FROM “GREEK HELPS ME REALLY A LOT” TO “FINNISH DOESN’T HELP AT ALL”: A questionnaire on crosslinguistic influence among Greek and Finnish university students

Master’s thesis

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Tiivistelmä – Abstract

Eri tieteenaloilla käytetty akateeminen sanasto muodostuu pääsääntöisesti lainasanoista, jotka on lainattu kreikan tai latinan kielestä. Kun tarkastellaan näitä lainasanoja, voidaan helposti huomata, että useimmat niistä esiintyvät lähes samassa muodossa eri kielten välillä. Jos haluaa menestyä omalla tieteenalallaan, pelkkä termien tunnistaminen ei kuitenkaan riitä, sillä niitä on kyettävä käyttämään tehokkaasti esimerkiksi argumentteja laatiessa. Tämä puolestaan vaatii ymmärrystä niiden merkityksestä. Koska tieteessä käytetyt sanat ovat usein lainasanoja joko kreikasta tai latinasta, on oletettavaa, että näiden kielten taito edesauttaa vieraiden sekä uusien akateemisten sanojen omaksumista.

Tätä aihetta ei kuitenkaan ole aikaisemmin tutkittu, minkä vuoksi tämän tutkielman tarkoituksena oli selvittää kuinka kreikan kielen osaaminen edesauttaa lainasanojen merkityksen ymmärtämisessä. Aikaisemmat tutkimukset koskien kielten välistä vaikutusta ovat keskittyneet ainoastaan kielen tuottamiseen, jättäen reseptiiviset taidot sekä niiden vaikutukset ymmärtämiseen kokonaan huomiotta. Alan tutkimukset ovat havainnoineet ilmiön esiintymistä ainoastaan kielen opiskelun alkuvaiheissa, sivuttaen mahdolliset kielten väliset vaikutukset kielenoppimisen edistyneellä tasolla. Tämän vuoksi maisterintutkielman tavoitteena oli selvittää, onko yliopistotasolla opiskelevien englannin kielten opiskelijoiden välillä eroa siinä, kuinka he ymmärtävät englannissa käytettyjä akateemisia sanoja, jos heillä on eri äidinkielet. Tavoitteena oli myös osoittaa, kuinka kielten välinen vaikutus on läsnä edistyneelläkin kielenoppimisen tasolla.

Tutkielman aineistona toimi 73 englannin kielen yliopisto-opiskelijan vastaukset kyselyyn. Näistä 73 opiskelijasta 34 (44%) oli äidinkieleltään suomalaisia ja 39 (51%) oli äidinkieleltään kreikkalaisia. Kielten välistä vaikutusta tutkittiin selvittämällä, kuinka kreikan kielen taito vaikuttaa englannissa käytettävien, akateemisten lainasanojen ymmärrykseen, mitä metodeja tai strategioita käytetään tuntemattomien sanojen merkityksen määrittelystä sekä kuinka tietoisia englannin kielen opiskelijat ovat kielten välisestä vaikutuksesta. Aineiston analysoinnissa käytettiin lähinnä kvalitatiivisia aineistolähtöistä sisällönanalyysiä, minkä avulla pystyttiin tiivistämään aineistosta tutkimuksen kannalta olennaisimmat tiedot. Myös yksinkertaisia kvantitatiivisia metodeja käytettiin analysointiin, jotta tulosten tilastollinen merkittävyys voitiin osoittaa.

Tutkielman tulokset osoittivat selvästi, että kreikan kielen taidosta on hyötyä ja että kielten välistä vaikutusta on havaittavissa edistyneelläkin kielenoppimisen tasolla. Kreikan kielen taito vaikutti hyvin vahvasti siihen, kuinka hyvin englannissa käytettävät akateemiset lainasanat ymmärrettiin. Tuloksista kävi myös ilmi, kuinka tietoisuudella kielten välisistä samankaltaisuuksista on suora yhteys kielten väliseen vaikutukseen. Tutkielman tulokset viittaavat, että kreikan kielen ymmärrys auttaa akateemisen sanaston hallitsemisessa, vahvistaa oppimisstrategioita, joita tarvitaan uusien sanojen oppimisessa sekä antaa työkaluja tuntemattomien lainasanojen merkityksien päättelemiseen.

Johtuen tutkielman laajuudesta, kontekstin vaikutusta tutkittuihin reseptiivisiin taitoihin ei voitu selvittää. Tuloksien avulla ei pystytty myöskään ilmentämään sitä, millä tasolla kreikan kieltä on hallittava, jotta sen hyödyt ovat merkittävät. Tutkielmaa voisikin siis jatkaa selvittämällä, kuinka konteksti vaikuttaa saavutettuihin tuloksiin sekä lisäselvityksellä tarvittavasta kielitaidon tasosta.

Asiasanat – Keywords
CLI, transfer, academic vocabulary, SLA

Säilytyspaikka – Depository JYX

Muita tietoja – Additional information

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1 INTRODUCTION

Even the most complex and abstract ideas can be expressed in any given language, no matter how primitive they might be considered (Deutscher 2011: 2). The only obstacle for doing so might be the absence of some specific word with an abstract meaning but, as the history has proven, those words can be borrowed from another language. In fact, according to Townend (2006:73), almost 70 percent of the words in the English lexicon are loanwords. Moreover, a great deal of the vocabulary used in science, philosophy, and academia in many European languages derives from Latin and Greek. And when it comes to English, they are also the source languages for many word parts and structures that are used in word-formation. (Joseph 2012: 1721.)

When learning a new language, the meanings of many concrete nouns can easily be explained and understood. Yet, what happens when we move from concrete objects to abstract words used in academic texts? Does the knowledge of Latin or Greek help with the complex loanwords that are used to compile the academic vocabulary? Theories concerning the matter suggest that knowledge about the structures and processes used in word-formation is indeed essential for the usage of academic lexicon. Also, such specific vocabulary knowledge is needed if learners wish to succeed in academic situations with their second language. (Saville-Troike 2012: 146, 150.) As to the benefits of knowing the source language, Greek or Latin that is, and how that knowledge can influence the understanding of structures and meanings of academic loanwords, the notion of *crosslinguistic influence* emerges. Crosslinguistic influence, one language influencing another, has intrigued people since the antiquity. Homer's *Odyssey* is one of the earliest sources on language contact, crosslinguistic influence, and bilingualism. (Jarvis and Pavlenko 2008: 1.) Present-day theories suggest that crosslinguistic similarities that exist between languages affect comprehension, learning, and production (Jarvis and Pavlenko 2008: 176). This suggests that knowing the language from which the vast number of academic loanwords and their parts have been borrowed from, benefits greatly the learners of English studying at a university.

However, research on the benefits of knowing Greek or Latin in an academic context does not exist. In fact, there are only few studies concerning crosslinguistic influence in general since it was long considered as a negative phenomenon that intervened language acquisition, and only in the past few decades has it become a field of its own that needs to be investigated (Ellis 2008: 349). Crosslinguistic influence is nowadays seen as an inevitable aspect of language learning,

although, many of its effects are still unknown. Research on crosslinguistic influence has focused only on productive skills, and thus, it has completely neglected the effects crosslinguistic influence has on comprehension and perception. Besides, earlier studies have concentrated on younger learners and the early stages of language learning, causing no information to exist on how mother tongue or other previously acquired languages affect language learning at an advanced level. (Jarvis and Pavlenko 2008: 59.)

Therefore, my research aimed to investigate the differences among students who were studying English at an academic level and how their mother tongue affected their knowledge of the academic vocabulary used in English studies. The focus of this study is on academic vocabulary because, as stated above, mastering the academic vocabulary and structures used in words is of great importance when one wishes to succeed in the academic world. Moreover, since academic vocabulary consists mostly of loanwords, the instances of crosslinguistic influence can be detected when examining the difference between someone who knows the source language with someone who does not. With my study I wanted therefore, firstly, to show how crosslinguistic influence affected language learning even at an advanced level by examining how the knowledge of Greek aided the understanding of academic vocabulary. Secondly, I wished to find out what factors affected crosslinguistic influence and what techniques and strategies were used to guess the meaning of unfamiliar words. Lastly, I wanted to examine whether the level of awareness on similarities between two languages affected transfer from one language to another.

The data of my study consisted of 73 respondents: 34 (44%) had Finnish as their mother tongue and 39 (51%) had Greek as their mother tongue. All participants studied English at a university either in Finland or in Greece. A questionnaire was chosen as a method for gathering data since it provided statistically relevant data which is needed in order to make generalizations across different languages and to show significant evidence of crosslinguistic influence. The data was processed by using both quantitative and qualitative methods to provide a rich and detailed analysis that would enlighten the topic of my study that has received barely any attention in previous research. That is, a simple statistical analysis was used to examine the percentage and numerical values which was followed by a more detailed analysis of the values. I also used a qualitative approach to decode the data that was gathered from the open-ended questions in the questionnaire by applying content analysis.

In chapter two, I will look into the history of the English language by discussing the general developments and their effects on vocabulary. This will be followed by a more detailed account of different languages that have influenced English and its lexicon. I will conclude with a short explanation on the modern English lexicon and how contacts with other languages have shaped it. With this chapter I hope to be able to show how the complex and rich history of English has shaped its lexicon which can lead to instances of crosslinguistic influence. In chapter three, I will explain what a word is, discuss the nature of loanwords and cognates, as well as give an account of the meaning of words and what is involved in knowing a word. Chapter four will provide information on academic vocabulary, its features and what is involved when learning academic vocabulary. In other words, some general aspects concerning language learning and second language acquisition will be discussed, but as the aim of this paper is to study crosslinguistic influences at an advanced level, the focus will be on academic vocabulary and what requirements it sets for the learning process. The complex connection between language and the mind is presented in chapter five from a linguistic point of view by explaining how languages are constructed in the mind, which is followed by a description of language awareness and its effects. In chapter six, I will look into the topic of crosslinguistic influence. That is, I will first explain the general principle of how language(s) are stored and processed in the mind before discussing more thoroughly the interaction and effects of many languages in a single mind as this is when instances of crosslinguistic influences can be detected. I will then present the research aim and questions of my study in chapter seven as well as explain what the data consisted of. I will also discuss the methods that were used to gather and analyze the data. After this, I will discuss the results of my study in chapter eight. To conclude, I will show in chapter nine how the results relate to my research aim and questions, what they indicate and what is the relevance of them after which I will present points that remained undiscovered.

2 HISTORY OF THE ENGLISH LEXICON

In this chapter I will explore, on a general level, the history of English and some of the events and factors that have affected it. That is, much more could be said about the history, and many aspects, such as grammar, could be discussed more thoroughly but as the focus of my study is in the lexicon, I want to introduce the main historical events and developments that have shaped the English vocabulary in the course of its history to what it is today. I feel that some of the essential aspects and the diversity of the lexicon could not be fully appreciated if its evolution was not explained properly. In other words, to be able to fully understand the influences

between languages, one must first look back: the relationship between English and the languages that have had an immense impact on it. Due to the purpose of this paper, some events in the history that influenced greatly English might only be mentioned, and grammatical aspects are left unnoticed, even though I acknowledge their importance in the evolution of English. Therefore, I will first look into the different periods in which the history of English is generally divided into, and what factors affected the development of the English lexicon during these periods. I will then give a more detailed account of different languages that have influenced English, and its lexicon, throughout its history. Lastly, I will give a short description of the modern English lexicon to conclude.

However, there are some terms used in the following chapters that require explanation before moving on. That is, the changes that affect a language can be divided into *external* and *internal* change. External changes are caused by political, social, and geographical changes whereas internal changes are linguistically motivated. (Gelderen 2014: 7.) Contact with other languages, political and social issues are the reasons for external changes whereas internal changes are due to, for example, simplification of the grammar, regularization of the language, and facilitation of pronunciation (Gelderen 2014: 8). Lastly, the terms *borrowing* and a *loanword* will be used extensively in the following chapters, so a short explanation of their meaning is required as well; borrowing is a process through which one language acquires a new linguistic element from another language (Durkin 2009: 165). If the borrowed element is a word, it is called a loanword. Loanwords and the process of borrowing will be explained and discussed in more detail in chapter 3.1.1.

2.1 The development of the English lexicon during different periods

As mentioned above, the evolution of English language from its starting point to the modern-day English we speak today, can be divided chronologically into four separate periods as shown in Table 1. (Gelderen 2014: 11; Sauer 2009: 17.)

Table 1. The periods of English

Old English	450-1150
Middle English	1150-1500
Early Modern English	1500-1700
Modern English	1700-today

The earliest form of English is called Old English, or also Anglo-Saxon. It evolved into Middle English which later was followed by Modern English. Modern English is usually further divided into two periods; Early Modern English and Modern English. The shift from one period into another is determined by historical events, cultural background, and major structural changes in the language. (Grant 2009: 362-367; Sauer 2009: 17.) In the following chapters I will discuss the main features of the English lexicon in each period as well as the factors and historical events that caused changes in English and in its lexicon.

2.1.1 The Old English lexicon

The Old English vocabulary can be best described as being Germanic. In other words, most of the lexicon is from Germanic origin (Hogg and Alcorn 2012: 105). Many common words, such as *wall, mile, wine,* and *street,* originated from Germanic which in turn had borrowed some of them from Latin (Gelderen 2014: 2). When Christianity emerged, it introduced the Roman alphabets and new Latin words thus enabling the development of the Old English script and the translation of many Latin writings into vernacular English that was still very Germanic by its vocabulary (Irvine 2006: 41, 44). Through the introduction of Christianity, Latin gained more ground in the Anglo-Saxon society as it became the language of religion and learned, and as a result, it is estimated that around 80 percent of the Old English words were finally lost by replacing them with Latin words. (Gelderen 2014: 2; Stockwell and Minkova 2001: 32). Many of the Old English words were formed by compounding to create new meanings whereas loanwords were used to express more precise concepts (Gelderen 2014: 2, 77). Since most of the written texts were in Latin and French during the Old English period, we do not know linguistically that much about Old English or its lexicon. (Grant 2009: 363.)

As Scandinavians invaded Britain and built large settlements, their language had a great influence on Old English grammar and vocabulary; many words were borrowed from Scandinavian, the removal of Old English endings and the change towards a stricter word order was the result from the contact with Scandinavian language. (Barber 2000: 129-130; Gelderen 2014: 11.) When the words from Scandinavian were adopted to Old English, many of their meanings were changed; for instance, the word *sky* meant earlier *cloud* and *husband* meant *landowner*. The contact with Scandinavian, and the influence of loans acquired from that language, also changed the meaning of some Old English words, such as, *dream* which had meant ‘joy’ and ‘delight’ before, but the meaning changed to equate the meaning of

Scandinavian *dream:* 'vision encountered when sleeping'. (Barber 2000: 146; Grant 2009: 364.)

2.1.2 The Middle English lexicon

As Gelderen (2014: 95) points out, the transition from Old English to Middle English was the most dramatic change in the history of English language; a great number of the Germanic origin vocabulary of Old English was substituted then with French and Latin equivalents, and also, the endings of nouns, verbs, and adjectives disappeared during this time. These changes were due to both internal and external changes.

In 1066, when William of Normandy came to Britain and defeated Harold in the Battle of Hastings, French started to influence the English vocabulary immensely (Stockwell and Minkova 2001: 34-35). In fact, Grant (2009: 365) states that the Norman Conquest had a major effect on English society as well as on the development of the language. The reasons for this, he continues to explain, were that the literary language of Old English was no longer used as the Norman French and Latin were now the dominant written languages. English assimilated thousands of loanwords from French making the lexicon Germanic-Romance. Furthermore, Sauer (2009: 18) argues that the introduction of French into the society of England made it triglossic. The usage of the languages, however, was quite divided according to social class; English was used only by the common people, Latin was the language of the learned and priests, and the ruling class spoke French as the new aristocracy and clergy in England was of French origin and knew nothing about English.

2.1.3 The Early Modern English lexicon

By the time Middle English evolved into Early Modern English, French was no longer a native language in England (Sauer 2009: 18). Townend (2006: 67) further explains that the usage of French changed as it was spoken by bilinguals whose first language was probably English, and thus, no monolingual French speakers existed anymore. Also, there is evidence that French started to be used in different contexts, like educational treaties targeted at members of the middle class in the thirteenth century, which meant that French was no longer the language of the ruling class as it had become, instead, a general language of culture. (Grant 2009: 365; Townend 2006: 67.) As a result, many of the borrowed words from French were political and cultural (Gelderen 2014: 11). Moreover, due to the admiration of the antiquity, the greatest

change on the language in the Early Modern English period was the assimilation of tens of thousands of Latin and Greek words. (Gelderen 2014: 11, 284; Stockwell and Minkova 2001: 41-42.)

Latin and Greek have continued to be the source languages for new words in the Modern English period as there has been a need to name new, unfamiliar items. Sometimes these new words, in the form of compound words, include words of both Latin and Greek origin. For example, the word *television* is a Greek-Latin blend. (Grant 2009: 367-368.) Next, I will discuss in more detail the relationship between English and other languages and how other languages have affected the English lexicon.

2.2 Latin influence on English

As it is hopefully evident by now, Latin has influenced greatly English in different periods. As mentioned earlier, Latin started influencing via Germanic, and continued to influence English after the introduction of Christianity. During these periods, the number of loanwords can be counted in the hundreds. These loans were inflected, and assimilated into English so that they would sound and look like English words. Later, in the Renaissance, Latin had an even greater impact on the English lexicon. It was during this period that thousands of words were borrowed from Latin into English without modifying the sounds of the words. (Gelderen 2014: 98-99; Stockwell and Minkova 2001: 32-33.) Moreover, the early loans from Latin were usually taken from the spoken variety of Latin, the so-called Vulgar Latin, while the loans taken in the Renaissance were from Classical Latin. (Hogg and Alcorn 2012: 113.)

As French has evolved from Latin, and French has also been the resource for many borrowings in English, some words have been borrowed from Latin to English twice. These borrowings were generally adapted to English during different periods, and nowadays, they have slightly different meanings. For instance, Old English has borrowed ‘plum’ from the Latin *pruna*, and later, Middle English borrowed ‘prune’ from French, which in turn, has adapted the word from the same Latin *pruna*. Most of the Latin loanwords that were borrowed before the year 450 and during the Old English period are military, religious, commercial, and cultural terms. (Gelderen 2014: 98-99.)

2.3 French influence on English

Gelderen (2014: 104) points out that the arrival of French borrowings into the English lexicon happened in two stages. The first stage took place between the years 1066-1250 and the second between the years 1250-1500. The second stage had a greater impact on English as it was during this time that the French speakers acquired English and added French words to their English. During this period, around 10,000 French loanwords entered the English lexicon, and therefore, had a massive effect on English. These loanwords were from the fields of government, law, learning, art and fashion, food, religion. Also, less specialized words, such as, *adventure, age, scandal, vision, abundant, certain, common, advise,* and *allow* were borrowed. Hogg and Alcorn (2012: 104) argue that around 30 percent of the English vocabulary is borrowed from French.

Some of the earlier loans from French are not as recognizable loans as are the later borrowed words from French (Gelderen 2014: 107). Moreover, as Grant (2009: 365) points out, many words were borrowed from French to English but they were not, in fact, of French origin. For example, English received borrowings from Provençal, Italian, and from non-European languages like Arabic and Persian through French. Furthermore, French acted as conduit of borrowings that were originally Germanic and Celtic of origin. Grant (2009: 365-366) adds that most of the French vocabulary is from Latin originally which is why it is often impossible to say whether some borrowings are of French or Latin of origin. Also, there are many words that actually originated from Greek as they were first borrowed to Latin and then further borrowed to French (Stockwell and Minkova 2001: 43).

2.4 Greek influence on English

There are relatively few loanwords that are directly borrowed from Greek. However, as stated earlier, English has several loanwords that are of Greek origin but they are borrowed via Latin and French. Also, as Barber (2000: 180) points out, many of the words in the English lexicon that originate from Greek, tend to be academic words, such as, technical terms in rhetoric, natural sciences, and literary criticism. The reason for this, as Joseph (2012: 1719) well puts it, is the fact that the speakers of Greek and English have not been in close contact, and also, because the two languages, even if both are Indo-European languages, are not closely related to each other. However, he adds that despite the absence of direct contact between the languages, there are loanwords in English from Greek that date as back as the Old English

period and much more loanwords that are later acquired in the modern era. In fact, according to Grant (2009: 371), only about two percent of words in English are directly borrowed from Greek. However, many Latin loanwords in English are initially Greek of origin as Latin assimilated Greek words into its lexicon. When Greece was ruled by the Roman Empire, the Romans were amazed by the Greek literature, music, and art, which led them to borrow a great amount of terms from Greek (Singleton (2000: 145.)

According to Joseph (2012: 1719), many of the Greek loanwords in English are part of the technical and 'learned' vocabulary. He argues that many of these words are often considered to originate from some other language than Greek, but still, the roots of those words originate directly from Greek morphemes. This view is also shared by Stockwell and Minkova (2001: 42-43). Joseph (2012: 1721) further demonstrates the profound impacts of Greek on English that go beyond isolated loanwords; English has some very creative affixes for word-formation that are originally from Greek, although they have been adopted to English via French or Latin. To illustrate this, the suffix *–ize* that is used to form verbs from nouns is from the Greek verb-forming *–iz* suffix. This *-ize* provides English, who already has other means to construct similar linguistic pattern with the native suffix *–en*, more resources to construct words rather than changing the language structure.

However, some of the Greek loans have, indeed, provided opportunities for structural changes; when forming compound words in English, Greek has been the source for many productive morphemes. In other words, Greek provides the tools to form compound words from forms, or stems, that are usually words that occur independently. Joseph (2012:1722) gives a great illustration of this Greek-based word formation method for compound words: *encephalograph* means 'an image of the brain', *encephalography* is 'imaging of the brain', whereas, *electroencephalography* means 'electronic encephalography', and *electroencephalographologist* refers to 'a specialist who studies electroencephalographs'. What I would like to further point out with this example, is that the words *encephalon* ('brain') and *graph* ('image') are also, as it happens, Greek of origin. In addition, Barber (2000: 217) explains that many Greek elements are used as affixes for forming everyday words. These Greek elements are, for instance, *bio* 'life', *graph* 'writing, drawing', *macro* 'large', *micro* 'small, one millionth', *mono* 'single', *phono* 'voice, sound', *morph* 'shape, form', and *phono* 'sound, voice'.

2.5 Other language influences on English

According to Hogg and Alcorn (2012: 114), the Scandinavian languages have had a major influence on the English vocabulary. As previously mentioned, it all started when people from the north came to England to settle there. Scandinavian or Old Norse is usually used to refer the Swedish, Norwegian, Danish, and Icelandic languages (Stockwell and Minkova 2001:33). Grant (2009: 364) states that many of the basic words of Old English and Scandinavian are similar, which made communication between these two groups possible. It was due to these similarities that Scandinavian influenced English so much (Barber 20: 130). Also, Scandinavian had an impact on the Old English vocabulary, but what is even more remarkable, Scandinavian influenced the grammar as well. This impact on grammar is very uncommon as the grammar of a language is quite immune to external influences. The Scandinavian ability to affect the grammar of Old English shows how strong the influence was. (Gelderen 2014: 103.)

There are, however, many other languages that have influenced the English lexicon. Throughout its history, English has been in contact with, for example, German, Spanish, Italian, and Dutch. Italian, for instance, has provided many musical terms, and Spanish has introduced words to English that it acquired from native American languages during their colonial history. (Gelderen 2014: 107, 181; Grant 2009: 367.)

2.6 The English lexicon

Townend (2006: 72-73) states that the contacts English had with other languages affected most profoundly its lexicon. The size of it has grown enormously; during the Old English period, the size of the English vocabulary was around 50,000 – 60,000 words, whereas, the Middle English vocabulary had 100,000 – 125,000 words. Nowadays, it is estimated that English has a vocabulary of over 500,000 words. There are some modern-day words that are native of origin but most of the growth in the English vocabulary is due to extensive transfer and borrowing from other languages. In fact, according to Townend (2006:73), almost 70 percent of the words in the English lexicon are loanwords. Moreover, Grant (2009: 378) states that the impact of loanwords to the English lexicon is higher in the less frequent vocabulary and in its constructions. Indeed, Stockwell and Minkova (2001: 4) emphasize the vast amount of "learned words" in the English vocabulary that is mainly obtained through education and literacy, and it is therefore usually connected with professional knowledge. Moreover, they add that learned

vocabulary, used for example in literary tradition and humanistic education, is heavily constructed through the process of borrowing.

I hope that with this chapter I have been able to show the vast variety and rich history of the English lexicon as well as the evolution from a language that started as a Germanic dialect spoken in England to a global and unique language used all over the world. Moreover, even though English is a Germanic language, a great amount of its vocabulary, due to contact with other languages such as Latin and French, is in fact non-Germanic in origin. In my opinion, Williams (1975: 41) summarizes well the history of English, or any other language for that matter, and its lexicon:

> *[…] meaning and vocabulary are the most sensitive to the external social and historical forces that determine which words a culture preservers form its own heritage and which words it borrows from others. The total lexicon of a language, however, is a very accurate linguistic barometer to the broad social and historical changes in the history of a culture.*

3 WORDS: DEFINITION, USAGE, AND MEANING

Next, I will move on from the history of English and the development of its lexicon to what English is today. To be more precise, I will first discuss the notion of a word, its definition, construction, and usage, as well as the influences between languages that affect words. This then followed by a discussion on the factors that are involved in knowing a word and its meaning. I will explain the nature of lexical changes, reasons, and other factors that cause lexical change and development. That is, I want to discuss the changes that took place in the English vocabulary from a linguistic point of view by looking into the processes that have shaped the English lexicon throughout its complex history and caused its development to what it is nowadays. Moreover, in the following chapter I will discuss the different forms of borrowings that are the core process through which English has acquired its vivid and rich vocabulary. By doing so, I want to combine the matters that have already been discussed with what is yet to come.

