible in a speaker's language use in terms of lexicon, phonology, phonetics, or grammar.

An important framework in CLI research is that of Pavlenko (2004), who distinguishes the different ways in which the lexicon of one language can be influenced by the lexicon of another language. However, language attrition research has been able to apply these processes to other linguistic areas as well, such as grammar and phonology (Schmid 2011, 2013). Furthermore, these processes have been argued to function as signs of language attrition, because they indicate a change in language use. After a speaker has learned a new language on top of one they already know, and thus after CLI has occurred, the use of the first learned language will no longer be 100% similar to how it was used previously.

Pavlenko (2004) defines four processes induced by CLI: *borrowing*, *restructuring*, *convergence*, and *shift*. Schmid (2011, pp. 20-36) discusses the most frequent or noticeable characteristics of language attrition caused by these processes at length. This study, on the other hand, will focus on describing the effect of these processes on the different areas of a language in section 2.4.

Cross-linguistic influence has mainly been studied in bilinguals with regard to the L1 and the L2 influencing each other, and not as much in multilinguals and the multiple languages influencing each other. However, "multilinguals have knowledge of more than two languages by definition, so the possible sources of influence automatically increase with the number of languages the individual is familiar with" (Perić & Božinović, 2015, pp. 175-176). This phenomenon is also referred to as *combined CLI*. Perić and Božinović (2015) studied the cross-linguistic influence of the Croatian L1 and English L2 on participants' Spanish L3 writing skills. The results showed that CLI from both Croatian and English was noticeable in the written Spanish texts the participants produced, as many of the errors made in the texts could be traced back to both languages. This confirmed the hypothesis that all three languages present in the participant's memories were activated simultaneously. Furthermore, the results revealed a connection between this *combined CLI* and some of the typical signs of language attrition: the participants tended to use borrowing or restructuring processes in their texts.

Another study on FL attrition driven by the interference and competition between foreign languages among multilingual speakers, is that of Mickan (2021). When studying the influence of the participant's Dutch L1 and English FL on the learning of a Spanish FL, she established, and meanwhile confirmed the hypothesis of her study, that interference and competition are important driving factors that can cause language attrition. She draws this partly on memory research, which argues that forgetting is mostly caused by memories competing with each other. Her results further found that competition from more frequently used languages, the Dutch L1 and English FL of the speakers, were a cause for language attrition of the lesser used language, the newly acquired Spanish FL. Furthermore, such effects of interferences causing language attrition were strongest between the FLs, and not between the L1 and FL. Drawing on her results, she argues that learning a new foreign language will result in signs of attrition, such as access problems, in other foreign languages, be it sooner or later.

The studies and findings of Perić and Božinović (2015) and Mickan (2021) are particularly relevant to this study, because they show that CLI can occur not only between a native and second language, but also between foreign languages, which is part of what this study aims to investigate.

### 1.2.2 Language use

"It appears logical to assume that the more often a language is used, the better it will be retained and vice versa" (Schmid & Mehotcheva, 2012, p. 15). This assumption of the amount of language use being a determining factor of language attrition, is one frequently made in language attrition research. It is indeed a fact, and has been established, that a speaker who continues to use a language frequently will remain fluent in that language, while speakers who do not will forget the language more easily (Schmid, 2011, 2013; Mehotcheva 2010; Jessner et al., 2021). It is argued that this has to do with one of the cornerstones of language attrition research, namely that the human memory has to be maintained to keep it from deteriorating; the less a memory is activated, the more difficult it will become to recall it. Therefore, using a language less frequently can lead to a speaker experiencing more difficulties when recalling items from that language, and thus experiencing language attrition. This principle is also at the basis of the Activation Threshold Hypothesis (ATH), which will be explained in section 2.3.

This is also what has been established in many language attrition studies (Kartushina & Martin, 2019; Mickan, 2021; Jessner et al., 2021). The result most frequently observed was the correlation between high attrition rates and a reduction in the amount of language use of the attriting language.

For example, when studying the English vowel production of Spanish-Basque bilinguals after an immersive period in an English-speaking environment, Kartushina and Martin (2019) showed that active language use is a requirement for maintaining accurate pronunciation. The participants showed assimilatory acoustic drift in their Spanish and Basque vowel pronunciation towards the English pronunciation of these vowels. However, after a period of not using English, the pronunciation of these vowels shifted back to their normal Spanish and Basque pronunciation. In the same way, Jessner et al.

(2021) showed that language use, or the lack thereof, is one of the strongest influences on language attrition. They examined FL attrition of German speakers' English FL1 and French or Italian FL2. The results showed that the amount of language use had a visible impact on the speakers' output quality of the FL2.

Lastly, Mickan (2021) provides further evidence to argue that less frequent use and of a lesser quality can be a cause for language attrition. She studied the attrition rates of German university students after an immersion period in Spain and found that Spanish forgetting rates were influenced by both the quantity and quality of Spanish language use, as more native input was linked to a better retention of the language. In this regard, it could be argued that if a speaker receives a lot of non-native input, this could imply more difficult circumstances for language retention.

### 1.2.3 Attitudes and motivation

"People's beliefs and feelings are related to their linguistic behavior" (Campbell-Kibler, 2018, p. 144). In language attrition research, such feelings about language can also be called language attitudes or motivation and have been argued to be correlated with the previously discussed factor of language use (Mehotcheva, 2010; Köpke & Schmid, 2004; Schmid & de Bot, 2006). They argue that it is the responsibility of the speaker to search for opportunities for language use, and if they are not really motivated to do so, or have negative attitudes related to language use or towards the language and its culture, they might look for less opportunities to speak it. In the same way, searching for opportunities to actively use the language can be called *effort*, which could be argued to be influenced by attitudes and motivation. Effort is important for maintaining a language, because if it "is responsible for maintaining the stability of a language system, it logically follows that its absence can be considered as the core of attrition" (Jessner et al., 2021, p. 21).

It has already been established that attitudes of speakers have a high influence on the acquisition of a foreign language, so it can be assumed that this is also applicable for the attrition of one (Schmid, 2013). In other words, when a speaker likes speaking a certain language, they are more likely to do so and when a speaker does not particularly like speaking the foreign language, they might not use it to the same extent. However, many language attrition studies have had difficulties establishing the role that attitude and motivation play in the language attrition process given that these factors are subject to change and develop dynamically over the years (Schmid, 2006; Schmid & Mehotcheva, 2012).

Furthermore, attitudes and motivation can be closely tied to other internal psychological factors, such as emotions, anxiety, or stress. If a speaker is more anxious about speaking a certain language, they might have more negative attitudes related to this language and its environment and will be less motivated to search opportunities to speak this language. For example, Jessner et al. (2015) found that high levels of anxiety in relation to speaking a language correlated with self-perceptions of a lower language and pronunciation proficiency. In this way, the researchers found that such anxiety,



characterised by fear of negative evaluation, humiliation, or embarrassment because of making mistakes when speaking, can lead to a speaker avoiding such situations where it is expected that they speak. Moreover, Sider (2004) also found that a fear of making mistakes when speaking with native speakers is one of the commonalities among speakers experiencing language attrition. The results showed that the speakers hesitated to speak the language because they felt that they did not speak it perfectly. Even though they realised that most native speakers would still understand them and that this fear was sometimes imaginary, it did not really alter how they perceived it. In sum, a fear of making mistakes when speaking a language can cause for speakers to search less opportunities to use the language, thus not using it frequently and regularly, which has been argued before to be an influencing factor in the attrition process.

### 1.3 Hypotheses on language attrition

Even though the research field developed only recently, a significant amount of information has already been discovered about language attrition, mainly drawing on research on language acquisition, because language attrition can be argued to be the reverse process of language acquisition (Mehotcheva, 2010). Factors that are of importance in L2 acquisition may thus also be important in the process of (second) language attrition (Schmid, 2011). In general, the majority of this information has been applied to L1 attrition, but “have subsequently been applied to L2 attrition” (Bardovi-Harlig & Stringer, 2010, p. 3). The same can be argued for the following hypotheses, which have been proposed for L1 attrition processes and can also be applied to L2/FL attrition processes. In the following paragraphs, an overview will be given on the existing hypotheses proposed for language attrition, compiled and summarised from Köpke and Schmid (2004), Bardovi-Harlig and Stringer (2010), Schmid and Mehotcheva (2012), and Jessner et al. (2021). The hypotheses include: *the Regression Hypothesis*, *the Activation Threshold Hypothesis*, *the Interference Hypothesis*, *the Simplification Hypothesis*, *the Markedness Hypothesis*, and *the Dormant Language Hypothesis*.

**The Regression Hypothesis** is based on a memory-approach to language attrition (Schmid & Mehotcheva, 2012). It poses that the order in which items haven been acquired in the language acquisition process, are the reverse order in which these items will attrite during the language attrition process (Köpke & Schmid, 2004; Bardovi-Harlig & Stringer, 2010). In other words, items stored first in a speaker’s memory will be forgotten last, and items stored last will be forgotten first; therefore, this hypothesis is also referred to as ‘first in, last out’ or ‘last in, first out’. In this way, it has been argued that the language attrition process is the mirror image of the language acquisition process. This hypothesis is most discussed in L2/FL attrition research.

However, a second interpretation has been given to the Regression Hypothesis (Schmid & Mehotcheva, 2012), arguing that items learned best by a speaker are those to be forgotten last (‘best learned, last out’). Best learned items are those simple words and basic grammatical structures necessary to build a language on, taught at the beginning of the language acquisition process and used most frequently,

while lesser learned items may be more complicated words or less frequently used grammatical structures learned later in the acquisition process and used less often. This interpretation gives rise to the next hypothesis.

**The Activation Threshold Hypothesis (ATH)** is related to the Regression Hypothesis in the sense that it also speculates on which linguistic elements are the first ones to be lost by a speaker due to language attrition. This hypothesis poses the following: the more frequent an item is activated, the lower the threshold will be to recall this item and the more actively this item can be used by a speaker (Bardovi-Harlig & Stringer, 2010; Schmid & Mehotcheva, 2012; Jessner et al., 2021). Consequently, the less frequent an item is activated, the higher the threshold will be to recall and activate this item and the less this item will be used, which could be seen as a sign of language attrition. In this way, the ATH is closely related to the factor of language use, described in section 2.2.2, as the quantity of language use is crucial to keeping the activation threshold level low and maintaining accessibility. Therefore, if the use of a language has reduced, items are activated less frequently and the threshold will be higher, making it more difficult to access and recall these items from memory. In sum, the items learned best will be the ones used most and the ones least vulnerable to language attrition, which is why this hypothesis is also referred to as 'best learned, last out'.

**The Interference Hypothesis** refers to the previously discussed cross-linguistic influence (CLI), which is why this hypothesis is also referred to as the *Cross-linguistic Influence Hypothesis* or the *Interlanguage Hypothesis* (Köpke & Schmid, 2004; Bardovi-Harlig & Stringer, 2010). As the name suggests, it involves an increasing influence in a speaker's memory of a new and more dominant language on a language already present. However, this influence can also occur in the other direction: the previously learned language being the dominant one and influencing all languages learned later in life by a speaker. This influence and competition between languages can then directly cause attrition of the non-dominant language and signs of attrition can become visible. One condition for transfer is that the languages need to be similar in form and rules. For example, it is more likely for a speaker to attrite in terms of grammar rules that are similar, but less likely to attrite in grammar rules that only exist in one language, but not in the other.

**The Simplification Hypothesis** is less of a hypothesis in itself and more of an umbrella term for various simplification processes noticeable in any type of attrition (Köpke & Schmid, 2004). These processes seem to occur in situations where there is a lack of input for a long time for the attriting language. Such processes can mean the simplification of morphological items such as agreement markers, or the loss of register control. It is not yet clear how these processes are induced, but it has been argued that they are to a certain extent independent of language transfer (Bardovi-Harlig & Stringer, 2010).

**The Markedness Hypothesis** is used to refer to several ideas in language attrition research. Bardovi-Harlig and Stringer (2010) argue that these ideas are based on the assumption of an individual's

language knowledge consisting of parameters in a default setting. During the acquiring or learning process of a language, these parameters have been set to certain marked values. However, when the attrition process starts, due to a prolonged lack of input, it could be argued that these parameters become unmarked and revert to the default setting. However, the number of empirical studies trying to establish this hypothesis is very limited, and it is unlikely that it will be studied further in attrition research because of a lack of enthusiasm for parameter-theories since the 1980s (Bardovi-Harlig & Stringer, 2010, p. 6).

**The Dormant Language Hypothesis** tries to establish the debate on where language attrition ends (Bardovi-Harlig & Stringer, 2010). On the one hand, language attrition could mean the complete loss of a language or the complete loss of particular linguistic elements. On the other hand, remnants of the language or the linguistic elements could remain in an individual's memory, implying that the language is 'dormant' and language attrition is more of a difficulty of access, and not a total language loss; in this case, there is still a possibility of retrieval. This idea also surfaces in L2 attrition research in the concept of *relearning*. It has been found that relearning a language is easier than learning a language for the first time, thus confirming that the language attrition problem can be regarded as a lack or difficulty of access to linguistic knowledge, rather than a total loss.

#### 1.4 Linguistic characteristics of language attrition

This section will discuss how language attrition can be visible in different parts of a language system, drawing on the framework of Pavlenko (2004), as applied to language attrition in Schmid (2011, 2013). As mentioned in section 2.2.1, Pavlenko's original framework distinguishes the different ways in which the language of a speaker can change due to CLI. However, it has been argued that this change, meaning the noticeable use of elements stemming from another language in the changing language, can be considered language attrition signs.

Therefore, this section will compile and summarise how Schmid (2011, 2013) has applied Pavlenko's framework and its four processes to language attrition. She applies the framework to the two main parts of a language system: mental lexicon and linguistic structure. Most of these changes can be attributed to cross-linguistic influence, but sometimes it can also be due to memories or knowledge becoming harder to access if not used regularly.

##### 1.4.1 The mental lexicon

Most speakers will mention problems with vocabulary and lexical access when asked how they experience language attrition. This can be because of the fact that language attrition can be most noticeable in the mental lexicon of a speaker, as "a smaller or less readily accessible [...] lexicon is probably one of the first symptoms of language attrition, and one of the areas in which the attritional process manifests itself most markedly" (Schmid, 2011, pp. 45-46). The brain of a bilingual or

multilingual speaker stores multiple lexical items in different languages for the same concept. Attrition in this mental lexicon of a speaker can mainly be caused by two phenomena: the cross-linguistic influence, transfer, or competition between lexical items, or the inaccessibility of such items.

In terms of CLI, lexical items can change or restructure the lexical system of a language according to the four processes of Pavlenko's framework. The effect of these processes in the lexical use of speakers will be discussed and exemplified in the following paragraphs.

**Borrowing** in terms of the lexical use of a speaker consists of vocabulary items from one language being used in the other language, adopting the entire lexical form and use of the item in the other language (Schmid, 2011, pp. 20-26). This item thus becomes part of the other language system and is integrated either momentarily or permanently. For example, when a multilingual speaker uses an English word when speaking in Dutch because they cannot retrieve the corresponding Dutch word, this can be considered borrowing.

**Restructuring** with regard to vocabulary means the analysis of lexical items of one language according to rules or norms of corresponding lexical items from another language (Schmid, 2011, pp. 26-31). For example, when a word is literally translated, it might exist in the language but not have the same meaning, which will come across as unidiomatic in terms of collocations or use. An example of this is the English verb *to run*, which can be used in constructions such as *to run for president* or *to run short of something* (Schmid, 2013, p. 118). In other languages such as Dutch, however, such constructions with the verb *lopen* are not used (*\*voor president lopen / \*tekort lopen aan*).

**Convergence** of lexical items involves a speaker merging or integrating lexical items from two or more languages and creating something new that differs from the original languages (Schmid, 2011, pp. 31-35). The most well-known example of this phenomenon is the concept of *false friends* (Schmid, 2013, p. 118). For example, the English word *magazine* and the French word *magasin* are similar in form but have a different meaning. When a speaker integrates the word *magazine* into English in the context of going to the shops, because they are thinking of the French word *magasin*, they create something new, as *magazine* does not exist in this context in English.

**Shift** in the vocabulary use of a speaker can imply a total or partial shift of words in the one language towards structures, rules, boundaries, or values that are typical for the other language (Schmid, 2011, pp. 35-36). This can be seen when using words of politeness that do not have the same polite meaning in the other language, as such words are highly culture specific (Schmid, 2011, 2013). For example, Americans give compliments almost automatically as an empty politeness marker, but in France, compliments mean a genuine appreciation, which is accordingly followed by a downplay of the compliment (Schmid, 2011, p. 35). After a long immersion in American culture, a French speaker might be used to replying automatically to compliments with a quick 'Thanks', breaking with the unwritten French custom of modesty after being given a compliment.

Next to CLI having an influence on items in the mental lexicon of a speaker, such items can also become harder to retrieve because of inaccessibility, which can result in a speaker forgetting words or experiencing more difficulties when trying to recall them (Schmid, 2011). This can be explained by much of the information stored in the memories of bilinguals and multilinguals being very similar: words have the same meanings, some vowels or consonants are pronounced the same or grammatical structures can be similar. Furthermore, as described above, it is important to continue using languages, because information that is stored in a human's memory can degrade if not maintained. This can be traced back to the Activation Threshold Hypothesis, because when lexical items are not used for a long time, the threshold raises and access to such items can become much harder, up to the point where certain words are momentarily or permanently forgotten.

In short, attrition in the mental lexicon of a speaker can be caused by either CLI or access problems. A speaker might not be able to recall a word, because similar items for the same concept in another language can be so highly active that the word cannot be accessed (CLI); or a speaker might have known a word in a language at some point, but has not used it for some time, making it harder for to remember it (access problems). Such changes induced by CLI or access problems in a speaker's mental lexicon and vocabulary use, are some of the noticeable signs of language attrition.

#### 1.4.2 Linguistic structure

Attrition of the linguistic structure of a language also remains an under-researched topic. Schmid (2011) argues that this can be due to the fact that the linguistic structure of a language is less susceptible to language attrition than the mental lexicon. She argues that the linguistic structure of a language consists of much smaller sets of items. For example, many languages have a very extensive vocabulary, but only a limited number of grammatical structures, phonemes, or inflectional endings. This limited number of items is therefore reinforced to a greater extent than most lexical items, because more of such items will be produced in an interaction than even the most frequently used word. Because of the limited number and thus more frequent use of these items, it can be argued that these items will prove to be more stable and less susceptible to language attrition than lexical items ('best learned, last out', Regression Hypothesis, Activation Threshold Hypothesis – section 2.3). However, linguistic structure items such as phonetics, phonology, and grammar can still be affected by language attrition, which will be discussed and exemplified in the following paragraphs.

In terms of phonology and phonetics, it has been found that multilingual speakers sometimes merge certain speech sounds (Schmid, 2011, pp. 49-53). Again, Pavlenko's framework can be applied here.

**Borrowing** can refer to adapting the pronunciation of certain words from the one language and using it that way in the other language, while it is normally pronounced according to pronunciation norms of the other language (Schmid, 2011, p. 51). For example, in a study of Schmid (2007), she discovered

phonetic borrowing among German speakers pronouncing 'Charlie Chaplin' the *English way* during a retelling task in German.

**Restructuring** in phonetics can, for example, refer to a speaker pronouncing certain letters in particular combinations where a native speaker of that language would not pronounce it (Schmid, 2011, p. 51-52). The speaker analyses this combination of letters according to the rules of the other language, where they do pronounce that letter. However, in the other language, this letter in that combination is never pronounced.

**Convergence** is the most frequently observed phonetic change and refers to speakers using an intermediate version of a particular phoneme that is similar to but not the same as the pronunciation of that phoneme in either language (Schmid, 2011, pp. 52-53). In other words, the two different pronunciations of the phoneme have merged and created a new way to be pronounced.

**Shift** in phonetic structure can refer to a speaker pronouncing a phoneme the way it should be pronounced in one language, but while speaking the other language (Schmid, 2011, p. 53). This can, for example, mean the use of the rhotic /r/ in a language where this type of pronunciation of the /r/ does not exist. This is also what Kartushina and Martin (2019) discovered: a change in vowel production, more specifically assimilatory acoustic drift, of bilingual Spanish-Basque students after an immersive period in an English program was noticeable, as the participants drifted in both their native languages slightly and on occasion towards the English vowel system.