3.1 What is a word?

A great deal has been said so far about vocabulary and the English lexicon. However, I have not yet addressed in detail the issue of *a word*. They are the smaller units that constitute the vocabulary of a language. Yet, what are words, exactly? The definition of a word would seem easy at first. One could say it is the smallest unit in a language that carries a meaning. What

about prepositions then? Or articles? These words that carry grammatical function are called function words. They do not carry a meaning on their own but they do, indeed, affect the meaning of a sentence and other words around them.

Another possible way to define a word, as Carter (1998: 4) explains, is to use an orthographic definition; a word is a sequence of letters that is surrounded by either a space on both sides or a punctuation mark. This is a quite common way to define a word. In fact, as I am writing this, the word processor that I am using is using this definition to indicate how many words there are in this document. There are, as Dunkin (2009: 54) points out, some shortcomings of using this definition since idioms, such as *a piece of cake*, and compound words, such as *apple tree*, *ice cream*, and *full moon*, can be written separately but they still refer to a single object. Furthermore, Carter (1998: 4-5) has expressed a similar view by questioning whether different forms of a word, such as *bring, brings, brought,* and *bringing,* can be considered different words or not. In fact, both Durkin (2009: 59) and Carter (1998: 5) continue to argue against the orthographic definition of a word by questioning the function of *homonyms,* words that are similar in their form but have different meanings. For example, the word *line* can have different meanings, such as in fishing line, railway line, and straight line; is it then a single word or several words? Moreover, the same problem occurs when dealing with *polysemes,* words that have different meanings which are still related to each other. For example, the word *man* can refer to the human species as an opposite for other living creatures, the males of the human species as an opposite for women, or the adult males as an opposite of boys. There are many more ways in which the meaning of a word has been tried to define, but hopefully, as it has become evident with the examples I have given above, defining a word is much more difficult than it would seem at first. As there are many valid and good definitions of a word, there are always some exceptions to break the rule.

Nonetheless, Carter (1998: 7) attempts to solve the problem of defining a word by introducing the notion of *lexeme.* Lexemes are the abstract, but also, the rudimentary and contrasting units of vocabulary. When searching for a word in a dictionary, it is not actually words that are listed, but instead, lexemes. For instance, BRING is the lexeme that covers all the grammatical variants, and hence, it is under BRING in a dictionary that one finds 'brought', and 'bringing'. As BRING is an abstract lexeme, it does not appear in texts. Instead, it is realized by its word-form 'bring'. Carter (1998: 7) adds that lexemes also cover items that have more than one word: items like multi-word verbs, phrasal verbs, and idioms.

Lexeme, however, does not answer to all questions that were risen when discussing the definition of a word. For example, the several meanings a word can have, such as *line* which was mentioned earlier; are there different lexemes to every different meaning of a line or should LINE be used to refer to these meanings? The discussion could be carried on for several pages but I hope that by now it is evident that a clear, self-sufficient, or all-covering answer to *what is a word?* is next to impossible. And yet, after raising this issue, I will use the term, a word, in the following paragraphs and chapters. Even though a clear-cut, simple definition of a word is impossible, it is still the best, most logical, and easiest way to address the units that constitute a vocabulary. I will therefore deal the notion of a word as a linguistic unit of speech or writing that has a distinct meaning which separates it from other words. For me, a word is a combination of the different aspects discussed above; a word is constructed by combining its meaning, form, and usage which separate it from other words.

3.1.1 Loanwords

As discussed in chapter two, English has a colorful, eventful, and long history that has shaped it and its lexicon remarkably. In fact, Crystal (2006: 51) states that the English language has an "expressive richness" due to the vast number of loanwords. That is, loanwords allow us to make distinctions of meaning that would not be possible without the process of borrowing lexical items from other languages. For example, we have the words *kingly, royal,* and *regal,* all of which are loanwords from different languages. The first being Germanic of origin, the second is borrowed from French and the last from Latin. I defined briefly the meaning of a loanword at the beginning of chapter two but a more detailed discussion is still needed as the process of words entering from one language to another is more complex than the definition provided earlier suggested.

According to Durkin (2009: 167-168), when it comes to borrowing words, they can enter a language from another language as *loanwords,* as *loan-translations* or as *semantic loans*. A loanword is the borrowing of a lexical item to the recipient language from a source language. During this adoption process the phonological and morphological features of the item may be altered. Sometimes a loanword can replace an already existing word in a language, but usually, a new loanword is introduced to the language because it expresses an idea or a nuance that the other, already existing, words fail to express (Crystal 2006: 62). In loan-translation, the lexical item itself is not transferred, but rather, the features of that item in the source language are translated into equivalent features in the recipient language. For instance, Old English had

willende ‘well-wishing’ that was translated from the Latin *benevolens* (Townend 2006: 73). A semantic loan, on the other hand, changes the meaning of an already existing word to equate the meaning of the item in the source language. In other words, it is borrowing a meaning for an already existing word from another language. (Durkin 2009: 170-171.) For example, the term *mouse* was first used in English to refer the technological device because it resembled the animal, and later, other languages borrowed this connotation from English. However, as a term, loanword is generally used to cover all these three different loan processes. (Townend 2006: 73.)

3.1.2 Cognates

As Ringbom (2007: 73) defines it, *cognates* are words that are formally alike, historically related, and their meanings can be either identical, similar, partly different, or sometimes even entirely different. In short, a more simplified definition of cognates is that they are words in different languages that are orthographically and semantically similar. For example, the word *fame* ‘being spoken about’ was originally borrowed into Middle English from Latin, and later its cognate, *infamy,* was also introduced to English. Moreover, an additional cognate was borrowed from Greek: *Euphemism* ‘speaking well’, *eu-* meaning ‘well, good’. All these words have the same cognate that originates from the Indo-European root *bha-* ‘speak’, the Latin form of it being *fa-* and *fe-*, and the Greek form *pha-* and *phe-*. (Stockewell and Minkova 2001: 48.)

Swan (1997: 163) states that learners get “an enormous advantage” if their first language is related to the language being learned, referred as *target language* from now on, as related languages have a great deal of cognate vocabulary. Also, some words that are not cognates are nevertheless close translations, which still is of great benefit to the learner. Unrelated languages, on the other hand, do not share forms or many cognate words, and therefore, for learners whose first language is unrelated to the target language, the learning process of new words is more demanding as they must learn the meaning and usage of the word (Swan 1997: 163). Concerning the topic of this study, I should add that neither Greek nor Finnish are related to English, and therefore, similarities between these languages are very scarce.

However, as Ringbom (2007: 72) explains, scientific and technical terminology and its meaning in many Western languages is shared. Moreover, he adds that as the words originate from Latin and Greek, their form is somewhat similar in every language. Nonetheless, he adds that Finnish is an exception because it does not share many cognates with other Western languages.

Ringbom (2007:73) argues that since these low-frequency items of scientific and technical vocabulary is shared across languages, learning the cognates of these words presents hardly any difficulty to the learner. In general, the meaning of cognates is relatively easy for learners to acquire but they cannot always use cognates, even on an advanced level, accordingly. That is, learners tend to overuse cognates in their second language as cognates might be high-frequency words in one language but low-frequency words in another. In other words, learners use cognates according to the conventions of their first language even though in the target language a non-cognate would be more appropriate. Therefore, Ringbom highlights the necessity of learning the frequency and stylistic registers of cognates in the target language because a mere transfer of meaning and function from one language to another might result to improper use of cognates.

In addition, Ringbom (2007: 74-75) draws attention to the fact that when cognates share their form but not their meaning, learners tend to misunderstand them as they assume the meaning to be same in both languages. These deceptive cognates are called *false friends*. They do not always have an entirely different meaning as some meanings might overlap across languages. Stockwell and Minkova (2001:135) explain that deceptive cognates can emerge when learners make wrong assumptions on the boundaries of morphemes within a word based on previous knowledge; for example, the word *anathema* can be falsely divided into *a(n)* "not" + *nat* "be born" +*hema* "blood" thus concluding that the meaning of the word would be "bloodless birth", when in fact, the real meaning is "back" and "place" from the morphemes *ana* "back" + *the* "to place"+ *ma*-noun suffix. In addition, they (2001: 136, 139) continue to explain that homophony in roots and affixes can also cause misinterpretation. For instance, the meaning of *homo* in *homicide* refers to "human being", whereas in *homonym, homo* means "same". However, Stockwell and Minkova (2001:139) argue that if one is aware of the possibility that there are identical forms with different meanings, one should then be able to make informative guesses, thus, being able to separate homophones from one another. Ringbom adds (2007: 74-75) that false friends are more likely to appear in second language speakers' production than comprehension. In addition, beginner and intermediate learners usually have problems with deceptive cognates that are high-frequency words whereas advanced learners are more likely to be challenged only by low-frequency words. This topic will be further discussed in chapter five when dealing with language and the mind.

3.2 Meaning of words

Plato was one of the first to ponder the meaning of a word, and the issue has ever since been debated (Williams 1975:154). Williams (1975: 156) describes the meaning of a word as "the sum of the elemental components of meaning that we abstract from all the experiences we necessarily associate with the use of a word". He (1975: 161-162) argues that the way different languages use words to name experiences is so similar that it is plausible to think that all human languages, and perhaps even human cognition, share similar semantic universals. However, Aitchison (1994: 50) points out that the true meaning of a word is often difficult to define exactly. The meaning of one word usually overlaps with the meaning of another word, and additionally, one word can be used to define a variety of things that do not share overall mutual features.

The meaning of words is by no means constant; it can change over time in a way that the original meaning and usage is no longer recognizable. Change in meaning can happen in several ways. The meaning of a word can become more *generalized or widen, specialize, or narrow,* it can have more positive connotations, which is called *ameliorization,* or the meaning can become more negative, a process called, *pejorization*. (Gelderen 2014: 78.) Moreover, as Barber (2000: 227-228) explains, words can have several meanings as the new meaning of a word can co-exist with the former meaning of a word. This co-existence of words being *homonymy* and *polysemy*, terms which were explained and discussed in chapter 3.1.

Swan (1997: 158) points out that when words are used in their core meaning in context, there tends to be exact translations within languages, but when words are used in more marginal or metaphorical context, these direct translations from one language to another do not exist. Ringbom (2007: 72) adds that core meanings of words are more recurrent and easier to learn than the marginal or metaphorical meanings. Moreover, as Singleton (1999) indicates in his book, learning new words in another language is not just about connecting them to words with equivalent meanings in the first language. According to Ringbom (2007: 72), in different stages of learning, language learners will become aware that words do not have direct equivalents in meaning from language to another as they encounter polysemy and homonymy.

However, making direct equivalences in meaning, especially if the first language and target language are related and therefore share many crosslinguistic similarities, is essential at the first stages of learning. That is, making direct equivalences in the meanings of words aids learning

in its initial state and the modification of overgeneralized equivalence relations, as well as the apprehension of different dimension of knowing a word, will take place as the proficiency in the target language develops. Ringbom and Jarvis (2009: 111) further explain this phenomenon by stating that in the early stages of acquiring a new language, learners tend to use their target language item functions or meaning onto the first language items during comprehension, whereas during production, they tend to extend the item functions and meaning of their first language onto the target language. This is due to the insufficient resources in the target language, and therefore, inability to apply intra-lingual similarities. Thus, learners form overgeneralized crosslinguistic connections to ease their workload. Ringbom and Jarvis also point out that this causes learners to usually focus on form instead of function or meaning because they are more abstract in nature, and hence, less attainable for observation and analysis.

3.3 Knowing a word

So far, I have explained what a word is, described the nature of loanwords and cognates, and discussed the meaning of words. Yet, what does it mean, exactly, to *know* a word? The issue is complex and could be discussed in detail from psychological, anthropological, and cognitive point of view. However, for the purpose and scope of this paper, the matter is relevant only from the language learning point of view, which I will present in the following paragraphs.

The knowledge of a word can be divided into *productive* or *receptive*. Nation (2001: 26) argues that receptive and productive knowledge of words applies to all the dimensions that comprise knowing a word. According to Nation (2001: 26), receptive knowledge of a word includes certain features, such as being able to recognize the word when it is heard or read, knowing the meaning of that word in a certain context, being able to identify possible collocations of that word, and understanding the concept of that word, and consequently, being able to understand the meaning of it in different contexts. Productive knowledge, on the other hand, includes such features as being able to write and pronounce the word, name its synonyms and collocations, and to use it correctly in different contexts. In the context of language learning, Ringbom (2007: 72) explains that receptive skills are used when learners apply the perceived formal and semantic similarities between words in different languages to link a new word or item to prior linguistic knowledge. However, Ringbom and Jarvis (2009: 113) argue that research on second language acquisition, SLA, has completely ignored the receptive stage of learning as it has focused only on the learners' gradual ability to use the language productively when examining

the concept of language learning. Moreover, they argue that SLA research has also ignored the difference between receptive and productive features of language proficiency by using the term *learning* to refer them both, and by doing this, it has also failed to accomplish the crucial mechanisms of comprehension and production.

To further discuss the issue of knowing a word, I want to draw the attention to word knowledge in the context of multilingualism and second language learning. Ringbom (1987: 37) gives a coherent description of word knowledge which comprehends six dimensions that form a continuum from no knowledge to full knowledge. His description can be considered to be up-to-date as it is still constantly referred to in today's literature. Figure 1 shows the six dimensions that affect word knowledge:

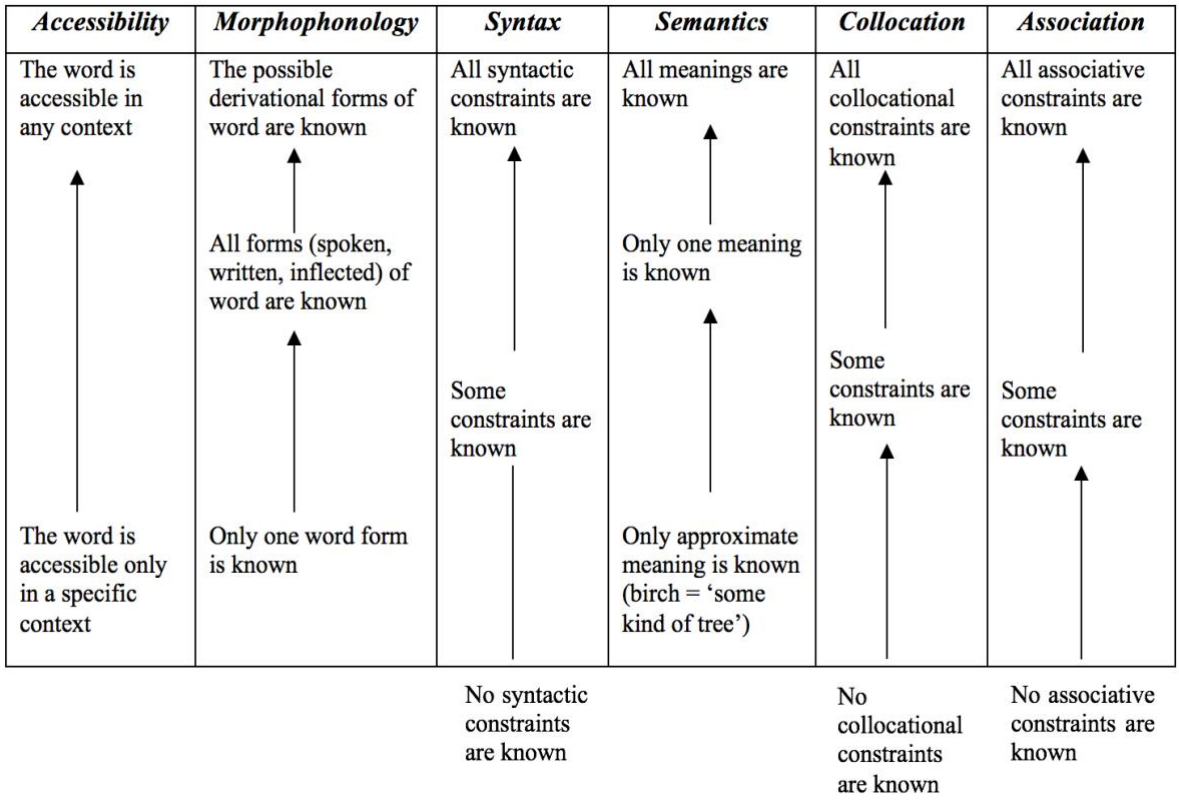

Figure 1. The dimensions of lexical knowledge (adapted from Ringbom 1987: 37)

Nation (2001: 47-48) states that knowing a word requires connecting its form to its meaning. That is, learners often might know the form and the meaning of a word but they are not able to connect them. He points out that if the connection between the form and meaning is strong, the learner will be able to understand and produce the word. Moreover, Nation (2001: 48) explains that the connection is easier to make if the form corresponds to the meaning in the learners'

first language; the form-meaning connection does not require much from the learners if the word at hand exists in their first and second language. In fact, Nation (2001:48) states that "for some languages, the presence of loanwords makes learning much easier". Jarvis and Pavlenko (2008: 72) share this notion by pointing out that conceptual knowledge of words includes extralinguistic mental representations that are acquired during the process of language socialization that further sensitizes speakers of certain languages to different conceptual distinctions. This is something that Ringbom's six dimensions of semantic and associational knowledge does not cover. Also, conceptual knowledge together with semantic knowledge supports the identification of denotations that a word already has or could have. Conceptual and semantic knowledge also allow the speaker to visualize circumstances and contexts in which the word has been or could be used, and to deduce the connotations of a word and to assess its affective strength on other words.

Mental interconnections play an important role when dealing with the knowledge of many individual words across languages, which means that knowing several words is more than just the mere sum of them. This indicates the fact that words are linked with each other in the speakers' mind by different dimensions of word knowledge, such as syntactic, collocational, and semantic. These dimensions are the same as the ones suggested by Ringbom. To conclude, I would like to give an example of the dimensions that are relevant in the mental interconnections; when hearing, for example, the word *bed*, words like *pillow, blanket, table, furniture, sleep* become more accessible as they are associated in the mental lexicon. To put it differently, certain words are associated with each other so when encountering a word other words that are associated with it are more accessible in the mental lexicon than words that are not associated with that word. (Jarvis and Pavlenko 2008: 73-74.) The notion of *mental lexicon* will be further discussed in Chapter 5.1.

Nation and Webb (2011: 239) draw attention to the fact that even though some previous studies have examined the connection between form and meaning in knowing a word, much still remains to be studied. For instance, Read (1993, 1998) has shed some light on the depth of knowledge of academic vocabulary in his Word Associates Test but it would be more useful to study the different features of knowledge depending on the frequency levels. This would provide more exact information about the development of vocabulary than just standard connection between form and meaning.

4 LEARNING ACADEMIC VOCABULARY

As I was hopefully able to show in the previous chapter some of the rather complex yet rich and empowering aspects of words, I will now move on from the units of vocabulary into the vocabulary itself. Since much has been said already about words in general, and as the aim of this paper is to study crosslinguistic influences on an academic level, the focus will be on academic vocabulary. That is, I will first give a more detailed perspective on the matter by discussing academic vocabulary, its different forms and usage, and the demands it imposes on students who wish to succeed in academic situations with their second language. I will then explain some of the main factors that are involved in acquiring new vocabulary as well as the key concepts and theories that are still present at an advanced level of language learning. Thus, the general principles and theories of vocabulary learning and second language acquisition are kept relatively short as the main focus of the following chapters, as well as this research in general, is the language learning and usage at an advanced academic level. What should be noted, however, is that the relationship between language and the mind, an approach usually connected with language learning, will be discussed in chapter five.

Before discussing academic vocabulary, a short definition of *vocabulary* and its relation to lexicon is needed to justify the division of words and vocabulary into different sections in this paper. Traditionally, language has been divided into six categories: *vocabulary* (lexicon), *morphology* (word structure), *phonology* (sound system), *syntax* (grammar), *nonverbal structures*, and *discourse* (sentence connection) (Singleton 2000: 1). The term, lexicon, is the anglicized form of the Greek *λεξικόν* (‘lexicon’) ‘dictionary’, and it is used to refer to all the features of language that relate to words. Lexicon derives from the word *lexis*, which originates from the Greek λέξης (‘lexis’) ‘word’. In English, lexis is linguistically used as a collective term to refer to vocabulary. (Singleton 2000: 1.) In short, vocabulary and words as terms are very closely related and they do, in fact, intertwine often but there is a difference as Lessard-Clouston (2013: 2) explains:

> […] vocabulary can be defined *as the words of a language, including single items and phrases or chunks of several words which covey a particular meaning, the way individual words do.* Vocabulary addresses single lexical items—words with specific meaning(s)—but it also includes lexical phrases or chunks.

4.1 Academic vocabulary

Academic vocabulary is only one term used to refer to the learned vocabulary. Other such terms are, for instance, *scientific vocabulary*, or *semi-technical vocabulary*. Nevertheless, I will use the term *academic vocabulary* to refer to all the words in the English lexicon that are common in all academic texts and do not appear often in everyday speech or writing.

Saville-Troike (2012: 143-144) separates second language learning goals into two competence categories: *academic competence* and *interpersonal competence.* Interpersonal competence refers to knowledge that is required in oral conversation with other speakers, whereas in academic competence, especially in a second language context, fluent speaking skills are not as important as listening, reading, and writing skills are. Reading skills in particular are usually considered to be an important part of academic competence, whereas speaking skills are emphasized in interpersonal competence. Saville-Troike (2012: 144-145) further explains that even though vocabulary plays a very important role in both competences, they usually differ greatly from each other. That is, academic competence refers to learners' language skills in the second language that are needed to acquire information about other subjects. Academic competence might also be required as a medium in scholarly research or in certain professional fields. Moreover, she emphasizes the importance of learning and developing knowledge of field-specific vocabulary in order to succeed in that field.

The expansion of academic vocabulary has been enormous in the past centuries due to, for instance, the Industrial Revolution, the 19th and 20th century innovations in science and technology as well as the social and political development of that era. As new technologies, ideas, and concepts have been emerging, there has been a constant need to create new words for these novel concepts. (Gelderen 2014: 224.) The creation of the scientific vocabulary has used different word formation processes to create the vast vocabulary. One of these processes has been to take an already existing word used in everyday context and give it a new, more narrow meaning. Another process to create new words, has been borrowing words from other languages such as Latin and Greek. Many of the Greek loanwords have been borrowed via Latin. Moreover, many of the loanwords today mix both Greek and Latin morphemes. Such words are, for example, *biosphere* and *hemoglobin*. Many times, the scientific vocabulary is international and the same forms are used in different languages, and therefore, the origins of the words are many times hard to know for certain. (Barber 2000: 215-216.)

According to Charles (2000: 217), most of the words in academic vocabulary have their origin in classical languages, and therefore, many argue that this causes the vocabulary to be opaque. In fact, the meanings of such academic words remain unclear even to native speakers of English. On the other hand, academic vocabulary is more comprehensible internationally as many languages share the same scientific terms. Charles (2000: 217) also argues that researchers in any field are most likely familiar with the classical elements regularly used in academic vocabulary which is why they are not obscure for them. He continues to argue that since Greek elements are so frequently used in word formation, most academic people are familiar with their meanings even though they do not know Greek. Moreover, Nation (2001: 196-197) points out that since most items in academic vocabulary are borrowed from Latin and Greek origin, learners can exploit word part analysis to facilitate the learning process. However, Corson (1995: 179-180, cited in Nation 2001: 25-26) states that the Greek and Latin elements in the English lexicon can be passive for some speakers of English as they are usually low-frequency words, which demand more mental resources to be used. Also, he agrees with Charles (2000:217) by stating that for many speakers of English these classical elements and the morphological structure of them is opaque, which declines the amount of active processing of these words. Corson (1995: 180-181, cited in Nation 2001: 26) introduces the notion of *lexical bar*, or barrier, that separates the common and daily meaning systems from the high status meaning systems, which is presented by the academic culture of literacy. He argues that those who wish to succeed in education must pass this lexical bar. Nation (2001: 26) summarizes this well by stating that the morphological unfamiliarity of the Greek and Latin words intensely strengthens the lexical barrier. This further causes the deterioration of the academic meaning system and causes the vocabulary to stay receptive.

The importance of knowing academic vocabulary is great when English is used for academic purposes. Saville-Troike (2012: 146) points out that learners must master the high-frequency words but they must also require specific vocabulary knowledge if they wish to succeed in academic situations with their second language. As Nation (2001: 189) states, the most obvious reason for this is that academic vocabulary is extensively used in a variety of academic texts. In addition, a great amount of words in academic texts belong to academic vocabulary. Academic vocabulary can be considered as a high-frequency vocabulary for those who are studying English for academic purposes which further emphasizes the need to acquire knowledge of academic vocabulary. In conclusion, Corson (1995: 149, cited in Nation 2001: 197) points out that by knowing, and therefore using, the academic vocabulary that consists of

Greek and Latin elements allows one to express one's knowledge and succeed in academic world.

Saville-Troike (2012: 146) points out that even though the academic texts of different fields share many high-frequency words, like *analytical*, *data*, *hypothesis*, and *explanatory*, many field specific technical terms must be learned along with the high-frequency words. For example, in the field of linguistics such words that must be additionally learned are *phonology*, *discourse*, *morphology*, *lexeme*, and *parataxis*. Moreover, as the term 'linguistics' itself is *linguistique* in French and lingvistikk in Norwegian, but *kielitiede* in Finnish and γλωσσολογία (glossología) in Greek, Saville-Troike (2012: 147) argues that it is easier for those speakers who share the similarity of the term in their mother tongue to understand it than those whose mother tongue share no resemblance to the English form. She (2012: 146) points out that the beginner students usually are faced with vocabulary challenges as they encounter many new field-specific terms and they must often learn new labels in their target language for concepts that they already have in their mother tongue. In short, if the labels are similar in learners' first and target language, as for instance French and English in the example given above, they are acquired without separately learning them. Nevertheless, if the terms differ between these languages, like Finnish and English in the example, the learners encounter additional learning challenge (Schmitt 2008: 337).

4.2 Learning new vocabulary

As already mentioned, learning vocabulary is a crucial part of learning the target language (Schmitt 2008: 329). Furthermore, Saville-Troike (2012: 149) explains that recognizing a new word when it is heard or read happens in the initial state of learning after which the word is produced in a narrow context. Lastly, knowledge about its appropriate and accurate use is acquired. The last stage of learning a new word includes collocational and metaphorical knowledge, awareness of synonyms, and stylistic register restrictions. (Saville-Troike 2012: 149.) The amount of effort that is needed in this learning process is called a *learning burden* which depends on familiarity of the word to learner. That is, different words pose different amount of learning burden to learners which depends on their previous knowledge and linguistic background; if the word in question shares, for example, phonological or grammatical features with the learner's mother tongue, or with previously acquired languages, then the learning burden is light. Moreover, if the word is a loanword, and therefore shares the relatively

same meaning across languages, or if it has collocations and constraints across languages, then the demand that is required to learn that word is minimal. (Nation 2011: 23-24.)

I explained in chapter 3.3 that the knowledge of a word can be divided into productive or receptive. But when it comes to describing vocabulary knowledge, it can be divided into *depth* and *width* (Milton 2009). The width of vocabulary knowledge is used when referring to how many words are known. The depth of vocabulary knowledge, on the other hand, is used to describe the quality of that knowledge. (Schmitt 2008: 333.) In addition, Milton (2009) points out that depth indicates the connection between several form and meaning components of a word whereas width shows the quantity and degree of the connections of a word in relation to other words. He adds, however, that width is generally described as the different varieties of a word, such as the different meanings of that word, its connotations and collocations, the phrases and patterns in which the word is often used, and the associations the word forms in the mind of the speaker. Both depth and width of vocabulary knowledge is needed in vocabulary as a sufficient amount of words need to be learned in order to be able to understand the language but knowledge about the word itself is needed as well to be able to understand its meaning and usage. (Schmitt 2008: 333.)

Incidental learning can be defined as being the byproduct of another activity. That is, learning of certain pieces of information is not the goal as it happens simultaneously while doing something else. For example, guessing from context is one form of incidental learning because while reading or listening, the learners guess the meanings of unfamiliar words based on the context. The learners, then, learn these new words that are used in the text even though they have paid attention only to the message. (Nation 2001: 232.) *Intentional learning*, on the other hand, involves paying consciously attention to the fact that one wants to learn. It is often considered as an effective form of learning new vocabulary. (Schmitt 2008: 340-341.) According to Nation (2001: 263), there are three different ways in which learners can increase their vocabulary knowledge: (1) intentionally learning new words, (2) encountering new words in context, and (3) identifying the word parts and constructing new words by mastering the use affixes and other devices that are used in word building. This suggests that guessing the meanings of words from context and understanding the meanings of morphological structures are then forms of incidental learning as the first way explicitly names the intentional aspect of learning. However, all these can also be done intentionally by using learning strategies to acquire new words which I will explain in more detail in the following paragraphs on learning strategies.

4.3 Strategies for learning vocabulary

Cohen (2010: 164) explains that language learning strategies are "the conscious or semi-conscious thoughts and behaviours used by learners with the explicit goal of improving their knowledge and understanding of a target language". To be more precise, there are four important strategies, according to Nation and Meara (2010: 42), that can be used in learning new words: using word parts, guessing from context, deliberately studying the words by using word cards, and dictionary use. They point out that all these strategies are very effective as they can assist the learning process of high-frequency words. However, these strategies have a more fundamental role in learning low-frequency words as there are thousands of low-frequency words and learners have less opportunity to encounter them than high-frequency words. Nation and Meara (2010: 42) argue that guessing from context is the most effective from these four strategies. I will therefore explain that strategy in more detail. I will also discuss how understanding word parts enhances learning as it is a crucial strategy in understanding the meanings of many complex loanwords used in academic vocabulary, which is supported by the previous chapters on academic vocabulary and the chapters on the history of English. The two other strategies, deliberately studying the words by using word cards, and dictionary use, will be left out due to the limitations and the scope of this study as they are not relevant for the topic.

4.3.1 Guessing from context

Nation (2001: 232) claims that guessing from context is the most significant source in learning new vocabulary. This is particularly true for native speakers but he argues that it should be as important to second language learners. In fact, Saville-Troike (2012: 149) states that the degree of vocabulary knowledge and the amount of words second language speakers acquire depend on their ability to grasp them from context. However, there are not many second language learners who practice intentionally the skills of guessing from the context, and therefore, only some learners are able to learn new vocabulary this way. In fact, Nation (2001: 233) highlights the need and ability to deduct the meanings of words from context, and therefore, the importance of practicing intentionally the skills needed in the deduction.

However, there are skills that are needed to succeed in guessing unfamiliar words from context. For instance, Nation and Meara (2010: 43) explain that good reading and listening skills are needed for the guessing process to be successful. Moreover, according to Schmitt (2008: 350), previous studies suggest that the outcome and success of guessing depends on the percentage

of unfamiliar words in the context, the proficiency of the learner, and confusing unfamiliar words with other words that are similar and known previously. The word classes of the unknown words also affect the outcome as verbs are easier to guess than noun, nouns easier than adverbs or adjective. Furthermore, Saville-Troike (2012: 149) states that when guessing from context, second language learners might not acquire comprehensive knowledge of some words that they are still able produce, those words therefore belong only to their productive vocabulary. Also, as Nation (2001: 247) points out, the outcome of guessing from context depends highly on the similarity between the learner's mother tongue and the target language. This notion will be more thoroughly discussed in chapter 5.3 that deals with the influences across languages.

4.3.2 Using word parts

Saville-Troike (2012: 149) emphasizes the importance of understanding *morphology*, the different parts used to construct a word, as it is a crucial part of vocabulary knowledge in English. That is, English has thousands of words that are created by compounding words together, thus creating compound words with their own specific meaning, or by using affixes and suffixes, a process called *derivational morphology,* to create new meanings. Nation (2001: 46) also shares this view as he argues that the learning burden of words is light if they consist of parts that are familiar to the learner. In fact, Laufer (1997: 146) states when encountering an unfamiliar word, the learners recognize the stem and affixes that appear in other words, and therefore, they can deduct the meaning of the unfamiliar word. Moreover, as Nation (2001: 46-47) explains, it seems that the native speakers of English reconstruct the complex low-frequency words each time they are used. This means that such words are not stored in the memory as unanalyzed chunks but rather as small parts that are put together every time the word is used. However, Nation points out that the process of learning does not happen this way, as the word is probably first learned as an unanalyzed chunk, and it is only later analyzed into separate parts as the proficiency in that language develops.

Nevertheless, Nation (2001: 263) and Laufer (1997: 145) highlight the need for students to acquire knowledge about the meaning of word parts because by understanding the meanings of different affixes and roots that are used in words, the learners can acquire new, unfamiliar words. Moreover, this also enhances the ability to check that the meaning of an unfamiliar word has been guessed right from the context. However, the knowledge that is needed to use the word parts is quite complex; according to Nation and Meara (2010: 43-44), in order for learners to

acquire receptive use of word parts, they need to recognize the parts that are used to construct a word, and also to recognize other words in which the same parts are used, as well as being able to understand the meanings of these parts. Furthermore, as Nation (2001: 274) points out, learners must also understand how the stem and affix create a new, yet somehow related, meaning. To acquire productive use of the word parts, learners need a more thorough awareness of the formal alterations, to the stem and the affix which can occur when they are used to form a compound word. These formal alterations can affect both the pronunciation and spelling of the word.

In addition, both Saville-Troike and Nation (2001: 280) state that knowledge of word formation is extremely important especially in the academic vocabulary of English as academic texts are prone to using long words that are formed by combining morphemes. Saville-Troike (2012: 150) continues to explain that knowledge about the features and processes used in word-formation is a prerequisite for the usage of academic lexicon. For example, the commonly used affixes in scientific words are the Greek origin, suffix *–logy* 'the study of', and *–bio* 'life', and consequently the use of suffixes can change verbs into nouns, adjectives into verbs and nouns, nouns into adjectives or verbs, and adjectives into adverbs, as in *operat-ion-al-ize-abil-ity*.

5 LANGUAGE AND THE MIND

There are several ways to approach the topic since so much could be, and has been, said about language and its effects on mind. Also, there are several fields of sciences, such as linguistics, psychology, medicine, sociology, and anthropology, who have contributed to this topic and offered different points of view. I will discuss the topic, due to the scope of this research, mainly from the linguistic point of view while keeping in mind the general and most recent issues concerning the topic. That is, much more could be said as the remaining chapters involve the main theme of my research: crosslinguistic influence and its effects and manifestation in languages. I will first explain how languages are constructed in the mind, which is followed by a relative short description of language awareness and its effects as it is an affecting factor in crosslinguistic influence, the topic of the following section. In chapter six I will look into the topic of crosslinguistic influence in detail before continuing to discuss my research questions and aims. In other words, I will first explain the general principle of how language(s) are stored and processed in the mind before discussing more thoroughly the interaction and effects of many languages in a single mind as this is when crosslinguistic influences arise.

5.1 Mental lexicon

Semantics relates to the study of meaning. Croft and Cruse (2004: 7) explain that the idea that words convey concepts, which are the components of meaning, has been the driving force of research in semantics. Furthermore, words, the symbols of these mental concepts, are compared and contrasted in structural semantics. That is, structural semantics analyzes the semantic relations of words. Singleton (2000: 4) points out that even though semantics studies the overall linguistic meanings instead of the meanings of single words, semantics starts its hypothesis and theories always at the lexical level. Moreover, it is in the lexical level that many discussions arise. He (2000: 4-5) demonstrates this by explaining the ongoing debate over the meaning of *man;* (1) should the word be regarded as a combination of the associations between man and other words such as *woman, child, animal,* or (2) should it be regarded as an entity which is dividable into smaller units of meaning, like human, adult, and male, or (3) if the word should be envisioned as some sort of stereotypical mental image that is then compared against the actual occurrences of men, or whether these three approaches should be combined.

Paradis (1987: 16, cited in Ringbom 2007: 27) concluded over thirty years ago: "The less two languages have in common, the more they are represented separately". This utterance is true even today as many studies and literature on the matter demonstrate. Ringbom (2007: 27) explains how word associate tests have been able to prove the potential links that exist between words in different languages as well as the non-existent connection with other languages. In addition, Kaivapalu and Martin (2014: 284) state that language learning in general can be considered as sharing the properties of two languages that are connected in the learner's cognition. At the beginning of the learning process, the first language and any other language previously acquired are accessible for the learners. As the learners encounter new words and constructions of the target language, these new components are compared with the components of languages that are previously acquired. They add that this leads to the comparison of new and prior components, and to the possible detection of familiar aspects that will assist understanding and later production.

Jarvis and Pavlenko (2008: 82-83) point out that much information is still needed to understand how languages are stored in the mind and how mental connections are established between them. Still, some consensus already exists, and therefore, three different levels can be used to characterize the mental lexicon and lexical knowledge. The first level consists of lexemes, the different forms of a word as already explained earlier in chapter 3.1, which also involves

knowledge about its spelling and pronunciation. The second level consists of lexical lemma, where lemma is an abstraction. This level also entails details about the word's lexical entry: information about its grammatical class, subcategorization frame, and syntagmatic constraints. The third level consists of concepts where information, such as visual and aural, as well as types of images, properties, and schemas are stored into conceptual categories, which are integrated into web of knowledge about the world and how it works. Jarvis and Pavlenko (2008: 83) claim that even though all mental concepts are not directly connected to language, most of them, nevertheless, are connected with words and linguistic structures.

Meara (2009) found out in his study on word associations, conducted on English-speakers who were learning French, that the semantic organization of words are not as well organized in the target language than they are in the learners' first language. That is, in their first language, words that have a similar meaning are stored so that they evoke each other. However, in the case of the target language, the learners had a semantic organization of the words but they were heavily dependent on translations from French to English. Moreover, he found out that the organization of French words was more based on their form rather than their meaning. What should be noted, however, is that other studies have been able to show that this kind of organization is a common phenomenon when dealing with low-frequency words in general and manifests even in one's mother tongue (Mattheoudakis 2011: 171-172). Nevertheless, based on Meara's (2009: 17) study, the reason for language learners' problems in managing foreign languages might be due to the lack of proper semantic organization of words in the language being learned. He adds that a semantically well-organized lexicon of the target language would be of great assistance when learners' receptive skills are needed. That is, receptive skills are used when one predicts the meaning of a word from the context even though the exact meaning is not clear. He further explains that semantically well-organized lexicon plays an important role in this process as it allows a whole collection of associated words and the meaning of that particular word being at hand come to mind.

According to Jarvis and Pavlenko (2008: 83), when learning a new language, there are several ways in which a new word can be mentally associated with an already acquired word. (1) The learner can make a direct link between the new word and its closest counterpart in a previously acquired language. Moreover, (2) the learner can link a lexeme of the target language directly to a previously acquired lemma in another language. One further possibility is that (3) learners create in their mental lexicon a new lemma in the target language to combine it with the newly acquired L2 lexemes after which the new L2 lemma can be further linked to the L1. It is also

possible for (4) the learner to link the L2 lemma with the underlying concept of L1 lemma. Another possibility is, however, that (5) learners use simultaneously all these interconnection types or combinations of them. Figure 2 demonstrates the different levels of lexical representations as well as the relationship between lexemes, lemma, and concepts:

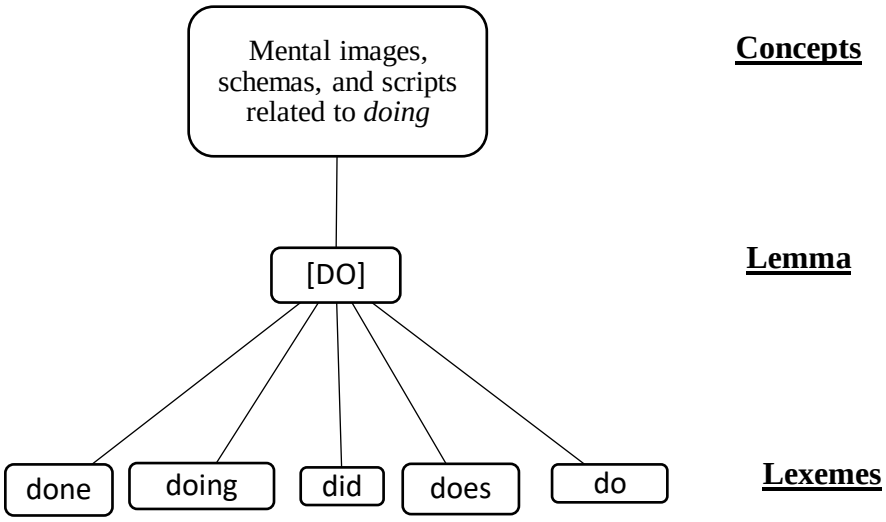

Figure 2. The levels of lexical representations (adapted from Jarvis and Pavlenko 2008: 82).

The levels of lexical representation described above do not apply, however, when close translations across languages do not exist. Moreover, as Jarvis and Pavlenko (2008: 84) point out, lexical acquisition is usually much more complex process than the ones explained above, but for the purpose of this paper, the general idea and logic is described to give a general summary of the mental lexical representations that are used to link lexical items across languages. In conclusion, the existing research suggests that word knowledge involves three levels of representations: lexemes, lemmas, and concepts. All of them affect multilingual lexical representation, lexical accessibility, and lexical activation. Mental links are created between words within and across languages. In addition, these links may also be formed *within*, meaning lexeme to lexeme, and *across*, meaning lexeme to lemma, levels of representation. Nonetheless, lexical representations and the connections between them seem to vary in strength which is believed to affect how accessible words are and what their probability of being activated is when using another language. (Jarvis and Pavlenko 2008: 87-88.)

5.2 Language awareness

There are many different definitions for language awareness but I find one of the most recent definition by the Association for Language Awareness (n.d.) to be very descriptive and self-sufficient as they state that language awareness is "explicit knowledge about language, and conscious perception and sensitivity in language learning, language teaching and language use". Moreover, they add that language awareness is an umbrella term for different interactions dealing with language; for instance, it can be used to study the positive effect that are obtained through acquiring a good knowledge about language, information of how it works, and how languages are learned and used.

As early as in 1989, Odlin (1989: 140) points out that the difference between 'knowing' and 'knowing about' a language has been acknowledged by research for a long time and it has obtained a great deal of attention in second language acquisition studies. According to him, language awareness, or linguistic awareness, has an important part in crosslinguistic influences. He also draws attention to the fact that social considerations are a relevant part in linguistic awareness. For example, the exploitation of cognates by language learners depends on learners' own perceptions of language distance. In fact, Odlin (1989: 153) argues that linguistic awareness affects the likelihood of crosslinguistic influence. Furthermore, Ringbom (2007) suggests several times in his book that transfer across languages occurs when the L2 user perceives similarities between the languages, even when researchers consider the two languages to be quite distant from each other. In other words, as Jarvis and Pavlenko (2008: 182) point out, the possibility of language transfer is determined by the L2 users because the similarities they perceive or even assume to exist between languages are the reasons for mental associations that cause transfer across languages.

The attentional factors that seem to interact with transfer contain attention to and awareness of language, conscious control of language use, and metacognitive and metalinguistic analysis of language. To this point, few studies have explored how these factors influence transfer across languages. (Jarvis and Pavlenko 2008: 194.) In fact, Jarvis and Pavlenko (2008: 194) argue that these factors affect the forms of transfer that appear in language use and it should be acknowledged as linguists have traditionally focused on implicit knowledge and unconscious processing of language when dealing with second or additional language acquisition. Jessner (2013: 36) shares this view of point as she argues that the previous research on language

awareness that does exist has focused almost only on monolinguals whereas the language awareness among multilinguals has not received attention.

In addition, Odlin (1989: 140) states that linguistic awareness is a nonstructural factor that plays an important role in crosslinguistic influence, a topic which is discussed further in the following section. For him, language awareness is the same as metalinguistic awareness, which he defines as knowing about a language. Jarvis and Pavlenko (2008: 194) also share this point of view as they define language awareness as explicit knowledge of language. The notion of metalinguistic awareness and its relation to possible transfer is further established by Jessner (1999) when she suggests that learners develop their metalinguistic thinking when they look for similarities between two languages. In addition, she points out that the connections learners make, or the *cognitive processes* as she calls them, across linguistic systems are the results of their metalinguistic capabilities which further develops their metalinguistic awareness. What should be noted here and later is that the different terms used, metalinguistic awareness, linguistic awareness as well as language awareness, all usually refer to the same concept as *metalinguistic* refers to the language used to talk about language, and therefore, both *language awareness* and *metalinguistic awareness* refer to being aware of those metalinguistic features in a language.

Jessner (2013) investigated the role of linguistic awareness in acquiring multilingual proficiency and in language learning. Her book is one of the most extensive dealing with the subject as she reviews the most notable literature on the topic as well as provide valuable perceptions on the interaction between linguistic awareness and crosslinguistic influence. One of her main findings is that learning additional languages increases linguistic awareness which further facilitates the acquisition of subsequent languages. Furthermore, the acquisition is accelerated because linguistic awareness enables learners to exploit their prior knowledge on other languages that they have previously acquired. Jessner (2013) also provides evidence of the fact that linguistic awareness enhances learners' ability to consciously look for crosslinguistic similarities, to use receptive strategies for deducing meanings of words, and to use their knowledge of other languages more often. Moreover, she suggests that learners' dependence on and ability to exploit explicit knowledge influence language learning by expediting and enhancing the process. However, as she (2013: 43) points out, language awareness of multilinguals as a single attribute is many times difficult to study as their language use is affected by many other factors as well.

5.3 Language and thought

Next, I will discuss the connection between language and thought to conclude this section. This chapter focuses mainly on theories concerning language and the effects it may have on thinking and perception. Even though the theories do not concern the topic of my research as such, their implications, nonetheless, are still closely related since the aim of my study was to find out how one's mother tongue influences the understanding of loanwords and the meanings they have in English. In other words, I will try to give an overall idea of today's view of language and its potential effects on thought. The *Sapir-Whorf hypothesis* will be one of the main themes as most literature on language and thought focus usually quite extensively on the hypothesis and its possible implications from the modern perspective. The term *bilingual* is used to refer to speaker who speaks two or more languages simultaneously or sequentially.

One of the most controversial theories of language and its effects on thought is the *Sapir-Whorf Hypothesis*, sometimes also referred as the *Whorfian hypothesis.* It is based on the writings of American linguistic Edward Sapir and his student Benjamin Lee Whorf (Deutscher 2010: 129, 140.) The hypothesis claims, in short, that one's mother tongue determines how the world is perceived and understood. In addition, it states that languages diverge in the semantic division of the world since the different structures between languages affect the way in which the world is perceived, which causes the speakers of different languages to observe the world differently (Gentner and Goldin-Meadow 2003: 4). The hypothesis has been argued against immensely and its implications have been strongly rejected in the past decades. It is true that the hypothesis as such makes strong implications. However, during the last decade, some researchers have picked up some of the hypothesis' fundaments by studying the relationship between language and thought. Such researchers are, for example, Pavlenko (2011; 2014), Deutscher (2011), Goldin-Meadow (2003), and Cook (2003). Throughout its history, the hypothesis has divided opinions, and it still continues to do so.

There is a broad unanimity among modern scientists that if one's mother tongue has an effect on thinking in any level, such possible effects are negligible and that ultimately all people think in the same way despite of different mother tongues (Deutscher 2011: 6). Moreover, Gentner and Goldin-Meadow (2003: 5-6) explain that the cognitive psychologists of the last few decades have shared the dominant view that human conceptual structure is rather similar in its fundamental features across cultures, and that conceptual structure and semantic structure are closely attached. This view therefore does not allow alteration in semantic structure across

cultures. The same idea has been present in cognitive linguistics as the link between language and cognition is considered strong enough to be able to use semantic structure as a manifestation of conceptual structure. Cognitive researcher used this semantic structure of any given language to detect universal conceptual structure. Gentner and Goldin-Meadow (2003: 6) point out, however, that this perception has started to change slowly as the relationship between language and cognition has been contested after being neglected for decades. For instance, Deutscher (2011) argues in his book that a nation's mode of thoughts as well as culture and psyche are echoed by its language. He (2011: 2-7) claims that language reflects profoundly the cultural dissimilarities, and adds that lately an increasing amount of reliable research has provided evidence that thinking and the way one observes the world are, in fact, influenced by mother tongue.

As Deutscher (2011: 21) explains, the idea of language affecting the way one thinks, also called *linguistic relativity*, seems like a reasonable question at first as languages define concepts and express ideas differently due to different cultural backgrounds. However, he adds that these effects are extremely difficult to study empirically, and therefore, difficult to prove or disprove. For this reason, he argues that the Sapir-Whorf hypothesis has left an embarrassing legacy as he calls the theory and its implementation "a baggage of intellectual history which is so disgraceful". One of the causes for this strong statement is that the hypothesis was strongly supported by others even though there was barely any empirical evidence to support it and that the hypothesis suggested that some languages restrict their speakers' capability to comprehend or express concepts. In other words, the hypothesis considered some languages superior to others which in turn would cause great cognitive consequences, although, it focused more on listing variances in grammatical organization (Deutscher 2011: 130-131, 150). Gentner and Goldin-Meadow (2003: 3) express a similar view by stating that "Admitting any sympathy for, or even curiosity about, this possibility was tantamount to declaring oneself to be either a simpleton or a lunatic" and continue to explain that even though there are strong and negative attitudes towards the hypothesis, it is still widely recognized that language supplies most of our concept, which was one of the ideas suggested by Sapir and Whorf.

Consequently, Deutscher (2011: 150-151) suggests that Sapir-Whorf hypothesis about language limiting its speakers should be abandoned, and instead, we should concentrate on the idea that speakers of different languages are required to express different information. This is an idea called *Boas-Jakobson principle.* That is, languages do not limit their speakers in what they can and cannot express or understand as all languages can be used to convey even the most

difficult theories and concepts. Instead, languages differ in the way they require speakers to pass information. For example, if one says in English that *I spent the evening with a friend,* one does not have to tell whether that friend is a male or female but the same expression, for instance, in Greek or in French would require the speaker to reveal the sex of their friend. Consequently, Deutscher (2011: 234) states that our mother tongue influences the mind in the way it requires us to state certain information and forces us to pay attention to different details. It also makes us treat certain concepts and associations as distinct which affects more our thinking and mind rather than our knowledge of language.

However, other recent studies do not refuse the hypothesis completely. For instance, Athanasopoulos (2011: 30) raises the question of whether Whorf's main principles had some relevant points as the core ideas of it are in the center of ongoing empirical investigation on the matter. Furthermore, Jarvis and Pavlenko (2008: 15-16) state that the increasing recognition of Sapir-Whorf Hypothesis and its relevance on transfer research has been one of the most significant development in CLI. Scholars have suggested that the critics of the hypothesis, or of linguistic relativity, have usually oversimplified and misinterpreted Sapir's and Whorf's original claims about the effects language has on thoughts and they have therefore assumed that Sapir and Whorf believed that language determines thoughts, also called *linguistic determinism.* Lakoff, among other neo-relativists, has tried to compose innovative and complicated approaches to the study of detecting different features of language that form distinct modes of thought, and simultaneously recognizing that there may be some modes of thought and cognitive processes that are not influenced by language (Jarvis and Pavlenko 2008: 16). However, Jarvis and Pavlenko (2008) show in their book that there are implications of the hypothesis that can be used in transfer research as they argue that the misinterpretations of Sapir's and Whorf's arguments are based on the assumption that the theory targets to define a world where monolingual speakers differ from each other only because their modes of thinking are restricted by their language. They (2008: 16) argue that it is obvious, based on Whorf's own pieces of writing, that he believed that learning additional languages can alter or improve the one's worldview. Moreover, Pavlenko (2011: 252) suggests that it is time to stop searching evidence for or against linguistic relativity and instead start a more pervasive investigation of thinking and speaking in more than just one language.