Another part of the linguistic system of a language is grammar. The grammatical system also consists of a limited number of items but is different to the phonemic system because phonemes can be pronounced differently depending on letter combinations, but grammatical items such as inflections or syntactic structures are either correctly or incorrectly used (Schmid, 2011). In this way, Schmid argues that there is even less probability of language attrition occurring in such grammatical items. However, this does not exclude signs of language attrition being visible in the grammatical use of a speaker, as described in Schmid (2011, pp. 57-66). In this way, word order patterns, sentence structures, or verb placements can be subject to the *borrowing* or *shift* processes, for example when an SVO structure (subject-verb-object) is used in a language that normally uses SOV structures (subject-object-verb). Furthermore, *restructuring* has been found in grammatical systems of multilingual speakers, for example when a tense is constructed the same way in two languages but used to indicate different aspects. When the tense used in the one language lacks the implication of an aspect associated with this tense in the other language, *restructuring* has taken place, because the speaker has analysed the tense according to rules of the other language. Furthermore, *convergence* can sometimes be seen in the use of pronominal references: in English, pronominal references are used more than in Spanish, which can result in speakers overusing such references in Spanish or underusing them in English.

### 1.5 The study abroad context

Studying abroad (SA) has become a widespread experience. According to the 2021 annual Erasmus+ report of the European Commission (2022), more than 648,000 staff members and learners went on a mobility activity in 2021, the majority of which occurred within programmes in higher education (43%). This brings the total number of participants in mobility activities supported by the programme to 12.5 million since 1987. These exchange programmes and immersions in a target culture can often have an effect on the language development of individuals. As mentioned in Borràs and Llanes (2021), the SA context is one of the most favourable contexts for L2/FL learning, as it allows for many opportunities to engage with the target language.

Linguists too have observed the many possibilities that such exchanges abroad can offer for language developments such as language acquisition (Mehotcheva, 2010). There is now a substantial body of research on overall language acquisition and development in the SA context (Atif, 2015; Llanes et al., 2016; Özbaşaran, 2015; Hoek, 2011; Kartushina & Martin, 2019). Many studies have focussed on specific aspects of the language acquisition process such as oral proficiency (Kouly, 2016; Llanes et al., 2011; Mora & Valls-Ferrer, 2012), writing skills (Barquin, 2012; Pérez-Vidal & Juan-Garau, 2011), reading skills (Kraut, 2017), and vocabulary (Alqarni, 2017; Barquin, 2012; Briggs, 2015). For a more extensive overview of the many studies on L2 development in a SA context, see Borràs and Llanes (2021).

In sum, it can be noted that the majority of the existing research on language developments during a SA experience has been focussing on language acquisition and less on language attrition, which is the main focus of the present study. Some research does exist on language attrition in relation to SA contexts, but two main types of studies dominate the field: (1) studies interested in L1 attrition among students studying abroad in an L2/FL environment (Hoek, 2011; Kartushina & Martin, 2019; Yilmaz & Schmid, 2018), and (2) studies interested in L2/FL attrition during the period after being immersed in the language during the SA period (Mehotcheva, 2010; Kartushina & Martin, 2019). Moreover, the second type of study has considered both native environments of the FL (Hoek, 2011; Mehotcheva, 2010) as well as non-native environments, where the FL was used as a *lingua franca*, which was English in the majority of the studies (Atif, 2020; Llanes et al., 2016).

While being very relevant to further develop the field of language development research, such types of studies do not fully align with the main research question of the present study, which is examining the extent to which students can experience FL attrition during a SA period. Especially for higher education institutions, it might be useful to explore this topic further, as many language students participate in exchange programmes with the intention of improving their language skills. However, it could be interesting to establish that some students might also experience a standstill in their language proficiency, or even language attrition.





## 2 RESEACH QUESTIONS AND HYPOTHESES

As mentioned in the introduction, this study is exploratory in character. Before elaborating on the research questions and hypotheses of the present study, a short section will be dedicated to motivating why an exploratory research approach is appropriate.

### 2.1 Exploratory research

Exploratory research is by definition a type of research designed to explore certain research questions or parts of a study field. More often than not, these research questions or this particular topic have not been studied in depth yet, and according to Swedberg (2020), exploratory research functions as an effort to try and uncover novel ideas on, or interesting aspects of such particular study fields. The purpose of exploratory research is not to supply conclusive evidence or results, but rather to help researchers “understand more about a particular topic of interest” (George, 2023, para. 9).

In this way, the present study aims to explore the topic of foreign language attrition during a study abroad context, because, as established in Chapter 1, not much research has been conducted on the attrition of a FL occurring at the same time as the SA period. Exploratory research often has a benefit for future research: its preliminary results can be used as an effective guide and often lay the groundwork for future studies (George, 2023). The present study will therefore explore the topic of FL attrition during a SA experience, to provide sufficient material to raise the interest of future researchers, so that more focussed and profound research can be conducted on the issue.

### 2.2 Research questions

The aim of the present study is to determine whether Flemish university students, studying English and Spanish, feel as though they experienced FL attrition of either English, Spanish, or both, during a SA period, and to what extent. The main research question the present study aims to answer is therefore:

RQ To what extent do (English-Spanish) language students feel that they experienced foreign language attrition during a period of study abroad?

If the students felt like they had experienced FL attrition, the following sub-question will be considered to further determine what signs of attrition they had experienced when using the FL:

SRQ1 What signs indicating foreign language attrition did the students experience when using the language(s)?

Furthermore, this study examines the factors that played a role in the FL attrition, or lack thereof, among the language students. Therefore, the following sub-questions have been considered:

SRQ2 To what extent does level of motivation to use the foreign language(s) play a role in the attrition process?

SRQ3 To what extent do attitudes towards the foreign language(s) play a role in the attrition process?

SRQ4 To what extent does language use of the foreign language(s) play a role in the attrition process?

### 2.3 Hypotheses

Similar to what Kartushina and Martin (2019) found, which is that FL attrition had occurred during the SA period, it is hypothesised that some of the students will also feel as though they experienced language attrition for one of their FLs, but most likely for the FL non-native to the environment they resided in (RQ), as similar to the findings of Atif (2020) and Llanes et al. (2016). In other words, for students who went to a Spanish-speaking country, it is hypothesised that FL attrition is more likely to occur for English, and for students who went to an English-speaking country, FL attrition will be more likely to occur for Spanish. However, it is not excluded that FL attrition can be experienced for the language native to the SA environment, as was also the case in Hoek (2011) and Mehotcheva (2010).

Additionally, for SRQ1, the hypothesis is that language attrition signs will have been experienced by some students. It is hypothesised that if students indicated FL attrition, they had also experienced language attrition signs, such as an increased amount of simple vocabulary use, hesitations, code-switching, pronunciation errors, recall difficulties, or grammatical errors (Schmid 2011, 2013). Such signs also include those caused by cross-linguistic influence (CLI), and it is hypothesised that CLI between the two FLs will have been experienced by some students, as similar to the findings of Mickan (2021).

For SRQ2, SRQ3, and SRQ4, the following is hypothesised: (1) motivation will play a role in the language use and retention or attrition of a foreign language, with students who are less motivated to speak the language being more likely to experience (signs of) language attrition, and vice versa, (2) attitudes will also play a role in the attrition process, with students who have more positive attitudes towards the language, culture, and using the language, being less likely to experience (signs of) language attrition in that language, and vice versa, and (3) language use will play a role in the attrition process as well, with students using the language less, being more likely to experience (signs of) language attrition, and vice versa. Furthermore, it is hypothesised that Spanish language attrition can occur due to a lack of Spanish use in the English-speaking environment, and English language attrition can occur either due to a lack of use or due to a lesser quality of spoken English, having used the language more as a *lingua franca* and not in native or formal environments. Both (1) and (2) have been

based on Jessner et al. (2021), Köpke and Schmid (2004), Mehotcheva (2010), Schmid (2011, 2013), Schmid and de Bot (2006), and Schmid and Mehotcheva (2012), and (3) on Jessner et al. (2021), Kartushina and Martin (2019), Mehotcheva (2010), Mickan (2021), Schmid (2011, 2013), and Schmid and Mehotcheva (2012).



### 3 METHODOLOGY

#### 3.1 Respondents

The population chosen for this study was composed of language students studying English and Spanish at a Flemish university, who had studied abroad in a country where one of the FLs was the native language, and the other FL was not used or not used as a native language. The survey was distributed to university students at Ghent University and KU Leuven. All students had to have participated in the Erasmus exchange programme for one semester in either Spain or an English-speaking country during the past three academic years (2020-2021, 2021-2022, 2022-2023). It was opted to contact students from the past three academic years to get the largest response group possible.

The language combination English-Spanish was chosen in order to keep the group of respondents as homogeneous as possible. In addition, this facilitated making one survey understandable for all, in English and referring to the same second FL the students studied. If students had studied different language combinations, it might have been too confusing to construct different versions of surveys in different languages, and this could also have been an issue when analysing the results. The main issue arising from choosing only one type of student, is that the group is relatively smaller than when all types of language combinations were to have been considered. However, by contacting different universities in Flanders and not only keeping to Ghent university, this issue was minimised.

At both Ghent University as well as KU Leuven, the students had undergone a thorough official instruction in both the foreign languages. For English, the universities built on the English knowledge obtained in secondary education, and for Spanish, students started with zero prior language knowledge. It is assumed that all students share a similar initial proficiency in both languages.

#### 3.2 Survey

##### **Motivation**

In language attrition research, many different methods, such as written, oral, or self-assessment tasks, can be used to ascertain whether multilingual individuals experience language attrition. Written tasks such as exams, writing tasks, or a C-test, a test where participants have to retrieve language components in a text, can be effective methods for measuring both active and passive language retrieval (Llanes et al., 2016; Sigott, 1995). Oral tasks such as interviews or Picture Naming Tasks are especially useful to assess pronunciation, fluency, comprehensibility, grammar use, lexical use and repair strategies all at the same time (Bardovi-Harlig & Stringer, 2010; Kartushina & Martin, 2019; Mehotcheva, 2010). Self-assessment tasks, often questionnaires or surveys, can be useful to explore a certain topic of a research field, without having to provide conclusive results or proving theories, as used in Atif (2020) and Özbaşaran (2015). In addition to the main methods of assessing language attrition, background information on a participant should be obtained, for which a sociolinguistic questionnaire (SLQ)

can be used. A SLQ is an effective way to gather personal details, linguistic backgrounds, or language experiences of participants without having to monitor them closely.