So far, I have discussed the relationship between language and cognition in general but to look this topic from a slightly different point of view, thus putting aside the debate on Sapir-Whorf hypothesis and its implications, I want draw attention to the implications of knowing more than

just one language and how that might affect cognition. In fact, Pavlenko (2011: 2-3) highlights the importance of detecting the consequences of knowing more than one language and how that affects thinking by arguing that the perception of a language having a total control on one's thinking takes place only in the imaginary world that is completely monolingual. This is particularly important as the world is getting more globalized than ever and monolingualism is becoming more infrequent than ever before. She argues that there are still researchers who ignore this view and want to maintain the "illusion" of monolingualism whereas some researchers do not know how to approach the disorderliness of bilingualism. As the topic of language and its effects on mind has started to receive some attention lately, Pavlenko (2011: 17, 23) raises the question of why none of the past researchers, who themselves are usually bi- or multilingual, have not examined the interaction of two or more languages in one mind. According to her, multilingualism and its effects on thinking still remain quite unexamined as it is only in the past decade that this notion has received any focused attention. Athanasopoulos (2011: 38) adds that research on bilingualism and its effects on thinking has slowly started to take seriously the possibility that bilinguals might differ from monolinguals in the way they see the world because bilinguals are accustomed to use languages that have opposing linguistic categories. Considering the fact that multilingualism is more general than ever, it is surprising how little attention it has received.

In fact, Gullberg (2011: 146) states that nowadays we still do not know much about the nature of second language speakers' conceptual representation and how the speakers' first and second languages influence each other. She (2011: 162) adds that even though it is widely acknowledged that words in different languages do not have one to one translations cross-linguistically, the potential outcome of these differences and their effects on cognition is still controversial. Moreover, when two languages interact in a single mind, it is perplexing to understand what happens if the two languages provide two different options for one experience. Jarvis and Pavlenko (2008: xii) state that languages differ in the way they give importance on different features of reality which, in turn, affects the verbal and non-verbal performance of speakers of different languages. Also, they argue that learning additional languages can cause changes in the learners' conceptual knowledge.

To conclude, Gentner and Goldin-Meadow (2003: 12) summarize the topic of this chapter well:

> *Whether language has an impact on thought depends, of course, on how we define language and how we define thought. But it also depends on what we take to be the criterion for "having an impact on". Language*

> *can act as a lens through which we see the world; it can provide us with tools that enlarge our capabilities; it can help us appreciate groupings in the world that we might not have otherwise grasped.*

I want to take this notion even further with my study; if language is such a powerful tool, what happens in the context of second language usage when our mother tongues differ from each other? And more specifically, when dealing with the academic lexicon that is very abstract and, due to the process of borrowing, has strong roots in classical languages, is there some benefit of having a mother tongue that originates from one of the source languages? Also, if such benefits do exist at an advanced level of language learning, how do they affect the process of acquiring additional vocabulary and the way academic loanwords and their meanings are understood? With the following chapter on crosslinguistic influence and with the results of my study, I am hopefully able to answer these questions.

6 THE EFFECT OF CROSSLINGUISTIC INFLUENCE ON LEARNING

So far, the notion of crosslinguistic influence, the interaction between languages, has been mentioned or implied several times throughout the chapters above. In fact, it has been the main motive for me to discuss all the topics that I have discussed so far whether it has been the lexicon of English and the influences other languages have had on it, the construction of words, academic vocabulary, or the relationship between language and the mind. Therefore, it is finally time to introduce the main theme of my research: crosslinguistic influence. In the following section I will explain what it is, how it manifests, and how it affects language learning. Ringbom (2007: 3) insightfully points out that transfer and the interaction of it with other variables in second language acquisition is a multifaceted issue. Consequently, to provide all encompassing discussion of the effects that similarities between languages, both crosslinguistic and intralinguistic, have on learning a new language would also involve dealing with associated linguistics and psychological disciplines. However, in the following paragraphs, I will try to give a general idea of what transfer is, chiefly from the linguistic point of view, and how it affects language learning. Moreover, I will use the terms *transfer* and *crosslinguistic influence* (*CLI*) interchangeably to refer the phenomenon dealt in this paper from a theory-neutral point of view even though I acknowledge that the term *transfer* is regarded traditionally as describing the behaviorist phenomenon of skills transfer where as *crosslinguistic influence* is a theory-neutral term (Ellis 2008: 350).

6.1 The development of crosslinguistic influence

Already in 1899, Sweet made the following observation:

> *Mastering the vocabulary of most European languages means simply learning to recognize a number of old friends under slight disguises, and making a certain effort to learn a residue of irrecognizable words, which, however, offer less difficulty than they otherwise would through being imbedded in a context of familiar words. The higher vocabulary of science, art, and abstract thought hardly requires to be learnt at all; for it so consists either of Latin and Greek terms common to most European languages or of translations of them.* (Sweet 1899/1964: 66.)

There are at least two reasons why the study of language transfer, or crosslinguistic influence (CLI), is unusual. Firstly, CLI has received empirical attention long before the formal creation of the fields of study that nowadays is considered to exist on their own as the example given above demonstrates. Secondly, research on transfer has been mostly experimental in nature as it has been driven primarily by theory-neutral research questions rather than by theory-specific hypotheses that are traditionally used to study the other distinguished factors, such as anxiety, input, and acculturation, that influence language acquisition. This is probably because CLI is quite complex in nature and it has a long history of interdisciplinary interest. (Jarvis and Pavlenko 2008: xi.) However, as Jarvis and Pavlenko (2008: xi-xii) point out, the role of transfer has changed as CLI researchers no longer consider it to be an intervening variable in the background affecting language acquisition, but rather, a phenomenon of its own to be investigated. Moreover, a new era has emerged in the transfer research as it is nowadays more than a vague aspect lacking theoretical status, and therefore, research on CLI has gone beyond the level of language knowledge and basic principles of cognitive aspects.

As suggested earlier, language transfer has long been considered a negative phenomenon. In fact, crosslinguistic influence was associated still in the 20th century with limited mental capacity, low morale, and laziness. Moreover, linguistics and psychologists supported these notions by stating, for example, that transfer across languages deteriorates rational thinking (Epstein 1915, cited in Jarvis and Pavlenko 2008: 2) and that the phenomenon of first language affecting the pronunciation of other languages is caused by laziness and the disinterest of altering phonological behavior (Jespersen 1922, cited in Jarvis and Pavlenko 2008: 2). These negative considerations of language transfer were not challenged until the mid 1900s when research on CLI started to consider transfer as an inevitable aspect of language learning. To put it differently, the first aspect to obtain serious attention in SLA was the possible effect of

learners' existing linguistic knowledge on L2 learning, and how cognitive structures were involved in this process. It was during this time that CLI gained the attention of linguistic, psycholinguistic, and sociolinguistic scholar (Ellis 2008: 349). In fact, Weinreich's book *Language in Contact*, published in 1953, was revolutionary in the field as it provided vast empirical evidence and insight on CLI, and in fact, his worked has been repeatedly cited in CLI research even today even though it focused mainly on negative transfer by examining how one's mother tongue interferes L2 learning (Ellis 2008: 349; Jarvis and Pavlenko 2008: 2-3). As Jarvis and Pavlenko (2008: 3) point out, Odlin's book *Language Transfer* (1989) has also contributed to CLI research greatly with its broad synthesis of the language transfer literature. Moreover, Odlin was one of the first to highlight the positive aspect of transfer as it was in the 1970s and 1980s that the field of CLI began to understand that L1 transfer is indeed more influential when similarities exist between L1 and target language. Before this most research had only focused on negative transfer and on the indications that L1 interferes L2 learning. (Jarvis 2000: 247-248.)

I must emphasize the fact that one of the most influential and frequently cited work even today in the field of transfer was written almost thirty years ago. In addition, as I explored the literature and searched for previous studies on CLI for this paper, it was overwhelming how little notable research has been made on the subject as most of the literature cite the same sources and rely on the same previous studies. In other words, it became evident quite fast that there are only a few influential pieces of work from the linguistic point of view that are somewhat up to date. Besides, the previous studies and contributions to the field of CLI have been made only by a handful of researchers such as Jarvis, Pavlenko, Odlin, and Ringbom. In recent decades, Jarvis in particular has contributed greatly the field of CLI with his numerous writings and studies.

6.2 What is crosslinguistic influence?

According to Odlin (1989: 26), when learning a new language, prior knowledge of languages that are similar to the target language aids greatly the learning process. Moreover, Carter (1998: 195) states that words are remembered and learned better when there is transfer between the learners' first and second language. Moreover, he explains that international loanwords are more memorizable as most of them have cognate forms in different languages. Ringbom (2007: 72) explains that if learners first language and the target language are related, the meanings of

many words are easily guessed, at least approximately. If there is semantic equivalence between the words of these two languages, learners are able to find primary counterparts more easily. Moreover, receptive learning of lexical items can be acquired easily when the learners' first and target languages have formal similarity and they share semantic similarity.

As already mentioned earlier, studies conducted in the last two or three decades of 20th century provide most of the information we have today on CLI. The most important findings in the area, as Jarvis and Pavlenko (2008: 11) explain, are covered by Odlin (1989). These findings indicated that (1) even though some effects of transfer are negative, most of them still are positive as they cause faster and more successful language acquisition, (2) similarities across languages tend to cause learners to make mental association, or *interlingual identification* as Odlin (1989: 113) calls it, and that (3) transfer does not always occur in the first stages of learning as sometimes enough knowledge of the target language is required to recognize similarities between languages. The findings also showed that (4) crosslinguistic transfer does not always take place between learners' first language and target language as it can also happen between two languages that are learned in addition to the first language, or moreover, the first language of a learner can be influenced by a second language. Furthermore, (5) the likelihood of transfer to take place depends on other factors, such as the age of language users, the individual differences like anxiety and motivation of them, and their own observations of similarities between the languages. Lastly, (6) the effect of CLI goes beyond language forms as it affects the meanings and functions associated with the language forms as well as the pragmatic functions of language use. In conclusion, transfer is a very multifaceted cognitive phenomenon which is usually affected by language users' observations, conceptualizations, mental association, and individual choices (Jarvis and Pavlenko 2008:13; Martin and Alanen 2011: 39).

As Ellis (2008: 351) and Jarvis (2000: 245) argue, one of the main reason for inconsistent and ambiguous findings in CLI studies is the absence of a common definition. Therefore, I feel that explaining the main findings in the area is not sufficient as there is a need to provide an exact definition of CLI. Ellis (2008: 351) provides us an excellent one by combining Odlin's (1989: 27) definition with that of Jarvis' (2000: 252);

> Language transfer refers to any instance of learner data where a statistically significant correlation (or probability-based relation) is shown to exist between some feature of the target language and any other language that has been previously acquired. (Ellis 2008: 351)

This definition is not a description of the L1 influences as such, but rather, a statement of the empirical evidence that is required to show that L1 affects target language performance. The definition given above combines, first, the need to show the statistically significant relationship between L1 and its effects on the target language, and second, the description of the categories of statistical evidence that are essential and adequate to accomplish methodological consistency in examining L1 influence (Jarvis 2000: 251- 252; Odlin 1989: 32). I will further explain and discuss these notions and the criteria in identifying transfer in the following chapter.

6.2.1 Identifying instances of crosslinguistic influence

Jarvis and Pavlenko (2008: 41) list three types of evidence that can be used in the process of recognizing transfer: *intergroup homogeneity*, *intergroup heterogeneity*, and *crosslinguistic performance congruity*. These three types of evidence are all signs of a potential connection between an already acquired language, or the source language in other words, and target language performance (Jarvis 2000: 253). Intergroup homogeneity is evident when a group of language users have an equal amount of knowledge of the source language and the target language which causes them to perform similarly in the source language. In other words, this means that due to transfer the speaker of a specific source language behaves certain way in the target language which, in turn, can similarly be detected among other speakers with comparable knowledge of both source and target language. However, intergroup homogeneity alone is not sufficient to detect the effects of language transfer as the support of intergroup heterogeneity is also needed. This second type of evidence involves the performance dissimilarities between two groups of language users whose knowledge of the source or target language differs from each other. (Ellis 2008: 352-354; Jarvis and Pavlenko 2008: 41-42.) Moreover, there are three different types of comparison that can be used to detect intergroup heterogeneity: (1) by comparing the differences of groups who share the same target language and their knowledge in it is comparable but their source languages are different, (2) by comparing the differences of monolinguals and bilinguals who have the same target language, and (3) by comparing monolinguals and bilinguals who share the same source language but have different target languages. (Jarvis 2012: 4; Jarvis and Pavlenko 2008: 41-44.) As to crosslinguistic performance congruity, Jarvis and Pavlenko (2008: 46-47) point out that it is based on the evidence that there is an interaction between source language knowledge and target language knowledge. In other words, crosslinguistic performance congruity is evident when one's knowledge of a language motivates certain behaviors in another language (Jarvis and Pavlenko 2008: 35). Intergroup

homogeneity, on the other hand, is based on the assumption that one's linguistic behavior is not an individual feature but rather a shared outcome by those who share the same level knowledge in certain languages. Further, intergroup heterogeneity relies on the fact that one's linguistic behavior is strongly dependent on the combination of languages he or she knows. (Ellis 2008: 353-354; Jarvis and Pavlenko 2008: 35.) To conclude, Jarvis (2012: 5; 2000: 259) argues that at least two types of evidence are required to confirm the existence of crosslinguistic influence and all three of them must be studied before making statements about the emergence of crosslinguistic influence in learner data.

6.2.2 Item learning and system learning

To clarify the notion of transfer further, Ringbom and Jarvis (2009: 110) explain that it is the learners' dependency on perceived and assumed crosslinguistic similarities which are established on three separate levels: *item transfer, system or procedural transfer, and overall transfer*. These levels are best understood against the framework of the difference between *item learning* and *system learning. Item* refers to an individual form, such as a letter, a morpheme, a word, or a phrase. S*ystem,* on the other hand, refers to a group of principles that are used to organize forms paradigmatically, as giving distinctive functions to different forms of a word like in *do, did, done,* as well as syntagmatically, meaning word order rules. System can also be defined as drawing meanings onto these forms that are organized paradigmatically and syntagmatically. Overall transfer is an umbrella term that covers learners' dependence on formal similarities of separate items and functional similarities of underlying systems (Ringbom and Jarvis 2009: 112).

Ringbom and Jarvis (2009: 111) point out that the distinction between system learning and item learning provides information about what is being transferred, which is one of the main questions in CLI research. They explain that in item transfer an item, or a concept between the target language and the first language, is connected in the learners' minds. That is, particularly at the beginning of acquiring a new language, the distinctive connecting characteristic of item learning is primarily crosslinguistic as language learners, especially adult language learners, already have a complete system of linguistic and conceptual representations even though the structures and constituents of those representations are not the same in different languages. They state that learning appears item by item in all language areas in the early stages of acquiring a language. During these initial stages of learning, the crosslinguistic similarities that dominate item transfer are an explicitly *perceived* similarity of form that is then connected to

an *associated* and *assumed* similarity of meaning and function. Perceived formal similarities help learners to create *crosslinguistic relations*, or *interlingual identification* as Odlin (1989) names it, in long-term memory. In short, system learning deals with the learners' assumption that there is a crosslinguistic functional resemblance across languages but not necessary formal item similarity; system transfer is usually transfer from first language, or from another language in which the learner has a high proficiency, to the target language. This is because the primary constituents of system, grammatical rules, and semantic features, seem to require a full automatization in the learners' minds before they can be transferred. Moreover, Ellis (2008: 351) explains that studies of CLI has provided us a compilation of evidence that L1 influences the use and acquisition of the target language. This division into *use* and *acquisition* is important because the manifestation of transfer effects on communication does not always mean that L1 forms have entered the learner's interlanguage system.

6.2.3 Lexical transfer

Odlin (1989: 82) points out that the lexicon of a language includes information about the meaning of words, but moreover, it also contains syntactic and morphological information. Therefore, when it comes to cognate forms, lexical transfer can be seen as the transfer of both morphological and semantic information. Jarvis and Pavlenko (2008: 72-74) further define *lexical transfer* as the word knowledge in one language affecting the knowledge and use of words in another language. In fact, they argue that one's mental representations of lexical items in certain language indicates whether that language has been acquired as a first language or as an additional language. Research on lexical transfer has provided strong evidence for the hypothesis that all the words one knows in different languages are mentally interconnected, and therefore, the knowledge of words in one language affects the learning, processing, and usage of words in another language.

As there are barely any studies conducted to investigate lexical transfer, Jarvis and Pavlenko (2008: 74-75) are able to show their expertise on the matter by providing a relatively encompassing summary of previous research on lexical transfer and the most current information we have on lexical transfer. Thus, lexical transfer can be divided into three subcategories; (1) CLI causing morphophonological and semantic error, (2) transfer affecting lexical representation, accessibility, and activation, and lastly, (3) CLI affecting word choice. The first subcategory deals with the semantic nature of lexical transfer, a phenomenon called *semantic lexical transfer*, *lexicosemantic transfer,* or *semantic transfer,* when an authentic word

in the target language is used with the meaning of a source language. For example, in Finnish the word *kieli* means both *language* and *tongue*, and therefore, the semantic transfer from Finnish can cause the speaker to state that *I bit myself in the language.* What should be noted, as Jarvis and Pavlenko (2008: 75-76) point out, is that semantic transfer is different from conceptual transfer; in semantic transfer the speaker connects certain words of the target language with their previously acquired conceptual representations whereas in conceptual transfer the concepts themselves are transferred. For instance, even though there is only one word in Finnish for both *language* and *tongue,* Finns still clearly have two separate concepts for them so the transfer is only semantic in nature and no conceptual information is transferred into English. However, conceptual transfer takes place when the speaker does not make conceptual differences or mental separations between two different lexical items. In Finnish, for example, there is only one word, *purkki*, for both *tin* and *jar* and, according to Jarvis and Pavlenko (2008: 76), Finns usually do not to make any mental distinctions in the categorization of *tin* and *jar* so they use the words interchangeably. Most studies fail to make the distinction between semantic and conceptual transfer even though there is a fundamental difference between the two. Indeed, Jarvis and Pavlenko (2008: 76) state that understanding the difference between concept and semantic transfer is greatly needed in order to comprehend the process and mechanism that affect second language acquisition, language transfer, and multilingualism. This statement is also shared by Ellis (2008: 369). The second subcategory deals with mental links between words and concepts, and also, between words and other words, which were discussed in chapter 5.1 that dealt with the lexical representation, accessibility, and activation being an indication of the three levels of word knowledge: lexemes, lemmas, and concepts. The third subcategory refers to findings in CLI research where learners' mother tongues cause them to prefer some categories of words over others, such as phrasal verbs instead of one-part verbs and vice versa. In addition, studies have also been able to detect how learners choose specific words, such as articles, prepositions, and relative pronouns, based on their mother tongue. (Jarvis 2012: 38.)

In conclusion, factors affecting transferability can be divided into five categories (Jarvis and Pavlenko 2008: 213):

1. *Linguistic and psycholinguistic factors*, such as crosslinguistic similarities across languages, frequency, and linguistic context
2. *Attentional, cognitive, and developmental factors*, such as awareness of language and cognitive language learning abilities

3. *Language experience and knowledge factors*, such as proficiency level and other, previously acquired languages
4. *Learning environment factors*, such as different forms of language exposure and attention to the formal properties of languages
5. *Factors related to language use*, such as level of formality and different types of tasks

6.3 Crosslinguistic similarity and language learning

As already mentioned in chapter 3.3, Ringbom and Jarvis (2009: 113) argue that in language learning SLA research has ignored prior ability to understand a language as it has focused only on the learners' success in target language production. Furthermore, it has not separated the receptive and productive features of language proficiency when dealing with learning, thus neglecting the different mechanisms of comprehension and production. Hence, Ringbom and Jarvis (2009: 113) identify four stages of learning: *item learning for comprehension, item learning for production, system learning for comprehension,* and *system learning for production*. Crosslinguistic similarity plays a role in all of these types of learning but the effect of it differs. Item learning for comprehension is the onset of target language learning. When the first language and target language of a learner are similar, a moderate receptive knowledge can be acquired relatively fast. Consequently, as the item transfer can be used to ease the acquisition of the ability to understand a new language, more cognitive resources remain to be used for other parts of receptive learning. Nevertheless, if there is no similarity between the languages, the divergence between receptive and productive vocabulary is diminished and the acquisition of receptive competence is more time-consuming. Item learning for comprehension is followed by item learning for production and system learning for comprehension which usually take place simultaneously. In system learning for comprehension learners begin to modify the overgeneralized one-to-one relations between first language and target language systems. Moreover, as the system learning develops, learners increasingly learn to enlarge their lexical network in several dimensions and it during this process that the significance of crosslinguistic similarity declines and the intra-lingual similarities in target language become progressively important.

In addition, according to Saville-Troike (2012: 187), one can learn any new language despite what the mother tongue of that person is. However, depending on one's mother tongue, some languages cause additional challenge to learn. That is, even though knowledge of mother tongue

is an important part in the early part of learning an additional language, the typological, genetic, and historical connections between the learner's first and target language lead to positive transfer of different features such as vocabulary and writing system. (Ellis 2008: 355; Saville-Troike 2012: 187.) Ringbom (2007: 1) shares this view as he states that language learning, or learning in general, has its foundations on prior knowledge, and therefore, learning a new, foreign language is many time making connections between what is already known. Also, as Swan (1997: 163, 167) and Kaivapalu and Martin (2014: 284) point out, if the language being learned has connection with the learners' first language, prior knowledge is beneficial where as distant languages do not usually serve any beneficial aid to the learning process. Moreover, Ringbom (2007: 1) argues that the possible crosslinguistic similarities between the languages decreases the effort and time needed to learn the language whereas the speaker whose first language is distant or does not share any similarities with the language being learned, the learners must put more effort and time to learning the unrelated language.

Furthermore, as Ringbom (2007: 1) explains, the difference between learners' first and target language is usually the focal point of second language research even though the similarities between the languages affect learning and performance directly a great deal more than differences do. Saville-Troike (2012: 187) states that the close connection of first and second language and the positive transfer that is causes has received barely any attention in previous research even though it is an important part of second language acquisition. In fact, Ringbom and Jarvis (2009: 106) say that instead of finding out differences, learners are frequently trying to find connections between the languages they are learning and prior linguistic knowledge they have acquired. When attempting to find links between the two languages, learners exploit intra-lingual similarities by using the knowledge they have acquired heretofore of the language being learned. At the beginning of the learning process of a language, when the knowledge of that language is still scarce, learners usually contrast the target language to their first language, thus using their first language as the main source for finding similarities. Ringbom and Jarvis (2009: 106) as well as Ringbom (2007: 2) add that it is not always the first language of the learner that is used as a source for finding similarities since other acquired languages, especially if they are acquired to high level of proficiency and are related to the language being learned, have an important role in the learning process.

6.3.1 Similarity relations

Ringbom (2007: 5-6) lists three types of crosslinguistic similarity relations: *a similarity relation, contrast relation,* and *a zero relation.* The first relation, similarity relation, happens when the learners' notice a correlation between patterns, formal and/or functional in nature, in the target language and any other language that they have already acquired. The second relation refers to a situation where the two languages share some similarities but the main observations that are made by the learners are the important differences in patterns and items. As the languages still usually share common underlying features, learners are able to notice the differences and to learn them easily. Lastly, a zero relation takes place when the target does not share noticeable features with the first language. As all languages share some common features, a zero relation refers to situation where the shared common features between the languages are situated on high abstract levels, and therefore, an average language learner fails to notice them. Moreover, Ringbom (2007: 6) further demonstrates this relation by explaining that some essential concepts might be missing in the learners' first language which are required in recognizing some of the profound distinctions in the target language.

6.3.2 Actual, perceived, and assumed similarities

Ringbom and Jarvis (2009: 106) argue that distinguishing and employing crosslinguistic similarities to prior knowledge are crucial processes in language transfer. In addition, Jarvis and Pavlenko (2008: 176) claim that crosslinguistic similarities have a great effect on comprehension, learning, and production. Previous studies, such as Ringbom (2001) and Gibson & Hufeisen (2003), have proven that language learners whose first language or other source language is closely related to the target language understand the target language considerably better than those learners whose previously acquired languages are more distant from the target language. Nevertheless, Ringbom and Jarvis (2009: 106) point out that the crosslinguistic similarities learners identify are often subjective which might lead to imprecise or partial awareness of the actual similarities between languages, and therefore, a distinction between *actual, perceived,* and *assumed similarities* should be made. They (2009: 106-107) explain that actual and assumed similarities belong to different domains as the actual, objective similarities can be analyzed and explained linguistically but assumed similarities made by the learners are the outcome of processes that are formed in their mind. It is possible that learners make appropriate observations about the similarities between languages, which makes the

assumed similarities to be also actual similarities but Ringbom and Jarvis (2009: 107) claim that this quite unusual. Furthermore, they also state that the contrast between assumed and actual similarities across languages is usually quite large. Consequently, as Jarvis and Pavlenko (2008: 178) explain, this contrast leads to, firstly, learners' disability to notice the actual similarities that objectively exist between the languages, and secondly, learners misunderstanding the nature of various similarities that they have perceived, and lastly, learners making wrong assumptions about similarities between languages when there is not any. According to Ringbom and Jarvis (2009: 107), many attempts have been made to distinguish actual similarities between languages but no consensus has been reached on how to define and measure the similarities between languages. However, as they point out, the assumed similarities made by the language learners have a greater and more direct influence on language learning and performance than the actual, objective similarities do. Furthermore, Ringbom (2007: 117) explains that even though perceived similarities made by language learners between target language and previously acquired language(s) might be only superficial, hence the similarities are not actual similarities, or they are oversimplified, they still aid notably the learning process and cause positive transfer.