The present study has chosen to combine a SLQ and a self-reporting survey as its main method. The aim of this study is to explore the topic of FL during a SA period and raise the interest of researchers, for which a self-assessment tool is a solid option. Written or oral tasks, focussing on language output and change in proficiency in which students have to participate before and after their SA experience, will not be used in this study. Given that this study was a one-year project, it might have been difficult to find a large enough group of participants willing to complete both sets of tasks. In order to reduce the risk of a low response, and given the exploratory nature of the present study, a self-reporting method of data collection targeting a larger group of students seemed appropriate.

The use of a survey was preferred because of its many advantages, such as the possibility to collect data from respondents in a short period of time (Kabir, 2016) and the possibility to reach “small, scattered, or specialised populations” (Dörnyei, 2007, p. 121). The former was especially beneficial given the tight time frame, and the latter because it facilitated contacting language students from different universities and different places of residence in Belgium at the same time. Other advantages of using a survey include the ease of distribution, by sending a link to possible respondents, and the low cost to create one, as many academic institutions have invested in licences for online survey tools to be used for free by its staff and students. For example, Ghent University provides a licence to create surveys for free on Qualtrics XM (<https://www.qualtrics.com>), which was used to create the survey of the present study.

## **Process**

Before questions of the survey could be formulated, it was necessary to explore the existing literature on language attrition and decide which topics were of more relevance to the research questions and which factors of the attrition process were most interesting to include. In order to limit the scope of this study, not all factors were included. The most relevant ones considered for this study were *language use, attitudes and motivation*, and *signs of language attrition* partly induced by *cross-linguistic influence*. The theory regarding these factors in the context of language attrition has already been extensively described, but some more clarifications are mentioned in the following paragraphs.

*Language use* is crucial for the retention of a language, and thus also to avoid attrition. However, this factor is very diverse in the sense that it is not really clear what language use entails and whether it includes both receptive and productive language activities or not. As summarised in Jessner et al. (2021), a number of studies have found that there is less attrition in, for example, receptive lexical skills when recognising words, than in productive lexical skills when recalling words for use. Furthermore, after finding very little to almost no signs of attrition in the lexical and grammatical receptive skills of participants in the studies of Weltens (1989) and Grendel (1993), it was concluded that future research on language attrition should put its focus on productive skills, instead of receptive skills (Weltens &

Grendel, 1993). Schmid and Mehotcheva (2012) further confirm that productive skills, rather than receptive skills, are generally more vulnerable to language attrition. Therefore, the present study focussed on such productive skills, and speaking skills in particular.

For *attitudes and motivation*, many language attrition studies have had difficulties establishing the role that the two factors play in the language attrition process, given that both factors are subject to change and develop dynamically over the years (Schmid & Mehotcheva, 2012; Schmid, 2006). Language attrition is often studied among speakers residing abroad for long periods of time, so attitudes and motivations can change during the course of the studies. However, this study focusses on speakers who resided abroad for only a short period of time, for which it can be argued that attitudes and motivation do not change or are less likely to change significantly. Therefore, it can be easier to try and establish the role that both factors play in the language attrition process, and this can result in these factors being more relevant to the present study than to studies focussing on long periods of time.

For *language attrition signs* that the students may have experienced, both changes in the mental lexicon and the linguistic structure were asked for. However, given that attrition is most noticeable in the mental lexicon of a speaker, more attention was given to this, and less to grammar or pronunciation. In addition, as many signs are not only due to lack of or change in use but also because of cross-linguistic influence and competition between languages, some focus was also put on discovering whether the speakers had experienced this kind of interference in their language use.

With regard to constructing a survey and assuring that the gathered data is accurate and precise, a researcher can make use of surveys or questionnaires that have already been designed for previous studies (Kabir, 2016). Therefore, the questions of each section of the survey were based on a combination of existing surveys used in previous language attrition studies and knowledge obtained on the topic when reviewing the existing literature. The sections of the survey correspond to the factors mentioned earlier: language use, motivation and attitudes, and language attrition signs. In addition, a short SLQ was used to ask for some background information from the respondents. Each section was based on the following surveys and information as found in the literature:

The **SLQ** and **language use** sections of the survey were based on Hoek (2011), Keijzer (2007), Marian et al. (2007), and Mehotcheva (2010).

The **motivation and attitudes** section was based on Mehotcheva (2010), Mickan (2021), and Schmid and Dusseldorp (2010), as based on Gardner (2004) and Dostert (2009).

The **language attrition** section was based on the linguistic characteristics as described in Schmid (2011, pp. 20-36) and on Schmid's website on language attrition (<https://languageattrition.org/>).

The survey was created in Qualtrics XM. In order to distribute the survey, email addresses of English-Spanish language students enrolled at Flemish universities had to be obtained. An email with this request was sent to the language departments of Ghent University, KU Leuven, and the Vrije Universiteit Brussel (VUB). Ghent University provided a list of email addresses of English-Spanish language students who had participated in an exchange programme for a semester during the past three academic years. The survey was sent to them by email. KU Leuven, on the other hand, mentioned that sharing such information did not comply with the provisions of the GDPR law of the European Union. They proposed, however, to distribute the survey to the intended students themselves. The VUB did not respond to the first request by email. In sum, Ghent University and KU Leuven both contributed to distributing the survey to the relevant students.

### **Composition and question types**

Before any questions were asked, a small announcement was made thanking the respondents for completing the survey and reminding them of voluntary participation and anonymous data processing. The survey consisted of four parts and started by asking for some general background information, then asked for language use and general motivations and attitudes during the stay abroad, and ended by asking for specific signs of language attrition they had experienced. See Appendix A for the full list of questions.

In hindsight, some of the questions of the survey were found to be unnecessary to the aim of the study or not specified enough to provide useful data and were therefore not considered when analysing the data. For example, age and duration were not of particular relevance to the research questions. Additionally, language use contexts proved to be more complex, as it cannot be guessed which contexts are native or non-native, or formal or informal. For the same reason, statements on feelings of solidarity or interactions with non-native speakers were not included in the analysis, because they could not be justified or supported enough based on the literature.

### 3.3 Analysis and interpretation

Qualtrics XM allowed for the automatic generation of the survey responses into a .csv file. This file was put in the statistical processing programme SPSS version 22 to be analysed according to statistical principles explained in Pauwels (2022). However, the data generated by Qualtrics XM consisted of mainly textual data. For example, questions on location and language use required a written response and the 5 possible answers to the statements were kept as their corresponding written answers and were not given a number. Therefore, the textual datafile had to be turned into a quantified dataset in order to be able to use some statistical methods for analysing and explaining the data. However, quantifying the data also allowed for the search for possible relations between the independent and dependent variables. In this case, and according to the literature, the independent variables are language use, motivation, and attitudes and the dependent variable is experienced language attrition.



By quantifying the data, descriptive statistical methods could be applied to answer the research questions and possibly confirm the hypotheses. In this way, univariate analysis could be used to describe the respondents' characteristics, such as age and location, and to search for the most informative measure of attrition. Bivariate analyses were used to detect and describe relations between the measure of attrition and the factors of importance. The choice of using descriptive statistics, and not explanatory or inferential statistics, aligns with the exploratory nature of the present study, as descriptive statistics are the best way to explore data (Jones, 2022). In other words, the results were interpreted with the aim of exploring and describing the relation between variables for the sample of the present study, using Pauwels (2022) as a guide.

In addition, the results were visualised in tables and graphs made using SPSS and Excel, to better understand and be able to interpret the results, which will be described and discussed in the upcoming chapters.



## 4 RESULTS

This chapter will present the quantitative results of the data. First, the distribution of the sample will be described, followed by a description of the results for each question. At the end, relations between variables will be statistically described. A discussion and interpretation of the results will be provided in Chapter 5.

### 4.1 Distribution of the sample

The population chosen for this study was language students studying English and Spanish at a Flemish university, who had studied abroad in a country where one of the FLs was the native language, and the other FL was not used or not used as a native language. The survey was sent to three Flemish universities, of which one provided me with email addresses of students (Ghent University), one offered to distribute the survey their own way (KU Leuven), and one had not responded to the request of distribution (VUB). A total of 71 students were reached, of which 36 completed the survey (n=36), resulting in a response rate of 51%.

All students had participated in the Erasmus exchange programme for one semester (ranging from four to six months) in either Spain or an English-speaking country during the past three academic years (2020-2021, 2021-2022, 2022-2023). Four students had studied in an English-speaking region. Each of them had studied in a different country or nation: Scotland (Edinburgh), Republic of Ireland (Limerick), England (Newcastle), and the United States (Fairfax). The remaining 32 students had resided in Spain, spread over 12 different cities and mainly in Valencia (11), Seville (6), and Salamanca (5). Other cities included Alicante, Barcelona, Cádiz, Castellón de la Plana, Córdoba, Madrid, Málaga, Murcia, and Oviedo.

### 4.2 Language attrition

#### **A computed variable: comparison of self-reported initial and final proficiency level**

At the beginning of the survey, all respondents were asked to indicate how they would rate their general language proficiency for both languages at the beginning and at the end of the study abroad period. These values will be referred to as *initial proficiency* and *final proficiency*. Four 10-point rating scales were presented ranging from 1 (basic) to 10 (near native), two to report English initial and final proficiency and two to report Spanish initial and final proficiency. It could be argued that the students score themselves out of 10 and at the same time reflect on their perceived developments of proficiency in English and Spanish. This progress, attrition, or the lack of both, can be visualised by subtracting the scores given for initial proficiency from the scores given for final proficiency for both English and Spanish. In this way, a new computed variable is created: '**self-reported initial vs final proficiency for English/Spanish**'. For this computed variable, a zero score means no progress nor attrition,

but a reported retention of language proficiency. Negative values indicate reported attrition of proficiency and positive values reported progress.

*Region: Spain (n=32), Spanish proficiency*

For the group of 32 students that had resided in Spain, various levels of initial proficiency were reported, ranging from 2 to 7. When compared to final proficiency, no student reported attrition and only a minority reported retention (6.25%). For the majority of the students progress in proficiency was found (93.75%); half showed only little progress (+1) and the other half more progress (+2 and higher).

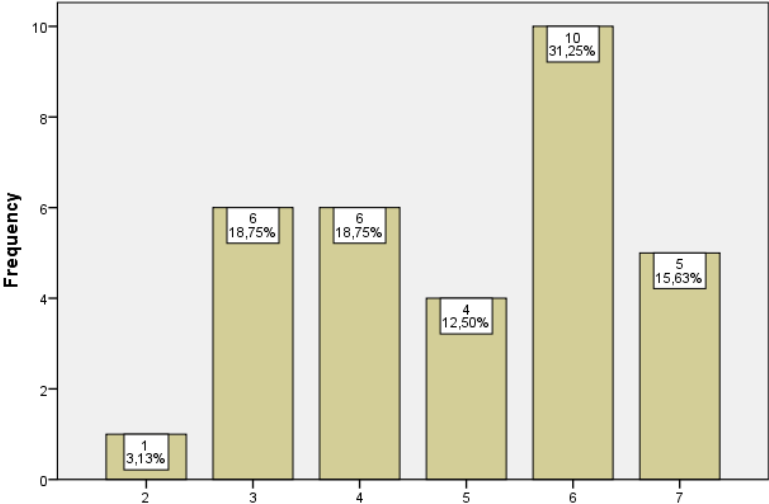


Figure 1: Self-reported initial proficiency Spanish (n=32)

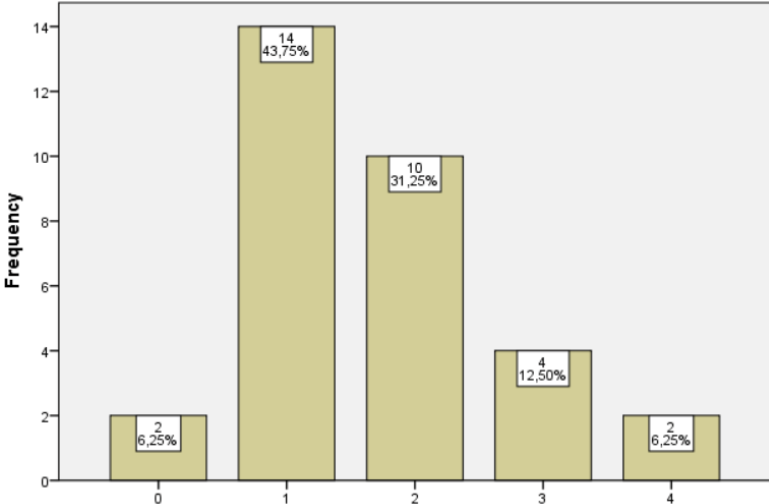


Figure 2: Computed variable for Spanish (n=32)

This can also be observed in the clear shift to the right when comparing the reported levels of initial proficiency to those of final proficiency for Spanish.

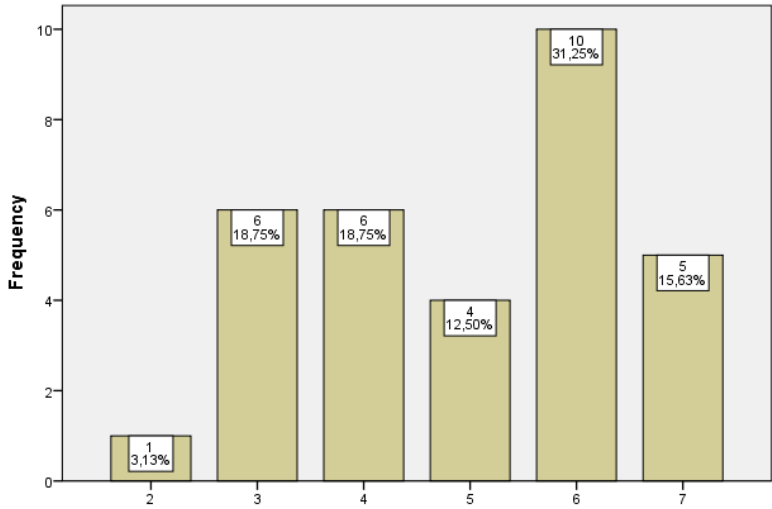


Figure 1: Self-reported initial proficiency Spanish (n=32)

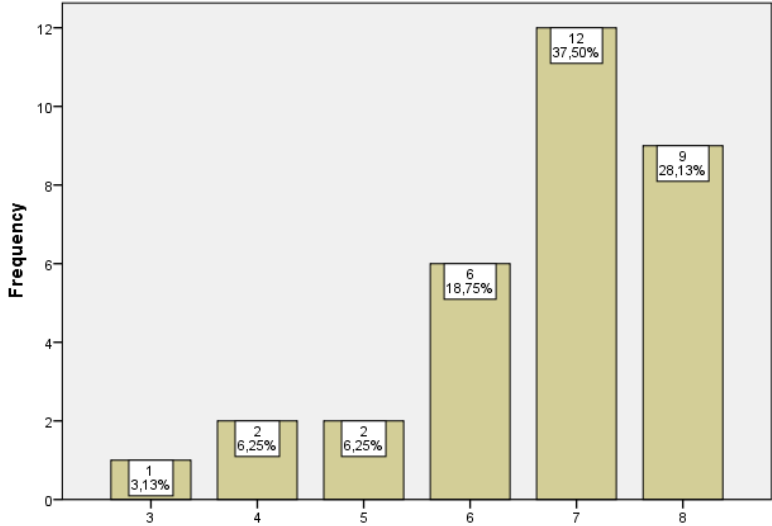


Figure 3: Self-reported final proficiency Spanish (n=32)

*Region: Spain (n=32), English proficiency*

For English, on the other hand, the students reported much higher levels of initial proficiency, ranging from 6 to 10. When compared to final proficiency, retention was found for two thirds of the students (66%). The other third was more divided: attrition for 9% and progress for 25%. The three students experiencing attrition, go from 7 to 6, 8 to 7, and 8 to 6.

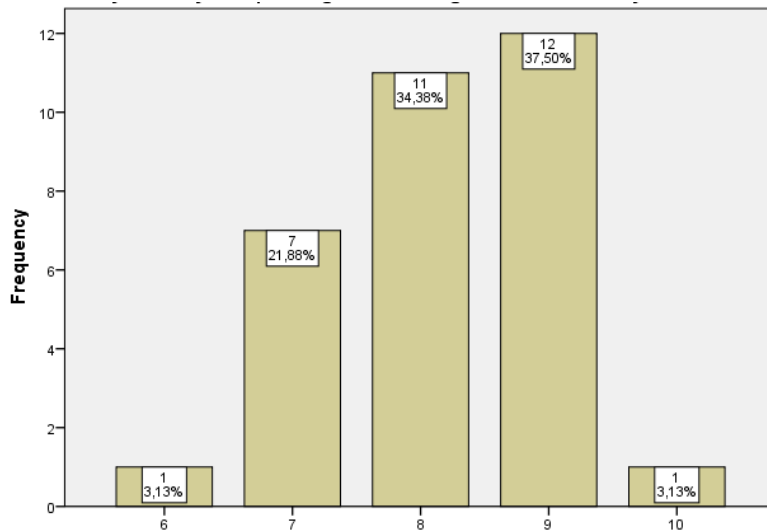


Figure 4: Self-reported initial proficiency English (n=32)

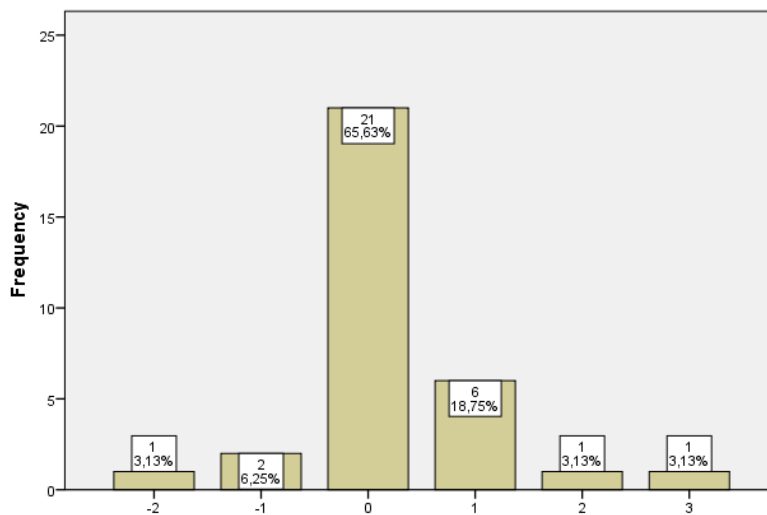


Figure 5: Computed variable for English (n=32)

*Region: English-speaking (n=4), English proficiency*

The 4 students of the English-speaking cities reported high initial proficiency levels for English (7-9). When compared to the reported levels final proficiency, thus looking at the change in language proficiency, retention was observed for 2 students and little progress for the other 2 students (1).

*Region: English-speaking (n=4), Spanish proficiency*

For Spanish, on the other hand, the students reported their initial proficiency level to be significantly lower: 2 students rather low (4), 1 student intermediate (5) and 1 student relatively high (7). Compared to final Spanish proficiency, retention was found for 3 students and little attrition for 1 student (-1).

However, one of the three students for whom retention was observed, reported the following as an answer to the last open question on other language deterioration they wanted to mention:

*Although I indicated a rise in my level of Spanish earlier in the survey, I would like to correct this and confirm that my level of Spanish had indeed fallen. I attribute this largely to the fact that I only was able to take up one Spanish course during my semester there. This course was just a proficiency course and I felt that I had been placed far below my level, so I did not get a real chance to improve my language skills. I had little to zero contact with native speakers of Spanish either, so there were no real opportunities to practice.*

### A control question for attrition

Next to the previously discussed question and the computed variable comparing initial to final language proficiency for both languages, further on in the survey a second question was asked which also referred to possible FL attrition. This question can be used as a control question. The students were asked to indicate from a list of five options what applied most to them at the end of the SA period. They could choose between the following:

- I had become better at both English and Spanish
- I had become better at Spanish, but my level had fallen for English
- I had become better at English, but my level had fallen for Spanish
- My level had fallen for both English and Spanish
- I had the same level of skill in both English and Spanish

*Region: Spain (n=32)*

For this group, 5 respondents did not answer this question. 1 out of 3 indicated progress for both languages (34%). With regard to attrition, 9% indicated that their level had fallen for Spanish, and 16% that their level had fallen for English. 7 students indicated that they had the same level for both languages (22%), and 1 student had experienced a fall in level for both languages (3%).