Ringbom and Jarvis (2009: 108) state that when learners use the language they are learning, they are encoding their thoughts into language structures that they have earlier acquired. If there are no such structures, they tend to create new structures. The creation of new structures in the absence of acquired structures tend to rely heavily on the assumed similarities between two languages. In addition, when language learners have previously acquired more than two languages, they usually assume that their first language and the language they are learning share semantic and pragmatic similarities, whereas formal similarities are assumed to exist in any previously acquired language that is typologically closest to the language being learned. The formal similarities of words and multi-word structures are usually assumed only after learners' have actually perceived them to exist between two languages. Moreover, Ringbom and Jarvis (2009:108) add that the possible assumptions concerning formal similarities depend greatly on the typological closeness of the languages as well as on learners' proficiency level.

According to Jarvis and Pavlenko (2008: 180) and Ellis (2008: 358), after perceived similarities are noticed enough many times, learners tend to assume additional similarities across languages that do not exist. Moreover, Jarvis and Pavlenko (2008: 78) point out that the findings of previous studies on lexical transfer suggest that learners usually assume that any two given languages are formally different until they become aware of similarities between the languages,

and yet, learners assume that any two given languages are semantically similar until they notice evidence of the differences. However, they add that differences in meaning are much harder to notice than differences in form. That is, differences in meaning are usually slowly cognized and generally the process requires an explicit introduction to possible differences, a great amount of study and awareness of how the word is used in different context. Therefore, learners assume that words have a semantic equivalence across languages. These statements are closely connected to those made in chapter 3.1.2 on cognates and the existence of false friends.

Consequently, Soufra (2001 cited in Singleton 2006: 139) found out in her study that even though English speaking learners of Greek showed cross-lexical influence in their learning, they still failed to notice many similarities between English and Greek because of the perceived distance between the languages. For example, Soufra found many instances where the formal and semantic relationships between some Greek and English words were very similar but the learners did not notice this similarity. Soufra suggests that this is caused by a dimension in the lexical activation process that takes place at the language level instead of the level of lexical items.

Further, according to Ringbom (2007: 117), the advantage of actual similarities between languages and positive transfer start to diminish as the proficiency level increases. He argues that future English teachers, for example, studying at the university or others who have a high proficiency level do not benefit anymore from the crosslinguistic similarities. In fact, he states that many similarities in low-frequency words, usually loanwords, do not facilitate the learning process as much as similarities in high-frequency words. Also, Jarvis and Pavlenko (2008: 201) argue, based on empirical evidence, that the nature and existence of transfer is highly dependent on language proficiency, particularly on first language or source language proficiency. They point out that previous research suggests that transfer is also influenced by proficiency in the target language but the outcome is more dependent on the definition of proficiency and the presence of other variables. Nonetheless, Ellis (2008: 402) concludes the importance of crosslinguistic influence extremely well:

> Crosslinguistic effects are extensive, varied, and persistent. They are also illuminative of the cognitive processes involved in L2 use and acquisition. No theory of L2 use or acquisition can be complete without an account of L1 transfer.

6.4 Research on crosslinguistic influence

The crosslinguistic differences between native Finnish and Swedish speakers of L2 English were explored in Jarvis's (2000) study. His study is pioneering in the field as it endeavored to achieve methodological rigor by acquiring all three types of evidence that are required to claim transfer (see chapter 6.2.1 on identifying instances of crosslinguistic influence) and controlling many other variables, such as age, L2 proficiency, and language background, that can affect the process of transfer. Jarvis's main aim was to find out if there is a difference in the choice of L2 content words that are used to describe objects and events between learners of different L1. In order to examine the lexical reference, Jarvis collected L2 data in Finland from carefully selected samples of Finnish and Swedish L1 speakers and L1 data from native speakers of Swedish, Finnish, and English. From the adolescent participants, 537 of were Finnish and Swedish L1 speakers and 98 in English L1 speakers. Participants with a non-target L2 knowledge and bilingual participants, a home environment with more than one language that is, were disqualified to narrow the groups into 35 participants in each experimental group and 22 participants in each control group. Moreover, the experimental group consisted if four Finnish groups and two Swedish groups. All participants within one group were studying English at the same grade. Jarvis used three tasks that involved the lexical reference of certain objects and events. He also gave an additional task that measured the receptive lexical knowledge. Thus, the tasks appointed both production and reception of the participants. Jarvis used a computer database to quantify the participants lexical choice by referring to 12 preselected objects and 15 preselected actions. The statistical analyze produced some evidence of transfer effects even though not as much as was expected. Jarvis speculates that one probable reason for the this is due to the close cultural contact between Finns and Swedes which has caused them to share many lexicalized concepts and conventions to refer experience that were studied. Nevertheless, examples of all three types of evidence were found. In addition, some major differences occurred in lexical choices as the Finnish-speaking learners favored, for example, the words 'hit' as in "She hit the man" and 'crash' as in "She crashed with a man" to refer to a collision scene in a film whereas the Swedish-speaking learners used 'run on' as in She ran on a man'. These differences could be traced to differences in the underlying Finnish and Swedish concepts that relate to collision. Also, Jarvis found in his study that the L1 effects were particularly stronger than the effect of any of the other variables on learners' lexical reference, and as he was able to show evidence of all three types of L1 effects, he (2000: 299)

concludes that more research is required on different learner groups as well as on different areas of target language use.

Jarvis and Pavlenko (2008: 233) explain that many transfer effects on comprehension and perception remain undetected as previous research on transfer has completely neglected them. In addition, they (2008: 58-59) list four approaches for future research on transfer that will most likely create novel insights into the nature and extensiveness of CLI as a phenomenon of language learning and multilingualism. The first approach deals with the manner in which the knowledge of one language influences comprehension of another language. In fact, Ringbom (1992, cited in Jarvis and Pavlenko 2008: 59) points out that this approach has been talked about for decades but no real actions nor empirical studies have been conducted to study the matter. For this reason, Ringbom states that this area of study has been completely neglected. Jarvis and Pavlenko further suggest that this area of transfer research is one of the most promising, and yet, most unexplored. They add that this approach is fundamental in understanding the formation of interlingual identifications in the minds of individual speakers. The second approach deals with the ways in which interlingual identifications are connected to the mental concepts that multilinguals obtain through experience with their many languages. Moreover, the focal point of this approach is the way in which conceptual representations controls language use, and the ways in which the concepts acquired and created through experience in one language might influence verbal and nonverbal performance in another language. The third approach, which will perhaps get a great deal of attention in transfer research, relates to the investigation of techniques to recognize one's language background based on his or her language use. This can be achieved by, for instance, examining the general patterns of word choices in the target language. The last approach to transfer research is the meta-analysis of prior transfer studies, which still has not been conducted. (Jarvis and Pavlenko 2008: 59.)

It has hopefully become evident by now that crosslinguistic influence is a multifaceted issue affecting SLA tremendously, and yet, only recently has it started to gain some attention which is why much remains to be studied in the field of CLI. As stated repeatedly in most of the previous chapters on different topics, previously acquired languages, including one's mother tongue, affect the process of learning new languages. However, the influence crosslinguistic similarities have on language learning is studied among young language learners in the initial stages of the learning process. When considering two languages that share many similar features, it is plausible to anticipate that the learning process is less demanding than that of two

languages that are distant and do not bear any resemblance. But what happens when one masters the target language at an advanced level? Do crosslinguistic similarities across languages aid anymore? As I will explain more thoroughly in the following chapters, these questions were used to construct the research aim of my study. Moreover, as explained in chapter 2, the eventful history of English and its different periods have had an immense influence on the English lexicon, and on its low-frequency words in particular. When examining SLA theories involving vocabulary learning, most of them focus on high-frequency words and only few explain the process of learning academic vocabulary that consists of low-frequency words. Therefore, the main focus of chapter 4 was on academic vocabulary and on theories that concern specifically the acquirement of academic vocabulary. It is therefore evident that the structures used in academic words define the strategies that are needed when learning them. For example, academic words are many times constructed by using word parts that are either Latin or Greek of origin, and by detecting those parts one can guess the meaning of an unfamiliar word. The process of language learning and acquiring new vocabulary are also strongly shaped by language and its relation to mind as discussed in chapter 5. Furthermore, theories on mental lexicon suggest that previously acquired languages, their structures, and how they are constructed in one's mind affect the learnability of additional languages in the early stages of the learning process. Nevertheless, previous studies and theories have failed to show whether these matters are present when the learner has acquired a high proficiency in the target language. My study thus aimed to examine whether there were still differences at an advanced level between language learners who have different linguistic backgrounds but who, from the SLA point of view, had same learning goals as they are the future specialists in the English language. In fact, this refers directly to the first approach for future research listed in the previous paragraph that is needed to gain new information on CLI.

7 THE PRESENT STUDY

7.1 The research aim and questions

Earlier studies on crosslinguistic influence have concentrated on younger learners and, as indicated earlier in chapter 6.4, many transfer effects on comprehension and perception remain undetected as previous research on transfer has completely neglected them by focusing chiefly on language production. Moreover, as stated in chapter 4.1, the importance of knowing academic vocabulary is extremely important when expressing knowledge and wanting to

succeed in academic world. My research, thus, aims to investigate the differences among students who are studying English at an academic level and how their mother tongue affect their knowledge of academic vocabulary used in English studies. The focus of my study is on loanwords as they are used to compile most of academic vocabulary, as explained in chapter 2 when discussing the complex and rich history of the English lexicon. Furthermore, in chapter 4, I discussed the crucial skills that are needed to acquire new words, which are also investigated in my study. In other words, my research aims to answer the following questions:

1. How does the knowledge of Greek affect understanding the meaning of academic loanwords in English?
2. What methods and strategies are used to deduct the meaning of unfamiliar loanwords?
3. How aware are the Greek and Finnish students of the crosslinguistic influence?

With the first question, I want to show the benefits of knowing a language, or languages, that are the source languages for many loanwords used in the English academic vocabulary. Detecting these benefits supports the notion of crosslinguistic influence being present even at an advanced level of language study. Moreover, by comparing different mother tongues and how they affect understanding and the knowledge of academic loanwords in English, I hope to be able to show how the knowledge of certain languages affects greatly even at academic level. Therefore, I hope that with the second question I can depict the specific factors that affect variation among English students within and across both groups as well as their understanding and knowledge of academic vocabulary. This is achieved by studying the awareness of etymology and knowledge of the morphological structures, one of the most important strategies needed when encountering unfamiliar words as stated in chapter 4.3.2. By doing this, I can provide answers and reasons to show how the knowledge of such factors would beneficiate students who wish to succeed in their academic studies and acquire more thorough knowledge of the vocabulary used in such studies. Furthermore, with the third question I would like to reflect the existing awareness of crosslinguistic influences, as well as language awareness in general, among English students and how variation can be found in them even at an advanced level of English. Also, as it was explained earlier in chapter 5.2, Jarvis and Pavlenko (2008: 194) state that the attentional factors seem to interact with transfer but previous studies have ignored these factors and how they affect transfer across languages.

7.2 The data

Before explaining more thoroughly the process of compiling the questionnaire that was used to gather the data, I will first explain what the data of my study consisted of so that the following reasoning for the choice of a questionnaire as a method for collecting data is more understandable. I will also address some general aspects of questionnaires, including their benefits and potential shortcomings so that the background matters that were present when compiling the questionnaire would more evident.

77 respondents, all of whom studied English at a university level, answered the questionnaire that was used to gather the data for my research. From the 77 participants, 34 (44%) had Finnish as their mother tongue and 39 (51%) had Greek as their mother tongue. Four (5%) participants had a mother tongue that was neither Finnish nor Greek. As the main aim of my study was to compare English students whose mother tongue is either Finnish or Greek, these four participants were disqualified. The data of my study therefore consisted of 73 respondents all of whom spoke either Finnish or Greek as their mother tongue. All participants studied English at a university either in Finland or in Greece. I will present more detailed information about the participants and their responses to the background questions in chapter eight.

Since the aim of this study was to detect crosslinguistic influence, and its effects on knowledge and understanding of academic vocabulary among English students, a sufficient amount of statistically relevant data was needed in order to make generalizations across different languages. Furthermore, to be able to make such generalizations and how they affect the understanding of the English lexicon, students with different language backgrounds were required. Therefore, a questionnaire was used to gather data because, as for example Alanen (2011: 160) and Tuomi and Sarajärvi (2009: 74) explain, questionnaires can provide an extensive amount of data in relation to the resources, such as time and money, that are required. Moreover, Alanen (2011: 160) points out that questionnaires provide the opportunity to collect data that consists of several target groups. Finnish and Greek students studying English were therefore chosen as the two target groups due to the dissimilarities between their mother tongues. As discussed in chapter 2.4, a vast amount of academic vocabulary is Greek of origin. What should be noted, however, is that Greek in this context refers to Ancient Greek which can be seen as a separate language from Modern Greek. That is, the meanings of some words have changed over time whereas some words do not exist anymore in modern Greek. However, as Dendrinos, Zouganelli and Karavas (2013: 48) explain, Greeks do not consider Ancient Greek

as a foreign language but rather a "part of the Greek cultural heritage and a means of gaining greater insight into the Modern Greek language". They conclude that all Greeks must study ancient Greek at school more than they must study foreign languages which makes it anything but a separate, foreign language to them. Therefore, it was reasonable to anticipate that a comparison between these two contrasting linguistic backgrounds, Finnish and Greek, would reveal instances of crosslinguistic influence if they still exist at an academic level. Moreover, Finnish belongs to the Finno-Ugric language family, and thus, it does not share similarities with the Indo-European language family in which both Greek and English belong to.

Since the scope of this research and the resources of it were limited, a questionnaire supports its aims best, as explained above. To summarize, Dörnyei (2007: 6-7) explains well that the benefits of questionnaires are their efficiency in time, effort, and financial resources. Also, he further highlights the fact that questionnaires are more resourceful than interviews as questionnaires provide the opportunity to collect data that combines "variety of people in a variety of situations". As the main aim of my research was to do exactly this, to collect data that combines people with different linguistic background and to analyze the differences among them, using a questionnaire as a method of collecting data then meets best the requirements.

It should be, however, pointed out that questionnaires have their limitations; they are usually used as a structured data collection tool that provide simple, superficial, and unmotivated answers because respondents engage with the topic for only a short period of time. This happens usually when the questions concern a very explicit piece of information or when respondents are asked to choose their answer from a pre-determined list of options, such as multiple-choice questions, which is why questionnaires are usually a good tool for collecting data that can be processed with quantitative analysis. (Dörnyei and Taguchi 2009: 7, 9-10.) Therefore, I must add that interviews, as a method of collecting data, provide a great benefit with their flexibility. That is, the interviewer has the possibility to repeat and clarify questions, to correct misunderstandings, and to converse with the participants whereas a questionnaire provides no such opportunities. (Tuomi and Sarajärvi 2009: 72-73.) Moreover, as Alanen (2011: 160) points out, interviews provide more detailed answers. However, as interviews would have been possible to conduct only in Finland, I was able to gather answers from outside of Finland by conducting a questionnaire as a method of collecting data.

Since I wanted to overcome some of these limitations of a questionnaire, I included open-ended questions to the questionnaire. As Alanen (2011: 151) explains, a questionnaire can have both

closed and open-ended questions; the benefit of open-ended questions is that they give the opportunity for the respondents to formulate their answers by themselves. The negative side of them is that they are statistically unreliable and answering them requires more time from the respondents. As the answers to open-ended questions are not statistically reliable, they must be analyzed with methods of content based analysis such as coding or categorizing. Moreover, Dörnyei and Taguchi (2009: 10, 36) state that open-ended questions are important in questionnaires as they can provide responses that cannot be pre-determined or categorized beforehand by the researcher. Furthermore, open-ended questions provide quotes and graphic examples that illustrate the topic. They also give the opportunity for topics and answers to emerge that cannot be predicted beforehand. In summary, the open-ended questions enrich the data, which is why a careful selection and construction of open-ended questions were included in the questionnaire. Also, the construction of the open-ended questions was made so that they would meet the criteria that Dörnyei and Taguchi (2009: 38-39) listed in *Short-Answer Questions*; they yield to responses that are short, yet free and unpredictable.

The data for this study was collected by distributing a questionnaire (see appendix) to English students at Greek universities and a Finnish university via email. The universities were chosen so that they all had an English section that offered Bachelor's and Master's programs after which the students of English were reached by sending an invitation via English students' mailing-lists to participate in my study by answering the questionnaire. It is impossible to say how many received the invitation thus the response rate remains unknown. The anonymity of the respondents was guaranteed as no detailed information of the participants was asked and the questionnaire was sent via mailing-lists.

The questionnaire was constructed and administered with accordance to the guidelines given in Dörnyei and Taguchi's *Checklist* (2009: 127-130); for example, the length of the questionnaire was kept relatively short, and extra attention was paid to the instructions, to the layout, and to the construction of the questions. Also, it was ensured that all the questions support the research questions and aims of this research (Alanen 2011: 149; and Tuomi and Sarajärvi 2009: 75.) The questionnaire was conducted in English as the target groups consisted of English students. Webropol was used to construct and conduct the questionnaire as well as to gather statistical data concerning the respondents and their answers, which were later extracted to a separate file, stored on an external hard drive. The questionnaire was piloted in November 2017 after which the questions were revised accordingly. As stated before, a questionnaire has its limitations especially with misunderstanding questions, and getting superficial or undetailed answers.

Therefore, extra attention was paid to the construction of the questionnaire, to piloting as well as to revising carefully each part of the questionnaire so that the data would be as rich, informative, and detailed as possible. Moreover, the questionnaire was piloted on both Greek and Finnish native speakers to detect possible problems that were culture related. The questionnaire was also piloted on people who were not English students to detect jargon or language usage that would not be clear to all English speakers (Dörnyei and Taguchi 2009: 55).

The questionnaire consisted of 20 questions that were divided into six (6) categories:

1. Background questions
2. Detecting familiar words
3. Connecting words to their meanings
4. Word parts
5. The origin of English words
6. Unfamiliar words in English

The first three categories were closed questions and the last three categories were open-ended questions. With the first category, the aim was to collect information about the participants that might affect their answers and could therefore be used as a part of the analysis as Jarvis (2000: 260) suggests. The questions in this category were compiled in accordance with Jarvis's (2000: 260-261) list of variables affecting crosslinguistic influence. In the second category, the respondents were asked to tick the words which meanings they know from a list of words. The list contained loanwords of different origins so that potential differences in the receptive skills concerning the academic vocabulary of English could be detected. The words were mostly either Greek or Latin of origin but they do exist in other languages as loanwords too, as, for example, 'allegory' is *allegoria* in Finnish, *allégorie* in French and *Allegorie* in German, and 'dogmatic' is *dogmaattinen* in Finnish, *dogmatique* in French and *dogmatisch* in German. By including such words, I could ensure that if there were differences between Greeks and Finns, they would most likely be caused by the influence of their mother tongue as there was not any significant difference in other language skills of the respondents. Also, some of the loanwords were chosen because they are often used in an academic context. Such words were, for example, *methodology, annotate,* and *empirical,* which is why it was emphasized to the respondents that words should be ticked only if one knows their meaning as a mere recognition is not enough. Secondly, some loanwords, such as *synopsis* and *homophone,* were chosen so that their

meanings could be deducted based on their parts. Lastly, words with deceptive cognates, or *false friends* as Ringbom (2007: 74-75) calls them (see chapter 3.1.2 for further information), were avoided so that the meaning is somewhat similar in English and in other languages that have the same cognates. Such words were, for example, *antithesis, indefatigable,* and *misanthrope*. Similar process and criteria were used in the following categories as well.

The third category asked the respondents to connect words to their meanings. As Nation (2001: 349) states, multiple-choice can easily lead to guessing, which is why other types of questions were also required to gather more coherent and detailed data on the matter. As I explained in chapter 4.3.2, understanding morphological structures that are used in words helps students to deduct the meaning. The fourth category, therefore, asked the respondents to break down the words into meaningful parts and to define the meaning of those parts. The words used in this category were chosen so that they consisted of parts that are frequently used in academic words. The meaning of the parts could then be deducted based on their usage and meanings in other words. The fifth category asked the respondents to name the source language of six loanwords, and to give reasons why they chose that particular language. Lastly, the participants were asked how the languages they know, including their mother tongue, help them when encountering a new or unfamiliar word in English. The aim of this question was to detect the awareness of crosslinguistic influence between the languages the respondents knew. Based on the feedback gathered during piloting, the possibility to give additional information or thoughts on the topic was added in the end.

Furthermore, as anticipated, and later confirmed by the feedback gathered during piloting, the questions would be more demanding on the Finnish participants. Therefore, when selecting the loanwords for the questionnaire, it was ensured that (1) they should be familiar to some extent to anyone who is studying English at an academic level, (2) they existed in other languages as loanwords, and (3) knowing the meanings of morphemes used in them would help deducting their overall meanings and/or origins. With the careful process of selecting the loanwords, I could also ensure that the questionnaire would yield to a sufficient number of both Greek and Finnish participants. I should also point out that each word's meaning, etymology, and usage were checked using the online version of *The Oxford English Dictionary*. The questionnaire's questions, and reasons for selecting the loanwords for each question, are discussed in detail when analyzing the results.

Lastly, I want to highlight the fact that even though some questions were compiled in accordance with Nation's (2001) models that are used for language testing, my research used no evaluative processes on the respondents' language skills. It was also made clear to the respondents at the beginning of the questionnaire that there would be no right or wrong answers. The difference between a *test* and a *questionnaire* is that a test measures how well someone performs, thus focusing on skills and abilities, whereas there are no wrong or right answers in a questionnaire as its purpose is to require information. Furthermore, the performance of the respondents is not evaluated by comparing it to an existing norm even if the quality of the answers can be compared among different groups of respondents. (Dörnyei and Taguchi 2009: 4; Alanen 2011: 148.)

7.3 Methods of analysis

According to Kalaja, Alanen and Dufva (2011: 20), qualitative and quantitative perspectives do not exclude one another as quantitative researchers must analyze and explain the numerical data of their result. This process requires a qualitative approach. Moreover, questionnaires produce diverse and rich data that can be analyzed with both qualitative and quantitative approaches (Alanen 2011: 146); the combination of different methods and approaches is currently seen advisable and more informative (Kalaja et al. 2011: 20). Therefore, I analyzed the data of the questionnaire's closed questions with a quantitative approach and that of the open-ended questions with a qualitative approach.

When dealing with a large quantity of respondents, it is important to deal the data with a statistical approach as they can be seen to represent a universe (Alanen 2011: 148). In other words, the goal of a quantitative study is to obtain a generalization of a certain degree (Kalaja et al. 2011: 19). Therefore, I first used a simple statistical analysis for the closed questions by examining the percentage values and numerical values gathered from those questions, which in turn, was followed by a more detailed analysis of the results, thus, allowing me to make generalization. The detailed analysis was achieved by comparing the two groups as well as their answers to the background questions. In addition, I used a qualitative approach to decode the data of the open-ended questions by applying content analysis, the general method of analysis used in qualitative studies (Alanen 2011: 151; Tuomi and Sarajärvi 2009: 91). Qualitative content analysis is a method used to describe the meaning of qualitative material in a systematic manner (Schreier 2012: 1). However, as open-ended questions do not have pre-coded options

for different answers in the way closed questions have, the process of analyzing them is slightly more complicated compared to closed questions. Consequently, I paid extra attention to the systematic nature of content analysis. The systematic process in handling the data was a crucial factor in content analysis as otherwise the data could have been influenced by subjectivity. (Dörnyei and Taguchi 2009: 98-99.) Therefore, I first built the coding frame to find out common themes and topics from the data after which I could define different categories and further divide them into different sub-categories that were related to the main categories. (Alanen 2011: 151; Schreier 2012: 245). For example, the aim of the last question of the questionnaire was to discover awareness of crosslinguistic similarity which was used as a coding frame when examining the answers. When instances of such awareness were found in the data, common themes were gathered to create different categories, such as other languages that help with unfamiliar words in English, which could then be further divided into sub-categories, such as mother tongue and other languages. The results of this question, as well as the tables that were constructed based on the process described above, can be found in chapter 8.5. The processes used in content analysis are well summarized by Dörnyei and Taguchi (2009: 99): "the pool of diverse responses is reduced to a handful of key issues in a reliable manner".

As I pointed out earlier, qualitative research has its weaknesses that are mostly caused by the subjectivity of the researcher since the analysis is always an interpretation of the data, and a small sample size because thoroughly conducted qualitative research leads to a heavy workload. However, qualitative research is still an effective tool when facing new, unexplored areas of research. (Dörnyei 2007: 37, 39-42.) By combining both quantitative and qualitative methods of analysis, I wanted to overcome some these shortcomings, and to provide a rich and detailed analysis that would enlighten the topic of my study that has received barely any attention in past research.

8 CROSSLINGUISTIC INFLUENCE AMONG GREEK AND FINNISH UNIVERSITY STUDENTS

After analyzing the data of the questionnaire, it was obvious that there is notable evidence of crosslinguistic influence even at an advanced level of English. All three types of evidence, intergroup homogeneity, intergroup heterogeneity, and crosslinguistic performance congruity were present in the data. As it was discussed in chapter 6.2.1, Jarvis (2012: 5; 2000: 259) argues that at least two of the three types must be present to confirm the existence of crosslinguistic

influence and all three of them must be studied before making statements about the emergence of crosslinguistic influence in learner data. The following chapters will show, firstly, that there were notable differences between Greek and Finnish students who studied English at a university level, thus referring to intergroup heterogeneity, and secondly, that knowledge in Greek and its influence on the academic vocabulary of English were of great benefit even at an advanced level, thus referring to crosslinguistic performance congruity. Lastly, the answers of Greek and Finnish students will also be listed separately to provide evidence of the intergroup homogeneity. However, the background factors cannot be discussed in detail. That is, due to the scope of this paper and the limitations it sets, some aspects are left undiscussed and much remains to be said on the results in general as only the main indications and evidence of crosslinguistic influence are analyzed. In other words, the following chapters will provide evidence of crosslinguistic influence by (1) comparing Greek and Finnish students with each other, (2) analyzing the similarities and dissimilarities *within* both groups, and (3) discussing to some extent other background factors that affect crosslinguistic influence.