**Indicate what you think applies most to you: at the end of my Erasmus stay abroad, ...**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	15,6	15,6	15,6
I had become better at both English and Spanish	11	34,4	34,4	50,0
I had become better at English, but my level had fallen for Spanish	3	9,4	9,4	59,4
I had become better at Spanish, but my level had fallen for English	5	15,6	15,6	75,0
I had the same level of skill in both English and Spanish	7	21,9	21,9	96,9
My level had fallen for both English and Spanish	1	3,1	3,1	100,0
Total	32	100,0	100,0	

Table 1: Control question for attrition (n=32)

Region: English-speaking (n=4)

The 4 students answered this question unanimously. They all indicated that they had become better at English, but their level had fallen for Spanish.

Indicate what you think applies most to you: at the end of my Erasmus stay abroad, ...

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid I had become better at English, but my level had fallen for Spanish	4	100,0	100,0	100,0

Table 2: Control question for attrition (n=4)

### Computed variable compared to control question answers

The processing of the survey data allows for the answering of the research question using both pieces of information: the computed variable on the one hand, and the answers to the control question on the other.

Region: Spain (n=32)

Before comparing the computed variable with the answers to the control question, a crosstabulation had to be made to present the results of the computed variable for English and for Spanish combined.

		Self-reported initial vs final English proficiency						Total
		-2	-1	0	1	2	3	
Self-reported initial vs final Spanish proficiency	0	1	0	1	0	0	0	2
	1	0	0	10	2	1	1	14
	2	0	0	7	3	0	0	10
	3	0	1	2	1	0	0	4
	4	0	1	1	0	0	0	2
Total		1	2	21	6	1	1	32

Table 3: Crosstabulation of the computed variables for both languages (n=32)

The following table presents the frequency distribution of the answers given to the control question.

Indicate what you think applies most to you: at the end of my Erasmus stay abroad, ...

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	15,6	15,6	15,6
I had become better at both English and Spanish	11	34,4	34,4	50,0
I had become better at English, but my level had fallen for Spanish	3	9,4	9,4	59,4
I had become better at Spanish, but my level had fallen for English	5	15,6	15,6	75,0
I had the same level of skill in both English and Spanish	7	21,9	21,9	96,9
My level had fallen for both English and Spanish	1	3,1	3,1	100,0
Total	32	100,0	100,0	

Table 1: Control question for attrition (n=32)



When comparing the crosstab with the computed variables to the frequency table of the control questions, the following overview can be given:

	<b>Computed variable</b>	<b>Control question</b>
<b>Progress for both languages</b>	8 students (25%)	11 students (34%)
<b>Progress for English, attrition for Spanish</b>	No students	3 students (9%)
<b>Progress for Spanish, attrition for English</b>	2 students	5 students (16%)
<b>Retention for both languages</b>	1 student	7 students (22%)
<b>Attrition for both languages</b>	No students	1 student (3%)

Table 4: Comparison of the computed variable crosstabulation and the control question answers

The most important conclusion that can be drawn from this, is that for the computed variable most students experienced retention for English and progress for Spanish, which corresponds to 20 students, or 62%. However, this is the answer category that is not present in the control question.

#### *Region: English-speaking (n=4)*

When comparing the computed variable to the control question answers for this group, the following can be noted:

- (1) A unanimous answer for 'I had become better at English, ...', while the computed variable found retention for English for 2 students.
- (2) A unanimous answer for '... but my level had fallen for Spanish.', while the computed variable found retention for Spanish for 2 students (initially 3, but the student changing their answer, as mentioned before, is excluded).

In other words, the control question answers cause for more extreme conclusions to be drawn, as a possible additional answer category is not provided, namely for when students experience progress for one language and retention for the other.

### 4.3 Bivariate analyses

#### 4.3.1 Attrition as a variable for bivariate analyses

To be able to answer the research questions aiming to detect the role of a certain factor in the language attrition process such as language use and attitudes and motivation, and discover which language attrition signs the students experienced, it is important to try and find a variable that represents and shapes FL attrition in order to allow for bivariate analysis to be conducted. However, the condition for such bivariate analyses using a variable of language attrition, is that a significantly large enough group of respondents has experienced FL attrition.

According to the computed variable of the comparison between initial and final proficiency for both languages and for the whole group of respondents (n=36), 4 students experienced FL attrition, which

can be read in the columns and rows with negative values in the crosstab. This number is actually 5, also including the student who changed their answer afterwards.

		Self-reported initial vs final English proficiency						Total
		-2	-1	0	1	2	3	
Self-reported initial vs final Spanish proficiency	-1	0	0	1	0	0	0	1
	0	1	0	2	2	0	0	5
	1	0	0	10	2	1	1	14
	2	0	0	7	3	0	0	10
	3	0	1	2	1	0	0	4
	4	0	1	1	0	0	0	2
Total		1	2	23	8	1	1	36

Table 5: Crosstabulation of computed variable for both languages (n=36)

In terms of this variable, the extent of language attrition can be seen quantitatively, because of which this variable could be measured at interval level. Interval levels of measurement are particularly interesting to use in the search for associations because it permits different statistical analyses using bivariate and multivariate statistics (Pauwels, 2022).

However, a group of 5 students is too small, which means that it is necessary to take the control question into further consideration. The answers to the control question indicate that 13 students had experienced language attrition, which corresponds to 36%.

**Indicate what you think applies most to you: at the end of my Erasmus stay abroad, ...**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	13,9	13,9	13,9
I had become better at both English and Spanish	11	30,6	30,6	44,4
I had become better at English, but my level had fallen for Spanish	7	19,4	19,4	63,9
I had become better at Spanish, but my level had fallen for English	5	13,9	13,9	77,8
I had the same level of skill in both English and Spanish	7	19,4	19,4	97,2
My level had fallen for both English and Spanish	1	2,8	2,8	100,0
Total	36	100,0	100,0	

Table 6: Control question for attrition (n=36)

Based on the answers to this question, an ordinal variable can be created of which the following categories can be ranked from a lower to a higher level of proficiency (1 < 2 < 3 < 4):

Attrition for both languages            1 student  
 Attrition for one language            12 students  
 Retention for both languages        7 students  
 Progress for both languages        11 students

This variable can be developed further by separating English and Spanish proficiency divided into the following categories per language and ranked the same way as the previous variable, from a lower level to a higher level of proficiency (1 < 2 < 3):

Attrition (fall in level)  
 Retention (same level)  
 Progress (better level)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fall in level	6	16,7	19,4	19,4
	Same level	7	19,4	22,6	41,9
	Better level	18	50,0	58,1	100,0
	Total	31	86,1	100,0	
Missing	System	5	13,9		
Total		36	100,0		

Table 7: Control question for attrition - 3 categories for **English** (n=36)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fall in level	8	22,2	25,8	25,8
	Same level	7	19,4	22,6	48,4
	Better level	16	44,4	51,6	100,0
	Total	31	86,1	100,0	
Missing	System	5	13,9		
Total		36	100,0		

Table 8: Control question for attrition - 3 categories for **Spanish** (n=36)

These created variables refer to the self-reported level of proficiency at the end of the SA period of the students. These variables can now serve to measure attrition for both English and Spanish. Because of these new variables, bivariate analysis is possible: the attrition variable can be compared to the other factors of importance in the language attrition process, which have also been asked for in the survey. These other factors are language use, motivation and attitudes, and language attrition signs. The bivariate analyses will allow for a description of the relationship between language attrition and the other factors.

#### 4.3.2 Gamma as measure of association

Bivariate statistics encompass the different ways to describe the relation between two variables, which is expressed using measures of association. The type of measure of association depends on the nature of variables in terms of their measurement level (Pauwels, 2022). In this case, it could be argued that

all variables taken into consideration for such bivariate analyses are ordinal. *Language attrition* has been made ordinal, which is described in the previous section. *Language use* was expressed in three percentage classes by the respondents, which is inherently ordinal. Both *motivation and attitude* and *language attrition signs* were asked for using 5-point Likert scales, which are also ordinal in nature. In order to establish possible relations and associations between language attrition and the other variables, a measure of association for ordinal variables is needed, such as Gamma.

Gamma, also known as the Goodman-Kruskal’s Gamma, is a measure of association for ordinal variables (Pauwels, 2022, pp. 124-125). Gamma is expressed in values ranging from -1.00 to 1.00 and argues that the further from 0, the stronger the association between variables. In this way, a Gamma of -1.00 indicates a negative perfect relationship between variables and, the other way around, a Gamma of 1.00 indicates a positive perfect relationship between variables. When Gamma is used, the guidelines to interpret the strength of association, according to Britton (2023), are the following:

- 0.00            no association
- ± .01 - .09    weak association
- ± .10 - .29    moderate association
- ± .30 - .99    strong association
- ± 1.00        perfect association

4.3.3 Language use

The students were asked to give an estimate of the proportion of time that they spent using Dutch, English, and Spanish during the SA period. They had to give a percentage for each language and it had to add up to 100%. As a consequence, three variables can be found in the dataset: proportion of time spent using Dutch, proportion of time spent using English, and proportion of time spent using Spanish. The percentages given by the students varied substantially because of which a derived variable was created, dividing the percentages into categories with boundaries 0-30%, 31-59%, and 60%-99%. The following table presents for each language the estimated proportion of time spent using the language.

	Dutch	English	Spanish
<b>0-30%</b>	53,1%	37,5%	37,5%
<b>31-59%</b>	28,1%	28,1%	37,5%
<b>60-99%</b>	3,1%	18,8%	9,4%
<b>Blanc</b>	15,6%	15,6%	15,6%

Table 9: Proportion of language use for all languages (n=36)

The percentages were divided into three categories and the attrition variable also consists of three categories, which allows for a 3x3 crosstabulation to be made and which ensures clean Gamma values.