Examples are numbered in order and some of them are placed in tables which also gather the examples in sub-categories. The tables include only some of the examples but the numbers in brackets indicate how many out of all the respondents answered the questionnaire accordingly. The numbers given in each sub-category demonstrate how many respondents agreed with the sub-category. Some examples and statistical information are given in the text to further illustrate the topic in question. In addition, all respondents are numbered accordingly and indicated after each example in which *G* stands for *Greek respondent* and *F* stands for *Finnish respondent*. I have favored the use of figures and tables to be able to provide more evidence of crosslinguistic influence. Therefore, some categories and examples listed in tables and figures, as well as all the pieces of information they suggest, have been left undiscussed. However, all relevant information is pointed out in the text and most significant pieces of evidence is discussed in more detailed manner.

Also, *The Oxford English Dictionary*, later referred as *OED*, was used to indicate the frequency of words. Furthermore, I should add that the Greek translations that are provided in the following chapters are all my own as I have transliterated words written in Greek letters into Latin script as well as translated their meanings into English. All these translations were, however, checked so that they are in accordance with the definitions and translations of OED. The results are often shown in two different tables separating the answers of Finnish and Greek respondents so that they would more accessible for the reader. Moreover, I was hopefully able

to show in chapter two, concerning the history of the English lexicon, the complexity of the English lexicon, which is why I will not go into details when discussing the origins of the loanwords used in my study as that discussion alone would be quite long and would require many descriptive details. Further, the main focus will be on the respondents' answers and the way they understand the meanings of loanwords used in academic vocabulary, and therefore, in many instances I feel that it is irrelevant to discuss the original meanings of words and their parts, or the meanings the words have today. However, when these notions affect the answers, I will point that out to the reader.

As said earlier, the data consisted of 73 respondents from whom 34 were Finnish and 39 were Greek. When referring to *Finns* or *Greeks*, I am referring to the native speakers of Finnish and Greek. Also, when comparing Finnish and Greek respondents' answers to the background questions, no differences occurred in them as the overall percentages were even within both groups. Thus, I will discuss them briefly and present the background factors of both groups together. Only the answers to *other language abilities* are later listed separately as it was the only category of the background questions that could have affected the results of my study, had there been major differences between the two groups. The answers to the background questions are gathered to the following Table 2:

Table 2. Background factors of the respondents

<table>
<tr><th>Age</th><th>Level of study</th><th>Average grade</th><th>Other language skills</th></tr>
<tr><td>16-20 years: 25 (34%)</td><td rowspan="2">Basic studies: 18 (25%)</td><td>(5) Excellent: 14 (19%)</td><td rowspan="2">Latin: 42 (58%)</td></tr>
<tr><td>21-24 years: 23 (31%)</td><td>(4) Very good: 44 (60%)</td></tr>
<tr><td>25-28 years: 15 (21%)</td><td rowspan="2">Subject studies: 28 (38%)</td><td>(3) Good: 14 (19%)</td><td>Spanish: 35 (49%)</td></tr>
<tr><td>29-32 years: 7 (10%)</td><td>(2) Satisfactory: 1 (2%)</td><td>German: 45 (62%)</td></tr>
<tr><td>32 years and above: 3 (4%)</td><td>Advanced studies: 27 (37%)</td><td>(1) Sufficient: none (0%)</td><td>French: 35 (48%)</td></tr>
</table>

The respondents ages and level of studies distributed evenly since all categories under *Age* or *Level of study* have more than half of the respondents as can be in Table 2. However, most of the respondents, 44 (60%), had the average grade of *very good* (4) in their English courses on a rating scale of 1-5. The only difference between the two groups, besides having different mother tongues, could be found in language skills; 34 (87 %) Greek respondents knew Latin

whereas from the Finnish respondents only 8 (24%) knew Latin. The self-reported skills average on a rating scale of 1-5 is shown in the parenthesis:

- *Latin*: 34 (87%) Greeks (2,7) and 8 (24%) Finns (1,3)
- *Spanish*: 17 (44%) Greeks (1,9) and 18 (53%) Finns (1,8)
- *German*: 23 (59%) Greeks (2,4) and 22(65%) Finns (2,3)
- *French*: 20 (51%) Greeks (2,1) and 15(44%) Finns (1,8)

As I explained earlier, the scope of this paper sets some limits to the analysis which is why all results and examples are not discussed in detail as I want to provide different types of evidence of crosslinguistic influence instead of a detailed description of only some of them. In other words, as it has hopefully become evident based on the previous chapters, crosslinguistic influence is a complex phenomenon that has many different aspects. Therefore, I want to be able to show that the results of my study demonstrate the complex nature and evidence of notable crosslinguistic influence that emerges in many different aspects even among learners who are at an advanced level in their L2.

8.1 Detecting familiar words

When the respondents were asked to tick the words they know, there were some words that did not show great variance between Greek and Finns, and over 50% of the respondents had ticked them. That is, the variance among Greeks and Finns was less than 10% and over half of both Finns and Greeks ticked them:

- *coherent* (89% Greeks and 88% Finns),
- *excerpt* (69% Greeks and 67% Finns),
- *syntax* (99% Greeks and 94% Finns),
- *empirical* (89 % Greeks and 82% Finns),
- *chronology* (94% Greeks and 91% Finns),
- *semiotic* (66% Greeks and 73% Finns),
- *synopsis* (94% Greeks and 91% Finns),
- *homophone* (84 % Greeks and 79% Finns),
- *methodology* (94% Greeks and 85% Finns)

Even though only small differences can be found between Greeks and Finns in the list above, it can be noted that *semiotics* is the only word that was ticked by more Finns than Greeks since other words were ticked more often by Greek respondents. Also, this list includes almost all the words that were included due to their frequent use in academic context in general, such as *empirical, methodology,* and *chronology,* as well as some words that are frequently used in linguistics, such as *semiotic, synopsis* and *syntax.* This indicates that the *width* of such vocabulary knowledge, a term which was discussed in chapter 4.2, was similar among both groups. However, *homophone* is quite restricted in its meaning, and therefore, less frequently used in general but it was still ticked by most Finnish and Greek respondents whereas *homograph* was ticked only by 46% of Greeks and 47% of Finns, thus leading me to the conclusion that *–graph* was notably less familiar to both groups or its meaning together with *homo-* was not detectable. However, later in the questionnaire, the respondents were asked to divide the same word into its parts and define the meaning of the parts. Based on the answers, it was obvious that the meaning of *homo-* was familiar whereas the definition of *–graph* was not as well known, and further, the meaning of the whole word was many times guessed. This will be further discussed in chapter 8.4 on word parts. Furthermore, when examining the answers of both groups, it was peculiar to find out that *indefatigable* was known only by 11 (15%) respondents. The word contains *fatigue* which is relatively frequently used in English, and moreover, even more frequently used in French. Even though 35 (48%) respondents reported knowing French, only nine of them ticked *indefatigable.* Thus, most respondents who knew French failed to detect *fatigue* or the affixes *in-*, *de-* and *–able* made the meaning undetectable by the respondents.

8.1.1 Detecting loanwords from Greek

When comparing the percentage of ticked loanwords between Finns and Greeks, there were some quite considerable differences between the two groups as Figure 3 shows:

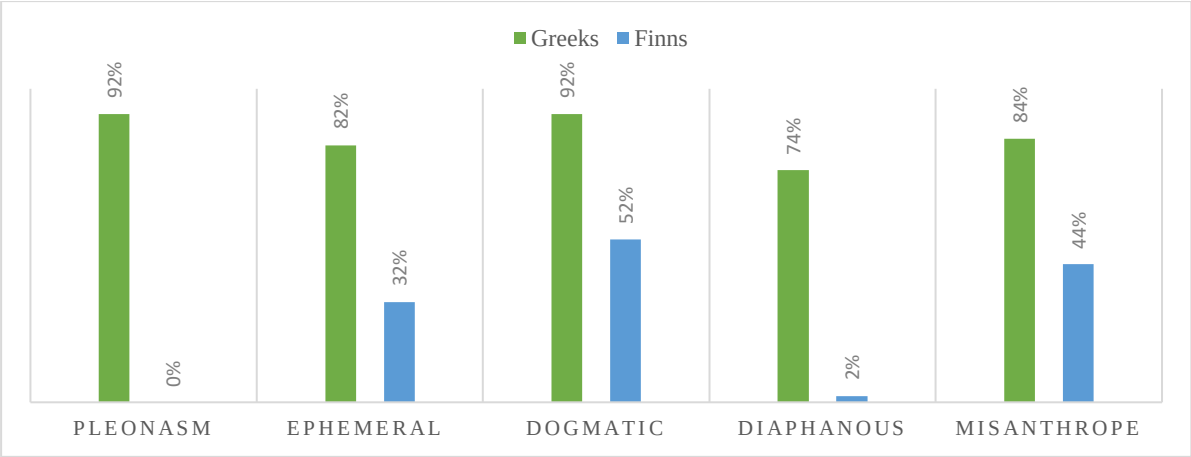

Figure 3. The differences between Greek and Finnish respondents when detecting loanwords from Greek

All words that were ticked at least 40% times more by Greeks than Finns are included in the list. I should point out that I set the limit to 40% instead of 50%; this way I was able to gather more instances from the data that provided representative examples of the crosslinguistic differences that still exist even at an advanced level of language learning between the two groups. The words in Figure 3 show evidence of crosslinguistic influences among Greeks in low-frequency words since the knowledge of Greek significantly affected the understanding of these quite infrequently used words in English. Moreover, all these words are quite specific in meaning, and therefore, they can easily be detected if one has encountered the word previously in context or is familiar with the morphemes that are used in them. Reasons for crosslinguistic influence to emerge in these words can only be speculated so I will give a brief description of my opinion on the matter.

Even though *pleonasm* is quite strict in meaning and infrequently used even in linguistics, it is evident that the knowledge of Greek benefited greatly as 0% of Finns ticked the word but 92% of Greeks ticked it. It should also be added that 'pleonasm' exists in Finnish as *pleonasmi,* even though it is very infrequently used. The difference between the two groups was probably caused by the fact that *pleonasm* in English has its roots in the Ancient Greek *πλέον* ('pleon'*);* a comparative form meaning 'more' in Ancient Greek but its derivatives, such as *πλειονότητα* ('pleionótita'*)* meaning 'majority', still exist in Modern Greek. *πλέον* meaning 'more' is no longer used in Modern Greek. *Diaphanous* exists as such in Greek whereas in Finnish, *läpikuultava* is the closest translation, and thus, bears no resemblance to the English form. Furthermore, OED states that *diaphanous* derives from the medieval Latin *diaphanus*, which has borrowed it from Greek. Moreover, in Greek, the word exists with the same form and

meaning as that of Latin, but the its parts, *dia-* meaning ‘through’ and *–fanis* meaning ‘showing, appearing’, exist in Greek but not in Latin. Both the word and its parts are still used in Modern Greek but have their roots in Ancient Greek. Therefore, knowing Greek notably benefits the understanding of the meaning of *diaphanous* in Greek as it can be constructed by using the meanings of its parts in Greek, whereas recognizing its origin and usage in Latin would mean that no such deconstructing method can be used.

All the words in Figure 3 exist in Greek and close relations between form and meaning are shared with the English ones. In Finnish, *diaphanous* is the only word that has no resemblance with the Finnish translation. Other words do, in fact, appear in Finnish as loanwords that share the form and meaning. As Figure 3 includes words that are infrequently used, such as *pleonasm*, as well as frequently used words, such as *dogmatic*, it suggests that the frequency of words is not as prominent as crosslinguistic influence. Moreover, *pleonasm* and its meaning belongs to the field of linguistics whereas *dogmatic* is not a field specific word, which probably caused the Finnish respondents to tick *dogmatic* more often. I feel confident to argue that the knowledge of Greek benefits greatly the understanding of these words, and particularly words that have a narrow, field specific meaning. It can therefore be concluded that these results provide evidence of crosslinguistic influence from Greek to English even at an advanced level of language learning. Moreover, as most of the words can be found in Finnish as well, it is obvious that understanding the meanings of morphemes that are used in these words, as well as knowing the language from which the words are borrowed, help enormously.

Chiasmus was included in the questionnaire because it is a loanword from ancient Greek with a vivid meaning. Also, it can be found in several languages, for example, in Finnish as *kiasma*. *Chiasmus* is used in English as a figure of speech. It refers to an inversion of the relationship between the elements of phrases, thus contrasting words or phrases with a reversal in the order of words. *Chiasmus* derives from Ancient Greek; since the Greek letter χ (‘chi’) is shaped like an X, the verb *χιάζω* (‘chiaso’) meant ‘to mark with chi’. *Chiasmus* is quite infrequently used in English, so its inclusion to the questionnaire provided a possibility for crosslinguistic influence to emerge among Greek respondents. However, only 23% of Greeks ticked it which means that not even half of the Greek respondents knew this word. One probable reason for this is the typological difference between Greek and English, and its opaque meaning in Greek. Compared to all the other words in Figure 3, in which clear signs of crosslinguistic influence can be detected, *chiasmus* is not as frequently used. Also, its modern meaning in English cannot be deducted that easily from the meaning of its parts: ‘to mark with chi’. It is possible that the

Greek respondents recognized the word as deriving from Greek but its meaning was not familiar to them.

8.1.2 Detecting loanwords from Latin

When examining the differences between the groups, some words were more familiar for Finns than Greeks as Figure 4 illustrates:

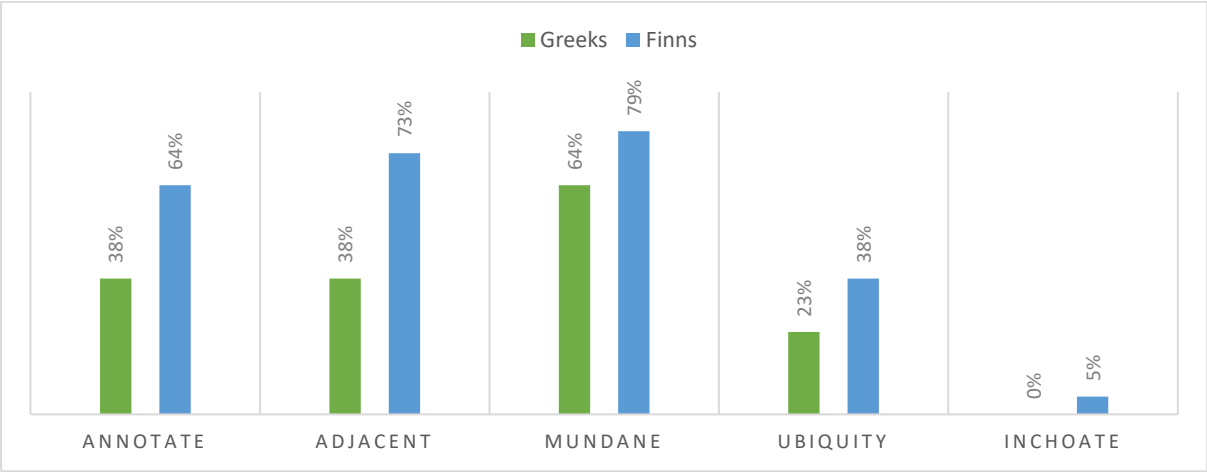

Figure 4. The differences between Greek and Finnish respondents when detecting loanwords from Greek

When looking at the words in this figure, it is evident that all of them are borrowed from Latin. Although there are only slight differences in the percentages and none of them are as contrasting as the ones discussed above, they still show how Greeks could exploit their mother tongue in English loanwords that are Greek of origin. Moreover, as considerably more Greek students reported knowing Latin than Finnish students did but still more Finns ticked these words, it is evident that Greeks exploited their mother tongue when there was an apparent similarity between the English loanwords and Greek words. These statements are further discussed in chapter 8.3 when discussing the results of detecting the word origins.

When comparing between first-year students and students at Master's level within both groups, the percentage of these loanwords borrowed from Latin arose similarly. That is, first-year students within both groups had ticked the words less frequently than the students at Master's level. This indicates that both Finnish and Greek students acquire loanwords that are Latin of origin during their English studies. Even though more Greeks than Finns reported knowing Latin, it did not cause any difference between the two groups. For example, *adjacent,* was ticked by 42% of first-year students in Greece but by 71% of Master's level students. Moreover, the

same word was ticked by 67% of first-year students in Finland but by 85% of Master's level students.

8.1.3 Identifying non-words

There were six non-words, words that are not real words, included in the list to detect the accuracy of the respondents' answers; if respondents said that they know a non-word, it can be argued that they were overstating their vocabulary knowledge. Most non-words were ticked by less than 5% of the Finnish respondents, which is why it is safe to assume that no such overstatement took place among Finns. In contrast, *dogmagraph* was ticked by 25% of the Greek respondents, *pragmagraphy* by 20% of the Greek respondents, and *protasigraphy* by 15% of the Greek respondents.

When constructing the questionnaire and choosing words for the questionnaire, all non-words were checked using OED to make sure that they do not exist. Due to the quite big percentage of Greek respondents who ticked these words, I did a simple Google search, and found some results with *dogmagraph*. Nevertheless, there were only a few results which all were from websites that seemed quite unofficial. Therefore, one plausible explanation for this is that these three words are used in English but they are not acknowledged by OED. However, a more plausible explanation is that some of the respondents were overestimating their knowledge. In fact, when examining the matter in more detail, I found out that no Greek at Master's level had ticked these non-words whereas, *dogmagraph* for example, was ticked by 33% of the first year English students. This finding implicates that as Greeks start their English studies at an advanced level, they are prone to over assume the similarities that exists between Greek and English but as their skills and knowledge develop, they can analyze the structures of English loanwords and the meanings of difficult words instead of relying heavily on their mother tongue and the forms and meanings in it. That is, as discussed in chapter 6.3.2, after making enough perceived similarities between English and Greek, they tend to make assumptions of further similarities even if they do not exist. However, as the skills in English further develop, they are more able to detect actual similarities instead of assumed similarities between the languages. Also, this finding suggests the same as the one I made on loanwords that are Latin of origin; Greek students are able to fine-tune their receptive understanding of English loanwords as they develop in their studies. As Jarvis and Pavlenko (2008: 78) point out, differences in meaning across languages are harder to notice than differences in form which is why the process requires a great amount of study and awareness of how a word is used in different context. This statement

supports my finding, as well as the additional ones I will later discuss when dealing with the results I gathered concerning the awareness of crosslinguistic similarities and differences between languages.

I should add that the words which were made to look like loanwords from Latin, such as *nominerate*, were ticked by a few respondents of both groups although, as mentioned before, the percentage in each word was less than 5%. For example, *nominerate* was ticked by 2% of both Greek and Finnish respondents. However, one non-word, *ubiphile,* was ticked by no one. This word was deliberately formed by using a mix of Latin and Greek morphemes, a process that is used in academic vocabulary as discussed in chapter 4.3.

All Greek of origin loanwords were known by more Greek than Finnish respondents, although no word was known by all Greeks. What should be noted is that perhaps there were differences in the way each respondent interpreted the level in which they should be able to define the meaning in order to tick the word. That is, the level of how well the meaning of the word should be known before ticking may have varied between the respondents. Having said this, there still were some considerable difference in the amount of known words between the two groups which is why it can be concluded that the knowledge of Greek influences greatly the English lexicon even at an advanced level.

8.2 Connecting words to their meanings

The respondents were next asked to connect words with their meanings. As the previous results referred more to the *width* of vocabulary knowledge, the results of this chapter, as well as the results of the remaining chapters of this section, refer to the *width* of vocabulary knowledge (for further information on vocabulary knowledge, see chapter 4.2). Altogether, 12 loanwords were given to be connected to six meanings. The aim of this question was to find out differences in the receptive skills between Greek and Finnish respondents. The words were chosen so that only one, *abysmal,* is Latin of origin whereas the rest of the words are Greek of origin. No great differences emerged between Greek and Finns. However, some variation occurred with two meanings and the words they were connected which Figure 5 illustrates:

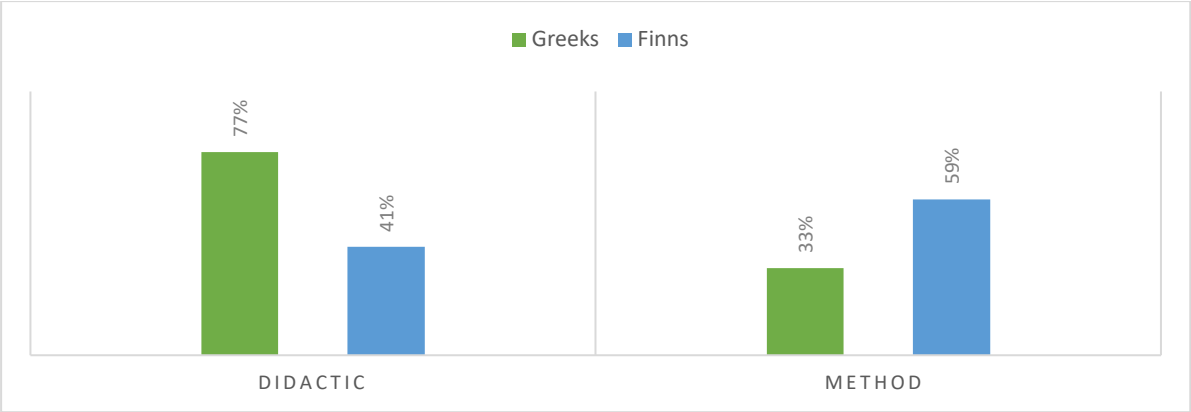

Figure 5. Connections made with the meaning "an instruction, designed or intended to teach"

20 (59%) Finnish respondents connected *method* to the meaning "an instruction, designed or intended to teach", thus failing to detect the meaning of *didactic*. Also, 16 (47%) Finnish respondents connected *synecdoche* to the meaning "a roundabout way of speaking, using several words instead of one" as Figure 6 shows:

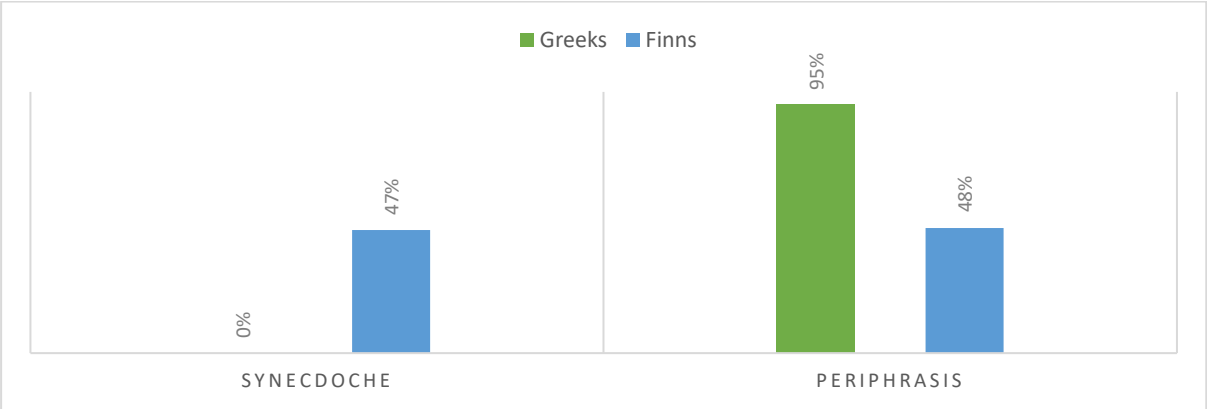

Figure 6. Connections made with the meaning "a roundabout way of speaking, using several words instead of one"

13 (33%) Greek respondents also chose *method* to mean "an instruction, designed or intended to teach", but with *periphrasis*, 37 (95%) could connect it to the meaning "a roundabout way of speaking, using several words instead of one" whereas only 19 (48%) Finnish respondent made the same connection. This difference between the two groups is an instance of transfer from Greek to English as the meaning of *periphrasis* can easily be deducted from the meaning of its parts in Greek, *peri* referring to 'around, about' and *phrasis* to 'phrase' or 'to express'.

However, no major differences occurred in this question between Greeks and Finnish respondents which leads me to the conclusion that Finnish students can guess the meaning of words as it is unlikely that all Finnish respondents knew the meanings of these words. That is,

the frequency of loanwords used in this question was even more infrequent than the words used in the one described above where the respondents were asked to tick words they know. Therefore, it is most likely that Greeks could deduct the meaning of these loanwords using their knowledge in Greek whereas Finns were able to guess the meanings to make the same connections. Moreover, this finding might also indicate that Finns do, in fact, have a great receptive knowledge of words that are infrequently used and have a very narrow meaning if they are given the possible meanings of such words. Other explanation for this is that Finns are able to rule out some words by using techniques they have acquired when encountering difficult, unfamiliar words in English since they are not able to use their mother tongue for support. This statement is discussed in detail later in chapter 8.5 when analyzing the awareness of crosslinguistic influence.

8.3 Awareness of word origins

The respondents were asked to tell from which language six English loanwords have been borrowed and to provide reasons for their answer. The aim of this question was to find out (1) if Greeks can recognize words that are Greek of origin (2) what techniques they use to detect English loanwords that are Greek of origin, or if they fail to notice the Greek origin, which features of words make them name another language, (3) how aware Finns are of the origin of English loanwords, and lastly (4) whether there are some features of words or techniques used by both groups in detecting similarities across languages. As it is irrelevant for the purpose of this paper whether the respondents could name the same language as OED, the emphasis of the following analysis will be on the methods that were used by the respondents to detect certain features of the words. This way, the result can be used to discover the awareness of different features of academic words, such as morphology, and other beneficial techniques used when encountering unfamiliar words and guessing their meaning.

The loanwords that were used in this question were all either Greek or Latin of origin but most of them are also used in other languages, such as Finnish, French, and German, which is why it can be argued that the results show crosslinguistic influence among the respondents as well as awareness of the different features used in academic words. Also, the words were chosen so that each of them would have a recognizable or even distinct characteristics as, for example, in *explicandum* the *um* –ending, and in *neophyte neo* meaning new both in Latin and Greek. *Appearance* is used in the following tables to refer to those answers that used phrases like

"seems like", "looks like", or "sounds like". Moreover, the frequency of answers is listed vertically so that the most common category is at the top of the table and the less common at the bottom of the table.

In Table 3, the number of all respondents that answered accordingly is shown by the number in the parenthesis in each category. The numbers under "Greeks" and "Finns" in the leftmost column indicate how many respondents of that group answered the question.

Table 3. The languages stated as the origin of each English loanwords by Greek and Finnish respondents

	Neophyte	**Abnegation**	**Lexicography**	**Explicandum**	**Philology**	**Phenomenon**
Greeks (39)	Greek (37) Latin (1) German (1)	Latin (21) French (7) German (4) English (1) Turkish (1)	Greek (38)	Latin (36) Italian (1)	Greek (39)	Greek (39)
Finns (32)	Greek (28) Latin (10) French (4)	Latin (10) French (10) German (10) Greek (1) Arabic (1)	Greek (14) Latin (17) French (2)	Latin (31) Greek (1)	Greek (22) Latin (6) French (4)	Greek (16) Latin (12) French (5)

As can be seen in Table 3, there were more variances among Finns in each of the word, except in *explicandum.* Moreover, most variances occurred within both groups when naming the source language for *abnegation* although more than half of the Greek respondents named Latin as the source language whereas the answers of the Finnish respondents were divided evenly between Latin, French, and German. Furthermore, it is obvious that Greeks were able to recognize words that derive from Greek since most of the Greek respondents stated *neophyte*, *lexicography, philology,* and *phenomenon* to originate from Greek.

8.3.1 Greek respondents' methods to detect the origins of loanwords

The following Table 4 shows the different reasons provided by Greek respondents for each loanword:

Table 4. Methods used by Greek respondents to detect the origins of loanwords

<table>
<tr><th>Neophyte</th><th colspan="2">Abnegation</th><th>Lexicography</th><th>Explicandum</th><th>Philology</th><th>Phenomenon</th></tr>
<tr><td>One or both parts of the word are used in Greek (23)</td><td>ab- is a Latin prefix (8)</td><td>ab- is a German prefix (2)</td><td>One or both parts of the word are used in Greek (27)</td><td>–(and)um ending is used in Latin (24)</td><td>One or both parts of the word are used in Greek (23)</td><td>The same word exists in Greek (27)</td></tr>
<tr><td>The word being used as such in Greek (5)</td><td colspan="2">-negation as Latin (“negare”) (5)</td><td>The word being used as such in Greek (4)</td><td>Connecting the word to the Latin explicare (4)</td><td>The word being used as such in Greek (7)</td><td rowspan="3">Recognizing the word in Ancient Greek (6)</td></tr>
<tr><td>Recognizing the word in Ancient Greek (2)</td><td colspan="2">Word’s appearance (3)</td><td rowspan="2">Recognizing the word in Ancient Greek (2)</td><td>ex- is a Latin prefix (1)</td><td rowspan="2">Recognizing the word in Ancient Greek (1)</td></tr>
<tr><td>The word being used as such in Latin (1)</td><td colspan="2">The same word exists in French (2)</td><td>The same word exists in Spanish, it is therefore Latin of origin (1)</td></tr>
</table>

The categories in Table 4 show that most Greeks divided *neophyte, lexicography, philology,* all of which most stated to originate from Greek, into word parts to provide reasoning for the Greek origin. Even though these words exist as such in Greek today, the fact that the word parts also exist in Greek seemed to provide more evidence for the origin. One probable reason for this is that Greeks are highly aware of the structures used in many English loanwords and particularly those used in academic vocabulary; as explained in chapter 2.4, many loanwords in English have their roots in Greek and even if these words as such are not directly borrowed from Greek, they are constructed from parts that are Greek of origin. Therefore, it seems that Greeks are more prone to dividing words into parts to find similarities in them between English and Greek instead of looking at words as a whole. *Lexicography,* for example, exists as such in Greek and has roughly the same meaning but all Greek respondents stated that its parts are Greek of origin which indicates that they recognized the parts of the word existing in Greek and the meanings of these parts create the meaning of *lexicography.* Instead of finding similarities between words across languages, this finding suggests that Greeks are first dividing words into parts after which they start looking for similarities that exist in their mother tongue and English. This connection between word parts used in English and the meaning they have in Greek is further supported by the results I will discuss in chapter 8.4.

Nevertheless, *phenomenon* was the only word that was not divided into word parts by the Greek respondents as it was simply stated that the same word exists in Greek. Also, six respondents said that the word can be found in Ancient Greek, and consequently, it is Greek of origin. The following three examples give an illustration of this:

> 1. Greek, because it is identical to the ancient greek word with the same meaning(φαινόμενον) [‘fenomenon’]. (G16)
>
> 2. Greek. Because this word was taken exactly from ancient Greek but it is still used today in the Greek language (G36)
>
> 3. Greek, it is actually the greek word used since ancient times (G39)

Some, however, also transliterated the word in Greek to indicate the origin of the word as example 1 shows. Furthermore, examples 4 and 5 show the different types of answers that were collected under category “the same word exists in Greek”:

> 4. Greek, from the word "λεξικογραφία [=’lexicografia’] "(G14)
>
> 5. Greek. 'Phenome' means 'to appear as, to look and seem as'. (G9)

These examples indicate that some Greek respondents provided reasoning for the origin by writing the word in Greek thus indicating that it exists as such in Greek. Others, on the other hand, explained the meaning in English. The same two methods were used also when the respondents divided the words into two parts as examples 6 and 7 illustrate:

> 6. Greek. (φίλος + λόγος) [‘filos’ + ‘logos’] (G4)
>
> 7. Greek. "Lexico" means 'dictionary' in Greek and "graphy" comes from "grafo" which means 'to write'. (G38)

Since the only word borrowed from Greek that was not recognized by all Greek respondents was *neophyte,* I will discuss it in more detail. 37 (95%) Greek respondents said it to be Greek of origin but one respondent stated Latin as the origin and one named German. There were three different methods that were used to indicate the Greek of origin. These methods are categorized in Table 5:

Table 5. Three different methods used by Greek respondents to detect the Greek origin

8. Greek, because its parts have greek origin (νέος + φύω). (G16) 9. Greek. Because it consists 'neo' meaning 'new' and 'phyto' meaning 'plant' in Greek. (G19) 10. Greek. Because the parts of the word (neo + phyte) remind me of "νέο + φυτό" in Greek. (G4)	Recognizing the two parts of the word in Greek (17)	Recognizing word (parts) in Greek (28)
11. Greek. Neos means new (G5) 12. Greek. Because 'neo' means 'new' in Greek. (G6) 13. Greek. Because I think that "phyte" means plant in Greek. (G31)	Recognizing one part of the word used in Greek (6)	
14. greek from the greek word "νεόφυτος" (G7) 15. Greek. It may be a Greek word , as it can be found in Greek sentences. (G25)	Recognizing the same word as such being used in Greek (5)	

What should be noted is that 10 of the Greek respondents did not provide reasons for why they thought the word was Greek of origin. Therefore, the percentage shown in the parenthesis indicating how many Greek respondents shared this view is calculated based on the 29 answers that provided explanations.

As it is evident based on Table 5, most Greek respondents could detect both *neo* and *phyte* being used in Greek. However, *phyte (10)* was not as well recognized as *neo* because only 10 were able to give a translation to *phyte* but 18 respondents translated *neo.* Some associated *phyte* with the Modern Greek *φυτό* (‘fito’) meaning ‘plant’, as can be seen in example 9, 10 and 13, whereas some associated it with the Ancient Greek *φύω* (‘fio’) meaning ‘to grow’, ‘produce’, and ‘spring up’, as can be seen in example 8. One possible reason to why *neo* was recognized more often, is that *neo* is used in the same form and meaning in Greek today. *Phyte*, on the other hand, was not recognized as often because the meaning of *neophyte* is not directly achievable from the translation of the parts in Greek as the direct translation would be ‘a new plant’. On the other hand, one possible reason for this is that the translation of *phyte* ‘plant’ was not known by the respondents as the following example 16 shows:

16. Neo means new and phyte gas [=has] to do with nature (G3)

As the direct translation did not come to the respondents' minds, they may have left it out or used a description as the respondent G3 in example 16 did. These instances can be directly connected to Ringbom's (1987: 37) *semantics* dimension of lexical knowledge, shown in Figure 1 in chapter 3.3. To be more specific, they refer to the approximate knowledge of one meaning. However, most Greek respondents used both word parts existing in Greek to provide reasons for their answer as only five respondents stated that the word is Greek since *neophytes* as such is used in Greek too. Therefore, it can be concluded that when an English loanword has parts that exist in Greek they are then considered to be Greek instead of the word existing in the same form in Greek.

Based on the Greek respondents' answers, it is evident that most regarded words to be Greek of origin when a word exists as such in Greek or its parts can be found in Greek too. Only some stated that the word can be found in Ancient Greek which in general would be a more reasonable statement to prove that the word originates from Greek. This leads me to the conclusion that Greeks assume that an English loanword is borrowed from Greek if it or its parts exist in Greek which is then followed by transferring the Greek meaning of the word or its parts directly to the meaning of the English words. Moreover, it can be concluded that the meanings of the parts in Greek are used to create the overall meaning of a loanword in English. These results are supported by the statements made in chapter 6.2.3 as they show instances of lexical item transfer, especially when the words share their form and meaning between Greek and English. Furthermore, they are further supported by the fact that when giving reasoning to words that are Latin of origin, the categories are less unanimous. That is, when there were no similarities in the form and meaning of a word between Greek and English, the respondents gave more diverse answers.

8.3.2 Finnish respondents' methods to detect the origins of loanwords

The categories that were listed under *abnegation* and *explicandum* in Table 5 showed the methods that were used by Greek respondents with words that do not originate from Greek. In fact, almost identical categories are present under these words in Table 6 that lists the Finnish respondents' methods:

Table 6. Methods used by Finnish respondents to detect the origin of loanwords

<table>
<tr><th colspan="2">Neophyte</th><th colspan="3">Abnegation</th><th>Lexicography</th><th>Explicandum</th><th colspan="2">Philology</th><th>Phenomenon</th></tr>
<tr><td>Neo- is a Latin word (4)</td><td>Neo- is a Greek word (6)</td><td>ab- is a Latin prefix (2)</td><td>ab- is a German prefix (4)</td><td>ab- is a Greek prefix (1)</td><td>The word parts are Greek (9)</td><td>–um ending is used in Latin (17)</td><td colspan="2">The word parts are Greek (16)</td><td>Latin words have the plural ending –a (5)</td></tr>
<tr><td rowspan="3">ph- beginning is Greek (6)</td><td rowspan="3">ph- beginning is Latin (1)</td><td colspan="3">Word’s appearance (7)</td><td rowspan="2">Lex(ico) is a Latin word (5)</td><td rowspan="2">Word’s appearance (4)</td><td colspan="2">ph- beginning is Greek (2)</td><td>ph- beginning is Greek (6)</td></tr>
<tr><td colspan="2">-ion ending is French (4)</td><td>-ion ending is German (2)</td><td rowspan="2">The same word exists in Latin (2)</td><td rowspan="2">The same word exists in French (2)</td><td>-non ending is Greek (5)</td></tr>
<tr><td>Letter X is used in Latin words (1)</td><td>Letter X is used in Greek words (2)</td><td>Similar to words used in Harry Potter for spells (3)</td><td>-nomen is Latin (2)</td></tr>
<tr><td rowspan="4">Word’s appear-ance as French (2)</td><td rowspan="4">Word’s appear-ance as Greek (2)</td><td colspan="3">Negation is a Latin word (3)</td><td>Lexico is pronounced the way it is written, common in Latin (1)</td><td>ex- is a Latin prefix (3)</td><td colspan="2">Word’s appearance (2)</td><td>The word parts are Greek (1)</td></tr>
<tr><td colspan="3">Many English words come from Latin (1)</td><td>graphy is a French word (1)</td><td>Connecting the word to the Latin explica (1)</td><td colspan="2" rowspan="3">It is pronounced like a French word (1)</td><td>It is pronounced like a French word (1)</td></tr>
<tr><td colspan="3" rowspan="2">Abne- seems like a French word (1)</td><td>Letter combination -ph- is Greek (1)</td><td rowspan="2">The word is long like many Latin words (1)</td><td rowspan="2">The same word exists in French (1)</td></tr>
<tr><td>Word’s appearance (2)</td></tr>
</table>

However, the multitude of different categories and sub-categories in Table 6 indicate that Finnish respondents used varied techniques in detecting the origin of words and in finding connections between languages. Due to great variations in the Finnish respondents’ answers, I had to include answers in the *word’s appearance* category that did not state a certain structure or describe a certain strategy that was used to detect the origin. That is, answers included in the category were only descriptive. Also, answers that had phrases such as “looks/seems/sounds like” were included in the same category since many of the Finnish respondents described the

words' structures in general to provide reasoning for their answer as the following examples demonstrate:

> 17. Sounds like a fancy word and fancy words often come from French. (F17)
> 18. Because the word is long, has many consonants and syllables […]. (F28)
> 19. Sounds like an old word. (F23)

In *philology*, most Finnish respondents stated that the word consists of parts that are Greek, which was similar reasoning as that of the Greek respondents. However, only two of the Finnish respondents gave a definition of the parts' meaning which implies that Finns were familiar with the form but not with the meaning or the two could not be connected. As discussed in chapter 3.3, Nation (2001: 47-48) states that it is common among language learners to know the meaning and form of words but not being able to make a connection between them. As it was also stated in chapter 3.3, knowing a word requires connecting its form to its meaning, which is easier to make if the correspondence is the same in the learners' first and target language. This statement by Nation (2001: 48) supports these results as Greeks could make such connections but Finns could not, which then suggests that Greeks are able to understand and use the words. The same reasoning could be found also with *lexicography* although less often as most Finnish respondents mentioned other reasons.

Both Greek and Finnish respondents detected the ending –um as being an indication of Latin origin. In general, the categories in both *explicandum* and *abnegation* are rather similar between Greeks and Finns, although, more variance could be found among Finns' responses. However, Finns noticed similar structures in all six words even though the reasoning was not consistent as to which language that structure denotes. The structures of words that were detected as a prototypical feature of a certain language are gathered in the following list:

- Recognizing affixes
    - *neo-* in *neophyte*
    - *ab-* in abnegation
    - *–um* in *explicandum*
- Recognizing roots from either Latin or Greek
- Recognizing the same word as such used in another language
- Letter combination *ph*
- Word's appearance reminds some other language

These structures were not stated by the same respondents each time, but rather, different Finnish respondents detected them in different words. This suggests that Finns could detect certain features of words and use them to detect the origins of these loanwords. Since no category emerged systematically among Finnish respondents, it implicates that they can recognize certain structures of words but cannot exploit them accordingly. For example, certain affixes were detected in many of the words, such as *ab-*, but the language to which they denote differentiated between the respondents. It can be concluded that Finns have developed the strategies for learning vocabulary, described in chapter 4.3, to some extent but are not able to execute them. In fact, the only category that was evident with all words was *word's appearance* which further supports this statement that Finns can recognize forms but cannot make connections in them across languages.

When looking at the Finnish respondents' answers, the amount of question marks and words like *maybe, could, I don't know* were quite frequent whereas barely any indication of hesitation was apparent in the Greek respondents' answers. Also, the *word's appearance* category was used to include only three answers to *abnegation.* This indicates that the detection of similar features and forms across languages is not as evident for Finns as it is for Greeks. It is no surprise that Greeks could detect loanwords in English that share similarity in meaning and in form with their mother tongue. This provides evidence of lexical transfer as discussed earlier. However, Greeks used similar methods to detect word structures and parts that were borrowed from Latin when compared to Finns.

I should add that those Finnish respondents who stated that *lexicography* is Latin of origin due to the form *lexi(co),* as indicated in Table 6, there were more variations in the form than *lexi(co)* suggests; three of the respondents detected *lex-,* one detected *lexico,* and one detected *lexi*. Moreover, the same was evident with the word *explicandum* among both Greeks and Finns as the variations were *–ndum* (one Finn and four Greeks used this form), *-um* (10 Finns and 10 Greeks used this form), *-dum* (two Finns and one Greek used this form), *-candum* (one Finn used this form), and *–andum*(one Finn and four Greeks used this form). Other such variations were also detectable among Finnish respondents but those instances are listed as different categories in Table 6, as in *phenomenon,* the recognition of *nomen* as 'name' in Latin compared to *–non* as a Greek affix, and in *explicandum* both *ex-* and *explica-*. These instances are indications of *false friends*, as explained in chapter 3.1.2 on cognates. Although it cannot be argued that they directly lead to false interpretations of meaning, they still clearly show that there is a great deal of variance in the forms that were detected. As the data shows that there

were variations in the parts that were detected, it is most likely that also different guesses of meaning emerge if the words are unfamiliar. For example, *lexicography* derives from the Greek words *lexico* 'words' or 'dictionary' (for further discussion, see chapter four) and *graphy* 'writing' and they are used to create the meaning of *lexicography.* But if *lex-*, meaning 'law' in Latin, is detected instead of *lexico-*, the meaning of *lexicography* cannot be guessed based on the parts or it is guessed wrong. This is further discussed in the following chapter that deals with the topic of recognizing word parts and their meaning.

8.4 Identifying word parts and their meanings

The respondents were asked to divide six loanwords into parts and define the meanings of those parts. The loanwords were *synonym, philology, diachronic, allomorph, hypothesis,* and *homograph.* These words were chosen so that all of them are used as loanwords in many other languages, such as in French, Latin, Greek, Finnish, and German. Also, these words and their parts are used in the field of linguistics, which was checked from OED, and should therefore be familiar at least to some extent to all respondents. The most important character among these six loanwords is that all of them include parts that appear in other words as well. That is, the meaning of these loanwords is quite specific and narrow so the meaning of their parts can be deducted based on their overall appearance in academic words, which is one of the most important strategy in learning academic vocabulary of English as suggested by Saville-Troike (2012: 150) in chapter 4.3.2. For example, from *allomorph, allo-* is used in linguistics in words such as *allophone, allograph, allolog,* and *alloseme,* and *morph-* is used in *morphology, morpheme,* and *homomorph.*

As all six words exist as such in the mother tongues of both groups but the parts of the words exist only in Greek, the aim of this question was to find out if Greeks are able to recognize the word parts and their meanings easier by using their mother tongue, or whether Finns can recognize the parts of the words as well and show similar level of understanding in the meanings of them. This would then indicate that crosslinguistic influence does not affect the ability to deconstruct words into its parts and detect the meanings of unfamiliar words from the meanings of their parts at an advanced level of language learning, which is a very important strategy to be used when encountering unfamiliar words as explained in chapter 4.3.2.

In the following chapters, the number of respondents whose answers agreed with the categories are indicated in parenthesis. The answers are categorized with a same manner into six different

tables that all indicate the same: crosslinguistic influence among Greek students. Therefore, I will discuss different aspects after each table to avoid repetition and rely on the fact that the overall statistical evidence of crosslinguistic influence is clearly indicated by the tables.

8.4.1 Dividing loanwords into parts

When comparing the two groups, differences in the way the words were divided into parts emerged only with one word: *synonym.* That is, with the five other words both Greek and Finnish respondents could detect the parts that are used to construct the word and only minor variances occurred in both groups. As with *synonym,* all Greek respondents divided the word into *syn-* and *–onym,* whereas 27 Finns divided it as *syno-* and *–nym.* Only two Finnish respondents divided it into *syn-* and *–onym.* One Finnish respondent did not divide the word at all but gave a definition of *synonym.* Four Finns did not answer at all.

One of the probable cause for Finns to detect *–nym* instead of *–onym* is that, based on the meaning of *synonym,* they could deduct the other part to mean 'name' with which *–nym* shares the similar form. Moreover, 'name' is in Finnish *nimi* thus possibly reinforcing the division into *syno-* and *–nym.* This supports the statements made in chapter 5.1 on mental lexicon and the linking that occurs across languages and the connection it has with lexical accessibility and lexical activation. In Greek, on the other hand, *όνομα* ('onoma') means 'name' which enabled them to recognize the parts of the word more easily. The fact that Finns divided the parts of *synonym* into *syno-* and *–nym* also suggests that they failed to detect *syn-* as being used with other words, such as in *synchronic*, *syntagma* and *syntax.* These three words also exist in Finnish as loanwords, *synkroninen, syntagma and syntaksi,* but it is most likely that *nimi* 'name' in Finnish or *name* in English affected more the process of division as they are more frequently used than words in which syn- appears. Besides, *syn-* is used only as a prefix and therefore it does not appear separately as it is used only with other words to affect their meanings. Moreover, *syn-* exists in Modern Greek even though the meaning has changed; *syn-* in *synonym* derives from Ancient Greek, meaning 'with', whereas in Modern Greek *συν* ('syn') means 'plus'.

What should be noted is that even though all Greeks were able to detect the word parts accordingly, there were variances in the way they wrote down the parts; some used either Greek letters or Greek inflections. For example, in *philology* 14/34 of Greek respondents showed signs of Greek influencing their answers as they defined the parts to be "philos + logos" instead of

"philo" and "logy", and in *diachronic*, 9/34 of Greek respondents divided it as "dia + chronos". The *–os* ending is the nominative case of singular masculine nouns in Greek. Even if the percentage of these instances are less than 50%, it does, however, implicate the crosslinguistic influence of Greek on English word parts, especially as only one Finnish respondent used "logos" in the division of *philology* and no Finn used "chronos" in *diachronic*. Moreover, it can be concluded that these instances provide evidence for lexical transfer since both morphological and semantic information are transferred, as explained in chapter 6.2.3.

I have earlier presented the results of each question in one table for each group, but due to the complexity of the results in this section, I must deal each word separately to make the tables more readable and informative. Moreover, this way I can show the (dis)similarities of both groups side by side and indicate how many respondents of each group defined the meanings of the word parts since the number of answers within both groups varied. I should also add that many respondents defined the meaning of each part with more than just one word but to be able to show the statistical relevance of the results, I have included them in the categories if they referred to the same word that was used by others. That is, many respondents of both groups gave a direct, one word translation of a part's meaning. Although not asked, most respondents also defined the meaning of the word that was asked to be divided. I will mostly focus on the meaning of each word part but the definitions of the word are also discussed to some extent as they affect the relationship between the whole meaning and the meanings of the parts. The first word, *synonym,* will be discussed in more detail than the other words since I hope that the same issues in the remaining chapters of this section are explicitly indicated by the tables, and therefore, do not require separate addressing.

8.4.2 Synonym

The definitions of *synonym*'s parts were quite unanimous among Greek respondents whereas those of Finnish respondents differed particularly in the way *syn-* was defined. Table 7 demonstrates this well:

Table 7. The definitions of synonym's parts

	syn(o)-	**-(o)nym**
Greeks (35)	'plus' (12/31)	'name' (30/32)
	'together' (10/31)	
	'with' (7/31)	Use of Greek form '*όνομα'* or its equivalent 'onoma' (14/32)
	'same' (3)	'word' (2/32)
Finns (30)	'same' (15/22)	'name' (13/26)
	'similar' (8/22)	'word' (8/26)
	'together' (2/22)	'meaning' (4/26)

Due to the variances in the way Greeks and Finns divided the word *synonym*, as discussed earlier, the letter *o* is put into parenthesis in both parts. Altogether, 39 Greek students and 34 Finnish students answered the questionnaire, but, as the numbers in the leftmost column show, four Greek respondents and four Finnish respondents did not answer this question at all.

As I noted earlier, in Ancient Greek *συν* ('syn') means 'with' and in Modern Greek it means 'plus'. Connections to these two meanings are obvious in the Greeks' responses as 12 stated that in *synonym syn-* means 'plus' whereas only seven said that it means 'with'. Moreover, 10 defined it to mean 'together' which can be seen to have roughly the same association. However, among Finnish respondents, most defined *syn(o)-* either as 'same' or 'similar'. Reasons for this can be that either the forms are associated with each other, as *syn(o)-* is somewhat similar in form with *same,* or the meaning has been contrasted from that of *synonym.* The latter is more plausible as I will discuss later when viewing the differences between Greeks and Finns in the ways they defined *synonym.*

I was not able to include all the Greek respondents' definitions of *syn-* into the categories in Table 7 because some of them were quite long and more analytic. For this reason, five definitions were not included although all of them can be associated with the ones that were included in the category. The following Examples 20 and 21 illustrate the definitions that were left out:

20. syn + name "syn" is a greek morpheme that shows addition and "name" is a word used to call for something or someone. Synonym means that there is a word which is very similar to another word. (G36)

21. Syn + onym Syn has to do with combining relations between two or more things. Onym derives from the Greek word "όνομα", which stands for "name" (direct translation). Therefore synonym is a word which is closely related (concerning meaning) with another one. (G4)

Among Greek respondents, 10 specifically said that the word is Greek of origin. Moreover, 14 Greek respondents used Greek in their definition. However, most of them used Greek only to define *–onym* whereas only four respondents used Greek to define *syn-* and stated that it derives from Greek, which is why this is included only under –(o)nym in Table 7. *Onoma* was probably used more often as the English form -onym is different from that of Greek whereas the form of *syn-* is the same in both languages and only typological differences set the two forms apart. Moreover, it can be argued that the use of *onoma* in the definitions of *-onym* demonstrates that this part is mentally associated with the Greek form and meaning. That is, Greek respondents provided the Greek equivalent to indicate the meaning of the parts as the following example 22 demonstrates:

22.'Syn' in Greek is the prefix used to use similarity. 'onym' comes from the greek word 'onoma' which means name. (G39)

Furthermore, these findings support the statements I made in the previous section concerning the awareness of word origin; Greeks seem to be highly aware of the similarities that exist between Greek and English which enhances the transferability of the items (for further discussion see chapter 6.2.3). In fact, these findings also relate directly to the statements made by Ringbom and Jarvis (2009: 110-111) in chapter 6.2.2 on *item learning* and on *item transfer* because they show that a concept between English and Greek was indeed connected in the Greek respondents' minds.