When conducting the bivariate analysis to look for possible relations between language attrition and language use, the data provided no information on an association between Dutch language use and English or Spanish language attrition. Similarly, no information was provided about an effect of Spanish language use on English language attrition, or of English language use on English language attrition.

However, for the students that had resided in Spain, the data did show a strong association between the reported proportion of Spanish and English language use and the attrition or progress of Spanish. It was found that the more time spent using Spanish, the more progress a student had made for Spanish (.76). Equally, the less time spent using Spanish, the more attrition was reported for Spanish. Furthermore, the more time spent using English correlated with less progress for Spanish, and less time spent using English resulted in less attrition for Spanish (-.78).

4.3.4 Attitudes and motivation

For this topic, the survey presented a list of statements for both English and Spanish on different topics: the motivation of the students to engage with this language, the attitudes towards the language and towards using it, including emotions that could steer attitudes such as anxiety or stress, and feelings of solidarity towards other non-native speakers. The bivariate analysis of association between the answers to the statements and the language attrition variable was also conducted using the Gamma measure of association. The strong and perfect associations ( $\pm .30 - 1.00$ ), as indicated by Britton (2023), are displayed in Table 11. A description is provided underneath the table.

Statements	Gamma value	
	English	Spanish
I felt motivated to speak this language.	--	.72
It was important for me to try and improve my speaking skills of this language.	.34	.70
I was afraid to talk to natives in this language.	--	--
I was afraid to talk in restaurants or in stores in this language.	--	--
I was afraid of making mistakes when speaking this language.	--	--
I felt anxious about speaking this language, which made me speak less.	--	-.50
I was more anxious about speaking this language to natives, than to non-natives.	--	--

'--' means 'no significance'

Table 10: Significant values of Goodman & Kruskal's Gamma measuring associations between language attrition and attitudes and motivation

Overall, statements on motivation and attitudes show different strengths in association. Motivation is measured by 'I felt motivated to speak this language' and 'It was important for me to try and improve my speaking skills of this language'. It was found that the more motivated students felt to speak Spanish, the more progress and less attrition they report for Spanish (.72). In addition, the more importance was attached to trying to improve Spanish speaking skills, the more progress and less attrition was reported for Spanish (.70). However, for English, no (such strong) associations arise from the data, but only a

moderately strong association between the importance of speaking English and a higher level of reported progress/lower level of reported attrition (.34).

With regard to statements on anxiety and fear, which drive attitudes, five statements were presented. However, an overall absence of significant associations points out that feelings of anxiety do not arise from the data in their relation to language attrition. None but one: an association was found for anxiety about speaking Spanish. If a student indicated to feel more anxiety about speaking Spanish, which resulted in the student speaking less Spanish, less progress and more attrition was reported (-.50).

#### 4.3.5 Language attrition signs

For this topic, the survey also presented a list of statements for both English (12) and Spanish (13) regarding language behaviour and possible language attrition signs in oral use of the students at the end of the SA period. Again, the bivariate analysis of association between the answers to the statements and the language attrition variable was conducted using the Gamma measure of association. The strong and perfect associations ( $\pm .30 - 1.00$ ) are displayed in Table 12. A description is provided underneath the table.

Statements	Gamma value	
	English	Spanish
I made more pronunciation errors.	--	--
I experienced more difficulties while speaking.	-.59	-.71
I sometimes struggled to come up with words that I used to know.	-.61	-.60
I sometimes couldn't come up with a word, because I could not stop thinking of the word in the other language.	-.53	--
I used simpler vocabulary while speaking.	-.50	-.56
I started using more pauses and <i>uhms</i> while speaking.	-.46	-.48
I noticed that I had to correct myself more while speaking.	-.59	-.42
I sometimes caught myself translating certain expressions or words literally from one language into the other, even though they don't make sense in that language.	-.44	--
I used simpler sentence structures while speaking.	-.58	-.57
I noticed an influence of this language on the other language (in pronunciation, vocabulary)	-.52	--
I struggled more with grammar while speaking.	-.70	-.60
I sometimes used words of the other language because I could not come up with the alternative.	--	--
I often felt the urge to switch to English when speaking.	/	-.43

'--' means 'no significance'; '/' means 'does not apply'

Table 11: Significant values of Goodman & Kruskal's Gamma measuring associations between language attrition and language attrition signs

Overall, all of the associations found were similar in direction, meaning that the more the action described in the statement was experienced, the less progress and more attrition was reported for the language. The following statements show similar associations in strength with regard to speaking experiences for both English and Spanish: 'I sometimes struggled to come up with words that I used to know', 'I used simpler vocabulary while speaking', 'I started using more pauses and *uhms* while speaking', and 'I used simpler sentence structures while speaking'. Three more statements showed associations for both languages. Two of those showed a slightly stronger association for English: 'I noticed that I had to correct myself more while speaking' (-.59 vs -.42) and 'I struggled more with grammar while speaking' (-.70 vs -.60). The other one showed a slightly stronger association for Spanish: 'I experienced more difficulties while speaking' (-.71 vs -.59).

For English, an association was found for three statements: 'I sometimes couldn't come up with a word, because I could not stop thinking of the word in the other language' (-.53), 'I sometimes caught myself translating certain expressions or words literally from one language into the other, even though they don't make sense in that language' (-.44), and 'I noticed an influence of this language on the other language (in pronunciation, vocabulary)' (-.52).

For Spanish, the additional statement also showed an association: 'I often felt the urge to switch to English when speaking' (-.43).





## 5 DISCUSSION AND CONCLUSION

This last chapter will discuss and interpret the results described in the previous chapter with the intention of linking the results and interpretations to the research questions and hypothesis of this study as described in Chapter 2. In addition, some limitations of the present study will be discussed, as well as recommendations for future research.

### 5.1 Results, hypotheses, and research questions

The main aim of the present study was to address the **research question**:

To what extent do (English-Spanish) language students feel that they experienced foreign language attrition during a period of study abroad?

The results of the computed variable comparing self-reported initial proficiency to self-reported final proficiency showed that for the students residing in an English-speaking country, 2 out of 4 indicated attrition for Spanish. Additionally, 9% of the students that went to Spain reported language attrition for English. However, the results of the control question showed larger amounts of attrition, with the students that had resided in an English-speaking environment reporting language attrition for Spanish unanimously. For the students in Spain, 16% reported attrition for English, 9% reported attrition for Spanish, and one student (3%) reported attrition for both. In this way, even though the majority reported language retention, some students did indeed experience language attrition for one or both languages during a study abroad period. Moreover, the results are in line with the hypothesis that language attrition is more likely to be experienced for the language that is not native to the living environment (Spanish for English-speaking regions and English for Spain). However, the hypothesis also posed that language attrition of the language native to the environment could also occur. The 12% that reported attrition of Spanish when residing in Spain confirm this. To answer the research question in concrete terms: language students can experience language attrition, but depending on how the question is asked, the self-assessment will be different.

**Sub-research question 1** referred to the signs of language attrition that students might have experienced when using the language near the end of their study abroad period. As might be expected, the data from the bivariate analysis using Gamma suggest that, regardless of the language, students who reported FL attrition also experienced signs of language attrition. Such signs include having general difficulties while speaking, using simpler vocabulary and sentence structures, struggling more with vocabulary or grammar, and using more pauses or having to correct themselves more. For English language attrition, the data showed a relation to cross-linguistic influence, as the students indicated that they (1) struggled to find words because another word in another language was more active, (2) translated words from one language in the other, and (3) noticed an influence of the languages on each other. In addition, for Spanish language attrition, CLI was also established, as students reported to feel an urge to switch to using English when speaking. These results are for the most part in line with

the hypothesis, as not all signs were experienced for both languages and pronunciation errors were not experienced at all. With regard to CLI, the findings are in line with the hypothesis and the literature, as CLI occurred between FLs, which had been established by Mickan (2021).

**Sub-research questions 2 and 3** asked for the role that motivation to use the language and attitudes towards the language played in the attrition process. It was hypothesised that both motivation and attitudes would play a role in the language attrition process, with students that are less motivated or have a less positive attitude experiencing more language attrition. However, the results indicate a difference in association strength between motivation and attitude, and also between the languages. Motivation seemed to correlate strongly to language attrition of Spanish, as the more motivated students felt to speak Spanish and to improve their speaking skills, the more progress and less attrition was reported. This result is in line with previous findings of Mehotcheva (2010), Jessner et al. (2021), Köpke and Schmid (2004), and Schmid and de Bot (2006), who established that motivated speakers look for more opportunities to speak the language. For English, however, this association was slightly lower. This might be because most students' self-reported initial proficiency was very high, leaving less room for progress and thus maybe causing for the students to not feel as motivated to improve their English as their Spanish. With regard to attitudes, driven by stress and anxiety, however, four out of five statements did not show any significant association. The remaining statement only showed a small association for Spanish attrition: when students reported to feel anxious to speak the language, they also reported less progress and more attrition. These findings can be linked to Jessner et al. (2021) and Sider (2004), who established that speakers experiencing more anxiety about speaking a language, will look for less opportunities to speak the language and will thus use the language less, which has also been established by research to be an important factor of language progress/retention/attrition (Activation threshold Hypothesis). However, the data does not provide enough evidence to confirm the hypothesis.

Lastly, **sub-research question 4** referred to the role of language use in the attrition process. The results only demonstrate an association between language use of both English and Spanish on the Spanish proficiency level of the students that had resided in Spain: the less time spent using Spanish, the more attrition was reported and the more time spent using English, the less progress was reported. Even though the association between language use and FL attrition cannot be established for every language, the one association that was found was a strong one (Gamma bigger than  $\pm.75$ ). This is in line with the hypothesis, which predicted less language use correlating with more language attrition. Drawing on the literature, this strokes with the Activation Threshold Hypothesis, posing that the more frequently items are activated, the less prone they will be to attrition (Bardovi-Harlig & Stringer, 2010; Schmid & Mehotcheva, 2012; Jessner et al., 2021). The insignificant association of language use on other languages or in other regions can be explained by the small sample size of the students that had resided in English-speaking regions. Moreover, the survey did not inquire about the quality of the language use, even though it had been formulated in the literature and hypothesis, because it proved difficult to measure this in a survey.

## 5.2 Limitations

The main limitation of the present study concerns the sample size. The survey was intended to reach more students than it did, resulting in a sample size of only 36 students to conduct analyses from. The group that went to study in an English-speaking region was also small, but analyses could be carried out to some extent. Such a small sample size and data, however, cannot represent the population sufficiently and can therefore not provide general conclusions, nor generate conclusive causality results. Nevertheless, this study did not intend to provide such results or conclusions, but rather aimed to raise the interest of future researchers to conduct more in-depth studies. In addition, Dewaele (2018) reassures that good research can also be conducted on small amounts of data, and that “it is important at that point not to be discouraged by a smaller than expected haul” (Dewaele, 2018, p. 280).

Another limitation involves the type of respondents. The students had participated in the Erasmus exchange programme for one semester. However, three different kinds of students were emailed the survey: students who went on Erasmus this academic year (22-23), the past academic year (21-22) or the academic year before that (20-21). This might result in their recollection of events to differ slightly to significantly. Especially for the students who went on Erasmus the past academic year or even before, it might be difficult to retrieve a detailed account of their language proficiency during this study abroad period. This could possibly mean an implication for the results, as respondents might have completed the survey without fully remembering their feeling at the time, particularly for the scaled questions on motivation and attitude, and on the specific language attrition signs they might have experienced. Moreover, each respondent can interpret the questions asked differently, which is another limitation. The survey did not provide enough information to guide the respondents towards the intended interpretation of certain questions. For example, language use can be interpreted as speaking, writing, texting, thinking, etc.

A last limitation, and a rather important one, relates to what has been described as the control question for language attrition. The question asked the students to indicate what applied most to them at the end of their study abroad period. The options they could select included progress for both languages, progress for one language and attrition for the other, retention for both, or attrition for both. However, it is clear that an important answering category is missing from this question: progress for one language and retention for the other. By not including this answering category, respondents were forced to give an answer that might not have corresponded to how they perceived their proficiency at the end of the study abroad period. This issue was resolved by combining the computed variable of language attrition and the answers to the control question. In this way, it was found that the majority did indeed experience progress for one language and attrition for the other.

### 5.3 Recommendations for future research

On the basis of the present study, some recommendations can be made for future research. For example, even though a small sample size was not of particular disturbance to the present study, it is recommended to conduct research using much larger sample sizes in order to more accurately represent the population and generate conclusive, generalisable results. A larger sample can represent the target population more accurately and sufficiently. Moreover, larger-scale research with more resources and time could not only use a bigger sample, but could also test an explanatory model, created based on the existing literature. In this way, for example, it could be interesting to narrow down to differences between cities within Spain, as it can be hypothesised that associations will be different in more western cities where English is spoken more frequently, such as Valencia or Barcelona, compared to cities in the south of Spain, where only a minority of people speak English.

Another recommendation for future research refers to misinterpretations of respondents, making them answer differently to the same question according to their own interpretation. If a self-reporting data collection method is preferred, it might be advisable to reduce the risk of misinterpretations by giving enough background information on the topic or even using a semi-structured interview in order to be able to guide the interpretation of the participant. Given enough time, interviews would be a real benefit in future studies.

Furthermore, some important distinctions should be made clear with regard to concepts of the literature. For example, the concept of language use can include different facets. It is recommended for future research to follow Schmid's (2011) more fine-grained distinction of language use. She argues for a distinction between interactive language use (productive skills such as speaking and writing), non-interactive language exposure (receptive skills such as reading and consuming media), and the inner language of a speaker (thoughts, dreams, etc.). The present study has only focussed on oral use, but it is recommended that the diversity of this factor should be considered in future research. Moreover, Mican (2021) argues that not only is the frequency of use important, but also the quality of language use and contact. In her study, she found that more native input was linked to better retention of the language, because of which it could be argued that language use of a lesser quality can be a cause for language attrition. Language use can vary between contexts and speakers will adapt the way they speak according to the situation and the interlocutor (formal-informal). It can be argued that this difference in contexts can cause foreign language attrition of the language native to the immersion environment. In this way, language attrition studies cannot be limited to only the quantity of language use and contact, but also the quality.

In conclusion, it is often argued that study abroad periods are very beneficial for improving the foreign language proficiency of language students, and this is also why many higher education institutions include such exchange programmes in their curriculum. Much research on the topic indeed establishes that the majority of students indeed improve their language skills. However, this study argues that some students can also feel like they did not experience progress, but rather retention or attrition of their language proficiency. This group, albeit a minority, and this topic should not be ignored. This study, therefore, aimed to pique the interest of future researchers to further delve into this topic of foreign language attrition during a study abroad period. Most language attrition research in relation to the SA context has focused on the period after the immersion period. However, the data of the present study provided some evidence of FL attrition occurring during the SA period. Even though this study does not allow for general conclusions to be made, it can be an interesting topic for possible future research. Moreover, it was shown that not only did language students experience attrition for the non-native language of the country where they resided, some students also reported language attrition of the language native to the country. It can be very interesting to research the exact causes for and influences in this attrition process, whether it be (1) a lack of use, contact, motivation, positive attitudes or high-quality input, or (2) a cross-linguistic influence of more frequently used languages.



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## APPENDIX

### Appendix A

#### **Preliminary consent announcement**

Dear participant,

Thank you in advance for taking the time to complete this survey. It won't take up much of your time. By completing this survey, you confirm the following: you are voluntarily participating in this study, you are aware that you may stop your participation at any given moment and that your response data may be processed and reported anonymously. Should you have any further questions, you can always e-mail me at [finn.oosterlinck@ugent.be](mailto:finn.oosterlinck@ugent.be)

Thank you for participating!

#### **Part one (limited SLQ)**

How old are you

- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26+

In which semester of which academic year did you go on Erasmus?

- 1st semester, 20-21
- 2nd semester, 20-21
- 1st semester, 21-22
- 2nd semester, 21-22
- 1st semester, 22-23

How long did you go on Erasmus for? (in months)

Where did you go on Erasmus? (city, country)

How would you rate your speaking skills for Spanish at the START of your Erasmus?

Basic  
0    1    2    3    4    5    6    7    8    9    10  
Near native

How would you rate your speaking skills for English at the START of your Erasmus?

Basic  
0    1    2    3    4    5    6    7    8    9    10  
Near native

How would you rate your speaking skills for Spanish at the END of your Erasmus?

Basic 0 1 2 3 4 5 6 7 8 9 10 Near native

How would you rate your speaking skills for English at the END of your Erasmus?

Basic 0 1 2 3 4 5 6 7 8 9 10 Near native

**Part two (language use)**

Give an estimate of the proportion of your time spent using each language during your Erasmus. Use percentages and it should add up to a total of 100%.

	Language		
	Dutch	English	Spanish
Percentage			

What language(s) did you tend to use most frequently in the following situations:

	Language(s)
In class	
With friends	
With housemates	
In restaurants/stores/...	
On other occasions, feel free to explain	

**Part three (motivation and attitudes)**

This section will give you two series of statements about how you used both English and Spanish during your Erasmus. Please choose the option that best corresponds with how you felt during this period.  
Both languages

For your ENGLISH use during Erasmus.

	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly disagree
I felt motivated to speak this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It was important for me to try and improve my speaking skills of this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was afraid to talk to natives in this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was afraid to talk in restaurants or in stores in this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was afraid of making mistakes when speaking this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt anxious about speaking this language, which made me speak less	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was more anxious about speaking this language to natives, than to non-natives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spoke on an easier level with non-natives than I was taught at university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spoke on an easier level with non-natives than with native speakers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not want to come across as pretentious or arrogant, speaking the language better than other non-natives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I simplified my vocabulary when speaking with people who did not have my level of proficiency in the language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For your SPANISH use during Erasmus

	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly disagree
I felt motivated to speak this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It was important for me to try and improve my speaking skills of this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was afraid to talk to natives in this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was afraid to talk in restaurants or in stores in this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was afraid of making mistakes when speaking this language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt anxious about speaking this language, which made me speak less	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was more anxious about speaking this language to natives, than to non-natives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spoke on an easier level with non-natives than I was taught at university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spoke on an easier level with non-natives than with native speakers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not want to come across as pretentious or arrogant, speaking the language better than other non-natives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I simplified my vocabulary when speaking with people who did not have my level of proficiency in the language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



#### Part four (language attrition signs)

Indicate what you think applies most to you: at the end of my Erasmus stay abroad, ...

- I had become better at both English and Spanish
- I had become better at Spanish, but my level had fallen for English
- I had become better at English, but my level had fallen for Spanish
- My level had fallen for both English and Spanish
- I had the same level of skill in both English and Spanish

In what follows, you will find two series of statements about how you experienced speaking both English and Spanish AT THE END of your Erasmus. Please choose the option that best corresponds with how you felt at the end of your Erasmus.

English speaking skills at the END of your Erasmus

	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly disagree
I made more pronunciation errors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced more difficulties while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes struggled to come up with words that I used to know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes couldn't come up with a word, because I could not stop thinking of the word in the other language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I used simpler vocabulary while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I started using more pauses and 'uhm's' while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I noticed that I had to correct myself more while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes caught myself translating certain expressions or words literally from one language into the other, even though they don't make sense in that language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I used simpler sentence structures while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I noticed an influence of this language on the other language (in pronunciation, vocabulary)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I struggled more with grammar while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes used words of the other language because I could not come up with the alternative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Spanish speaking skills at the END of your Erasmus

	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly disagree
I made more pronunciation errors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced more difficulties while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes struggled to come up with words that I used to know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes couldn't come up with a word, because I could not stop thinking of the word in the other language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I used simpler vocabulary while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I started using more pauses and 'uhm's' while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I noticed that I had to correct myself more while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I sometimes caught myself translating certain expressions or words literally from one language into the other, even though they don't make sense in that language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I used simpler sentence structures while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I noticed an influence of this language on the other language (in pronunciation, vocabulary)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I struggled more with grammar while speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes used words of the other language because I could not come up with the alternative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often felt the urge to switch to English when speaking in Spanish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