Most Greeks stated that syn- means 'plus' and –onym means 'name', the direct meaning of *synonym* then being *plus name,* from which it is quite difficult to form the current meaning of *synonym* in English. Moreover, many respondents used words such as *then* and *so* to indicate the connection between *plus name* and *synonym* even though there is no apparent connection between the two. Examples 23 and 24 illustrate this connection:

23. Syn + onoma (greek) plus a name (G8)

24. Syn+onym Syn means plus and onym(onoma) which mean name in Greek. Synonym then mean a word has the same or similar meaning as another word. (G11)

However, examples 25 and 26 show well the logic behind this and the way Greeks mentally associate *plus name* to *synonym:*

> 25. Syn+ onoma Syn= plus, another one Onoma= a word So "synonym" means another word for the already given one (G24)
>
> 26. Syn means more or plus and onoma means name or noun. Synonym therefore means a word that can be used instead of another one and have the same meaning as the first word. (G19)

These four examples strongly implicate that the meaning of *synonym* is constructed using the meanings of the parts and it is plausible that the same method is used with other loanwords as well. This finding also suggests that the way Greeks understand the meaning of *synonym* is strongly shaped by their mother tongue as most Greek respondents defined the word accordingly and as these definitions differ from the conventional definition that is used for the word. This finding is further supported by Jarvis and Pavlenko's (2008: 83) statements in chapter 5.1 concerning the mental links between languages and the way learners link L2 lemma with the underlying concept of L1 lemma. Furthermore, from the 24 Greek respondents who defined the meaning of *synonym,* 10 used *then* in their definition, four used *so,* and three used *therefore* to indicate the relation between the definitions of the parts and the overall meaning of *synonym*. This and the multitude of different ways that were used to explain the meaning of *synonym,* even if all of them referred to the same concept of *plus name,* show that Greeks first defined the meaning of the parts which they then used to define the overall meaning of *synonym*. It can be argued that this result is a strong evidence of crosslinguistic influence since it is clear that the definitions made by the Greek respondents were highly affected by Greek. Moreover, this suggests that Greek students can exploit their knowledge of word parts to deduct the overall meanings of words which is, as stated in chapter 4.3.2, one of the most prominent aspects of vocabulary knowledge and one the most useful strategies needed when acquiring new vocabulary.

This statement is further supported by the results which indicate that most Finnish respondents deducted the meanings of the parts from the meaning of *synonym;* the categories in Table 7 show that most used either 'same' or 'similar' when referring to *syn(o)-*. In fact, only one Finnish respondent used a logical connector in the definition of *synonym* after defining the parts. Table 8 demonstrates the differences between Greek and Finnish respondents in the way they defined *synonym*. Also, sentence structures that were used to define *synonym* clearly varied between Greek and Finnish respondents.

Table 8. The definitions of synonym's meaning

Greeks	Finns
27. […] synonym means something (word) that carries the same meaning with something else (another word) (G6)	33. […] Same-meaningness, referring to a word that has the same meaning as another word. (F22)
28. […] So synonym is a word with the same name. (G12)	34. […] synonym is another word with the same meaning to a certain word (F29)
29. […] So synonym means a word with similar connected meaning with other word. (G17)	35. […] Synonum means a word that has a similar meaning than another (F9)
30. […] Synonym then is a word that has nearly the same meaning with another word. (G2)	36. […] "Synonym" means a word that means the same than some other word. (F10)
31. […] Synonym then means something with the same name/meaning (G34)	37. […] Synonym means words that have the same meaning. (F17)
32. […] So synonym means a name or, therfore, word that goes together with another word or words thus they have the same or similar meaning. (G29)	38. […] Synonymy is when two (or more) words have the same meaning. (F32)

Even though only seven of Greek respondents defined *syn-* to mean 'with', it was used in 14 definitions of *synonym* whereas only two Finns used *with* when defining *synonym*. The way it was used by Greeks can be seen in examples 27, 28 and 31 and by a Finn in example 34. The examples in Table 8 also demonstrate well how Finns had a clear understanding of what *synonym* means and from that knowledge the meanings of word parts was deducted. Also, these examples show how the process is the other way among Greeks: from the parts' meanings to the overall meaning. Furthermore, the definitions of Finnish respondents were quite similar with each other, and based on the definitions, it is clear why most Finns said that the meaning of *syn(o*) is 'same'. However, half of the Finnish respondents did say that *–(o)nym* means 'name' but still did not use that meaning when defining *synonym* whereas many Greeks used it. Again, this suggests that the Greek meaning of the word parts is much stronger for Greeks than the overall meaning of synonym. This notion is further supported by the fact that most definitions of *synonym* made by Greek respondents were clearly dependent on the way they had defined the meaning of the parts, thus referring directly to Jarvis and Pavlenko's (2008: 74-75) first subcategory discussed in chapter 6.2.3 Same results were evident in the overall definitions of the five other loanwords but in order to avoid repetition I will not discuss them in detail because I hope that the examples and lengthy discussion above provide enough evidence of the processes within both groups and the contrasting differences between them.

8.4.3 Philology

When defining the meanings of the parts in *philology,* the definitions differed greatly between the two groups, and even within both groups, as Table 9 shows:

Table 9. The definitions of philology's parts

	philo-	**-logy**
Greeks (35)	'friend' (22/34)	'speech' (17/34)
		'language' (6/34)
		'words' (6/34)
	'(to) love' (13/34)	'literature' (3/34)
		'discourse' (3/34)
		'using language' (2/34)
		'logic thought' (2/34)
Finns (31)	'language' (5/24)	'study' (9/27)
	'knowledge' (5/24)	
	'wisdom' (4/24)	'knowledge' (7/27)
	'love' (3/24)	
	'philosophy' (2/24)	'science' (4/27)
	'thinking' (2/24)	'reading' (2/27)

Most Greek respondents defined filo- to mean 'friend' whereas no Finn used that definition. In Greek, φίλος ('filos') is the masculine form of 'friend', φίλη ('fili') is the feminine form of it. The second category of *philo-* in Greek respondents' definitions was '(to) love'. Seven respondents used the word as a noun and seven as a verb. These definitions are clearly affected by the Greek language since in Ancient Greek φιλώ ('filo') means 'to love' and in Modern Greek it means 'to kiss'. Greek respondents' definitions for *philo-* that were not included in Table 9 were 'dear', 'an admirer', and 'a positive inclined', all of which refer to the same things as 'friend' and 'to love'. Three of the Finnish respondents defined the meaning of the word to mean 'love' as well.

However, as it is evident based on the multiple categories in Finnish respondents' answers, the meaning of filo- was often guessed, and also, the guessing process was quite obviously deducted from the meaning of *philology*. Furthermore, half of the Greek respondents stated that *–logy* means 'speech' but there was more variation in the definitions than there were in the definitions of *philo-*. One probable reason is that –logy as such is quite often used in academic English and its meaning differs to some extent from that of the Modern Greek; λόγος ('logos') in Modern Greek means 'word', 'speech' or 'language'. However, it can be concluded that the meaning in Greek affected the Greek respondents' definitions. As with the Finnish respondents' answers, -logy was more often associated with its usage in academic English although all categories included less than half of the Finnish respondents' definitions.

The Greek respondents used more often Greek when defining the parts of *philology* as they did with any other word. That is, 18 Greek respondents wrote both parts in Greek and defined their meanings through the Greek meaning of those parts, as the following examples shows:

> 39. Philo + logy. Philo derives from the Greek verb "φιλώ" which, in ancient Greek, had the meaning of "to love". "Logy" has to do with the Greek "λόγος", which pertains to "language". As a result, philology is a field of studying a language. (G4)

> 40. philos + logic "philos" is a greek word that means "friend" and "logy" comes out of the greek word "logos (λόγος)" which means "speech". Philology is the study of a language. (G36)

The most probable reason for this is that the word parts used in *philology* are frequently used in Greek which is why it is easy to define their meanings via Greek. Also, the examples 39 and 40 above support the statement I made in the previous chapter on *synonym* that Greek respondents rely heavily on their mother tongue when defining the meanings of English loanwords that are constructed on parts that are Greek of origin. Moreover, these examples indicate that the word parts were semantically associated with the Greek words as the respondents transliterated the word parts into Greek which further highlights the connection that is made across the languages. In addition, the same conclusion can be made from this as the one I made in chapter 8.3.1; instead of finding similarities between words across languages, this finding suggests that Greeks are first dividing words into parts after which they start looking for similarities that exist in their mother tongue and English. This connection between word parts used in English and the meaning they have in Greek is even further supported by the results discussed in chapter 8.5.

8.4.4 Diachronic

Both Finnish and Greek respondents were quite unanimous within their groups when they defined the meanings of the parts used in *diachronic.* However, when comparing the two groups, the definitions of *dia-* differed drastically whereas *-chronic* was defined by both groups quite similarly as the categories in Table 10 reveal:

Table 10. The definitions of diachronic's parts

	dia-	**-chronic**
Greeks (36)	'through' (18/29)	'time' (30/31)
	'throughout' (5/29)	
	'across' (4/29)	
	'preposition' (3/29)	'years' (2/31)
	'prefix' (2/29)	
Finns (31)	'two' (12/19)	'time' (11/18)
		'continuous' or 'repetitive' (9/18)

Firstly, it should be noted that only 19 defined the meaning of *dia-* and 18 defined the meaning of *–chronic* whereas the rest simply divided *diachronic* into its parts. Most Finnish respondents stated that *dia* means 'two' whereas none of the Greeks used a similar definition. Furthermore, Finnish respondents' other definitions for *dia,* all of which appeared only once, were: 'through', 'direct', 'all', 'opposite', 'days/time', 'dividing', and 'internal'. Moreover, all Greeks described the meaning of *dia* with the one it has, or at least close, in *diachronic:* 'throughout'. That is, *dia* does have a sense of 'two' or 'twice' in some context but in this one it is used as a preposition. This suggests that the meaning of *diachronic* was not apparent to the Finnish respondents. I will later support this statement when discussing the results concerning the definitions of *diachronic* and the differences that emerged between Greeks and Finns.

Almost all Greeks stated that *chronic* means 'time', and also over half of the Finnish respondents, who defined the meaning, answered the same. However, 50% of the Finnish

respondents also described the meaning of *chronic* as something ‘continuous’ or ‘repetitive’ as examples 41, 42 and 43 show:

> 41 . […] Chronic = something that doesn't go away, is continious, repetitive […] (F5)
>
> 42. […] chronic =constant, repetitive? […] (F27)
>
> 43. […]"chronic" something that happens regularly. (F9)

These examples show the way in which Finns explained the meaning of *chronic*. In fact, this is one of the few instances that Finns show transfer from Finnish. *Krooninen,* ‘chronical’, is quite often used in Finnish in the sense that Finnish respondents described the meaning of *chronic*. It is debatable whether Finnish deliberately used their knowledge in Finnish to deduct the meaning or whether the concept of *krooninen* in Finnish affected the way they defined the meaning of *chronic.* As discussed in chapter 6.3, Ringbom and Jarvis (2009: 107) state that assumed similarities made by learners have a greater and more direct influence on language learning and performance than the actual similarities do. I will, however, argue that in this context there would be no such influence since the meaning of *krooninen* would lead to false interpretation in meaning if it was connected with the meaning *chronic* has in *diachronic*.

When defining the meaning of *diachronic,* 53% of Greeks used ‘through’ whereas 3% of Finns used the same definition. Also, 22% of Greeks used ‘throughout’ whereas 0% of Finns used it. In the definitions ‘through’ and ‘throughout’ were used in the same sense among Greeks. Altogether, 27 Greeks defined the meaning of *diachronic,* from which 24 defined it similarly: something that lasts through(out) time, or as something timeless that does not change. In fact, over half of the Greek respondents said that the meaning of *dia* is ‘through’ or ‘throughout’ and those Greek respondents who defined it otherwise still used these prepositions in their definitions, which examples 44 and 45 indicate:

> 44. dia+chronic 'dia' is a greek prefix which indicates division, separation. 'chronic' concerns the meaning of time and of years. 'diachronic' means something that it is timeless, that it could be found throughout time. (G39)
>
> 45. dia means 'across' and 'chronic' means 'time'. Diachronic then means something timess, somethings that exists through time and is not ephemeral. (G9)

These examples demonstrate the fact that even if the translation of *dia* is not stated as ‘through’ or ‘throughout’ directly, the meaning of it and especially its usage in Greek affected the way the respondents understood the meaning of *diachronic.* For instance, in example 44, G39 said that “dia means 'across'”, and yet, in the definition of *diachronic* G39 used the preposition “through”. Moreover, this can be considered to be an instance of underlying concept of *dia*, as

discussed in chapter 5.1 on mental lexicon, as well as an instance of crosslinguistic influence where the concept of *dia* in Greek is transferred to the meaning it has in English, as discussed in chapter 6.2.2.

As stated earlier, it was apparent that most Finnish respondents recognized *dia* as 'two', and based on that, they guessed what *diachronic* meant. Therefore, *diachronic* was the only word from the six loanwords where it was obvious that the process of defining a word's meaning was the other way around; the meaning of a word part was used to guess the overall meaning of the word. However, it should be noted that only 11 Finnish respondents defined the meaning of *diachronic.* On the other hand, this does further suggest that the meanings of the parts and of the whole word were rather unfamiliar to Finns. Moreover, of these 11 Finnish respondents, nine used "two" when defining *diachronic.* The following examples 46, 47, 48 and 50 indicate how the notion of *dia* as 'two' and the usage of that meaning to refer the overall meaning of *diachronic* differed greatly from the definitions made by Greek respondents:

> 46. Dia + chronic, dia = two, chronic = time. Diachronic = two-time something? (F14)
>
> 47. Dia means two and chronic has something to do with a timeline so diachronic means that there are two timelines (F7)
>
> 48. 'Dia' has probably something to do with two or more counterparts (as in "dialog"), chronic has to do with the relation of time OR something that is ongoing (don't know). Therefore this word is related to time and two or more essential elements :D. (F34)
>
> 50. dia=internal, chronic=continuous-> diachronic=continuous intestine problems? (F28)

These examples provide evidence for the existence of *deceptive cognates*, as discussed in chapter 3.1.2. Also, Ringbom's (2007: 74-75) statement that they do still exist at an advanced level with low-frequency words supports this finding. Further, this finding supports the earlier statements I made in chapter 8.3.2. These examples indicate that the Finnish respondents were able to use word parts as a strategy to deduct the meaning of unfamiliar words to some extent even though, based on the previous results, they deducted the meaning of the parts based on the overall meaning of the word more often. This is probably caused by the fact that they are not familiar with the meanings of the word parts even if they know the meaning of the loanword in which they are used.

8.4.5 Allomorph

From the six English loanwords that were asked to divide into parts and define the meanings of those parts, *allomorph* was the only one that did not indicate as much variance between the two

groups. However, among Finnish respondents, the definitions were not as unanimous as they were among Greek respondents as can be seen from Table 11:

Table 11. The definitions of allomorph's parts

	allo-	**-morph**
Greeks (36)	'different' (21/32)	'form' (12/33)
	'other' (7/32)	'shape' (11/33)
		'morpheme' (8/33)
	'another' (5/32)	'figure' (4/33)
		'appearance' (2/33)
Finns (30)	'different' (5/16)	'form' (6/22)
		'morpheme' (4/22)
	'other' (3/16)	'the smallest unit of language that carries a meaning' (5/22)
		part (of a word) (5/22)
	'similar' (2/16)	'change' (4/22)
		'shape' (2/22)

As it is evident based on the categories, Finns struggled more when defining *allo-* than they did when defining *-morph;* 16 Finnish respondents defined the meaning of *allo-* but 22 defined *-morph.* In fact, *allo-* was the least defined word part, thus suggesting that its meaning was the most unfamiliar one to the Finnish respondents. Furthermore, among those Greek respondents who defined the meanings of the parts, only one Greek did not give a definition of *allo-* and all defined *–morph*. In the categories of Greeks' definitions of *allo-* ,'other' or 'another', can be seen to refer to the same concept thus causing Greek respondents to use only two different meanings for *allo-*, whereas the meaning of *–morph* caused more variance among Greek respondents. Within both groups, less than half of the respondents defined accordingly the meaning of *–morph.*

Again, I should add that *allo(s)* is used in Greek, meaning 'the rest', 'different', 'another', or 'next', and *morph(i)* in Greek means 'form', 'aspect', or 'figure'. In the Greek respondents' definitions of *allo-*, the Greek influence is clear. The Greek influence on the definitions of –

morph, on the other hand, is slightly less evident as eight respondents used also ‘morpheme’ in their definitions, thus indicating that the word, or at least *morph*, is familiar from its context in linguistics. Nevertheless, as with other words as well, the crosslinguistic influence of Greek on the meanings of the parts is clearly evident in the Greek respondents’ answers, especially when compared to the answers of Finnish respondents that were significantly different.

What was surprising in the Finnish respondents’ answers was that most were able to define *allomorph* even though they struggled with defining the meaning of *allo-*. As the overall definitions were quite unanimous and *morph-* was also connected to the linguistic meaning, it is apparent that Finns were familiar with the overall meaning of *allomorph* despite the differences in the way *allo-* was defined. Finnish respondents’ definitions were quite linguistic in nature whereas Greeks gave more general definitions for *allomorph*, as the examples in Table 12 demonstrate:

Table 12. The definitions of allomorph’s meaning

Greeks	**Finns**
51. allo + morph allo means 'different' and morph refers to form. Allomorph then means "differerent forms of something." (G30)	56. allo + morph = "different" + "to change" = different realizations of the same morpeheme (F16)
52. Allo+morph Allo means 'different' and morphi means 'figure', so allomorph means something with different figure/appearance (G34)	57. allo + morph Morph might mean "sign". Allomorph means a variant of a morph that has more than one different realisation. (F11)
53. allo+morph allo means 'differnt' anf morph means 'form'. allomorph means something with a different for[m] (G6)	58. Allo = variation Morph = the smallest unit of language that carries a meaning Allomorph = a variation of another morph (F5)
54. allo+morph 'allo' in Greek means different. 'morph' means the form or shape of something. 'Allomorp' is the different version of something. (G39)	59. allo + morph = "different" + "to change" = different realizations of the same morpeheme (F16)
55. allo+morph allo means 'different', morph means 'shape'. allomorph means 'osmething that has diferent shape/appearance' (G35)	60. Allo+morph allo=meaning, morph=part -> allomorph=meaning of a morpheme (F28)

What was evident when comparing the answers of Greek and Finnish respondents, and as the examples above also show, Greeks used frequently the meanings of the word parts to define the meaning of *allomorph*, whereas Finns defined only the meaning of *allomorph* or used its meaning to guess the meanings of the parts. This can be seen also in the examples in Table 12. I should add that only 11 Finns defined the meaning of *allomorph* whereas 21 Greek

respondents defined it. Further, from those 11 definitions made by the Finnish respondents, all except one used *morph(eme)* or *phonological* in their definitions.

Also, examples 56, 59 and 60 demonstrate well the problem of not knowing the meaning of a word part and what could happen if one used the overall meaning of a word to guess the meanings of its parts; later when encountering one of these parts in an unfamiliar word, the meaning of this unfamiliar word would be deducted to be something else than it actually is since the meanings of the parts were originally guessed wrong. For instance, when comparing the definitions in Examples 51 and 56, the definition of *morph* as 'form' made by G30 would be beneficial when guessing the meaning of *homomorph* 'same' + 'meaning' whereas the definition of *morph* as 'to change' made by F16 would lead to *homomorph* having a nonsense meaning if guessed from its parts 'same' + 'to change'. Moreover, if such instances where the meaning of an unfamiliar word would lead to a nonsense meaning based on the meanings of its parts, it is most likely that at some point the learner would stop using word parts as a strategy for guessing the meaning of unfamiliar words, which is, as stated in chapter 4.3.2, one of the most beneficial strategies to be used when encountering unfamiliar words. This further demonstrates the relevance of understanding the meanings of the most commonly used word parts in English as well as highlights the benefit of knowing the classical languages if one studies English for academic purposes and wishes to succeed.

8.4.6 Hypothesis

When defining the meanings of the parts used in *hypothesis*, the categories into which both groups answered most accordingly were the same, 'under' and 'statement', as the following Table 13 indicates:

Table 13. The definitions of hypothesis's parts

	hypo-	**-thesis**
Greeks (35)	'under' (16/27)	'statement' (14/29)
	'below' (4/27)	'position' (5/29)
	'possible' (3/27)	'opinion' (3/29)
	'underneath' (2/27)	'placement' (2/29)

Finns (33)	‘under’ (6/22)	‘statement’ (10/23)
	‘possible’ (4/22)	
	‘not real’ (4/22)	‘claim’ (3/23)
	‘hypothetical’ (3/22)	
	‘above’ (3/22)	‘theory’ (2/23)
	‘suggestion’ (2/22)	

When forming Table 13, however, I had to be quite flexible with what to include under each category in Greek respondents’ definitions for *–thesis* as they all were somehow related. Words that were not included in Table 13 were still very much related to the words categorized under *–thesis*, such as ‘idea’ and ‘proposition’. The same problem occurred in the categories of Finnish respondents’ definitions of *hypo-* as they were, for example, ‘guessing’, ‘suggested’, ‘assumed’, and ‘approved’. Even though same categories exist in both groups’ definitions, the difference between Finns and Greeks can be seen when comparing the categories, especially those for the meaning of *hypo-*. That is, there is clearly more variance among Finns’ responses whereas most of the Greek respondents referred *hypo-* to mean ‘under’, ‘underneath’ or ‘below’, all of which can be associated with roughly the same meaning.

26 Greek respondents and 17 Finnish respondents defined the meaning of *hypothesis*. Again, Greeks combined the meanings of the parts to form the meaning of the word even though the definitions of the word parts did not differ much between Greeks and Finns as the examples listed in Table 14 reveal:

Table 14. The definitions of hypothesis’ meaning

Greeks	**Finns**
61. Hypothesis then is something that is not certain but rather something that is true under certain circumstances. (G9)	70. hypothesis = "a guess at an expected outcome" or "an as-of-yet unconfirmed theory" (F32)
62. hypothesis means 'an assumption made under the surface' (G35)	71. […] hypothesis means a guessed outcome of a certain situation (F7)
63. Hypothesis means assuming something or saying something below the true state of things and therefore something untrue. (G19)	72. A hypothesis is an educated guess of the results of a study. (F8)
64. So hypothesis is an underlying thought sb is uncertain about (G21)	73. Hypothesis is kind of an educated guess which will be tested empirically. (F29)

65. Hypothesis then means something like "a position under which things are viewed." (G30)	74. so a statement that is done before a study or research (F30)
66. So Hypothesis means to put under so to suggest that something is true and use it as a strating point in order to prove it. (G29)	75. […] the predicted conclusions from a study (F16)
67. so hypothesis means to place something under something else. It also means to suggest sth (G34)	76. Hypothesis is the assumption one makes of what will probably happen before making an experiment or before another event. (F11)
68. So hypothesis means "an argument one forms in their brain and puts it under, i.e. releases it publically". (G38)	77. In science, the suggestion of an explanation to a phenomenon (F22)
69. Hypothesis then means a random explanation of a particular condition. (G31)	78. Hypothesis = an assumption of a possible outcome (F33)

The same notion emerges from these Greek respondents' definitions as it did with their definitions of other loanwords; Table 14 shows the way in which many Greek respondents defined the meaning of *hypothesis* by using the meanings of its parts 'under(neath) + statement'. When comparing these answers with the answers of the Finnish respondents, it is obvious that Greek respondents have used the meaning the parts have in Greek to explain the meaning of *hypothesis.* On the contrary, Finnish respondents described the meaning of *hypothesis* based on their experience and knowledge of the word's usage in context.

8.4.7 Homograph

The results gathered from the definitions of *homograph* and its other part, *-graph*, are quite identical to those that I presented with *synonym* and *philology*. However, as Table 15 demonstrates, there was little difference in the way Greek and Finnish respondents defined the meaning of *homo-*.

Table 15. The definitions of homograph's parts

	homo-	**-graph**
Greeks (35)	'same' (27/31)	'write' (22/29)
		'graphic' (2/29)
	'human' (3/31)	'grapheme' (2/29)
	'same' (21/26)	'(piece of) writing' (8/24)
		'letter' (7/24)

Finns (32)	‘similar’ (8/26)	‘something visual’ (6/24)
		‘picture’ (5/24)
	‘human’ (2/26)	‘symbol’ (2/24)
		‘number’ (2/24)

Based on the definitions by both groups, it is clear that the meaning of *homo-* was quite evident to all respondents, and therefore, it provides no statistical evidence of crosslinguistic influence. One plausible reason for this is that *homo* is quite frequently used in many other words in English which are also used in Finnish as loanwords. Such words are, for example, *homophone, homosexual,* and *homonym.* Moreover, the opposite of *homo* in many instances is *hetero* which is also frequently used, especially as a contrast to *homo* to refer to one’s sexual orientation, thus also enforcing the concept and meaning of *homo.*

However, when looking at the definitions of *–graph,* instances of crosslinguistic influence do become more apparent as most Greek defined the meaning to be ‘write’ whereas clearly less than half of Finnish defined it similarly. Moreover, I should add that the influence of Greek was also present in many Greek respondents’ answers; three used *γράφω* (‘grafo’) meaning ‘to write’ in their definitions, seven respondents used ‘grafi’, as affected by the Greek form of *γραφή* (‘grafi’) meaning ‘writing’ or ‘script’. Further, one answer by a Greek respondent was particularly interesting in the way it stated the origin of the part –graph. The following example illustrates this:

> 79. Homo means ‘same', graph from the word 'graphw' means 'write', so homograph means to write in the same way. (G34)

In example 79, the usage of *graphw* is a combination of two typological features; *ph* is used instead of *f* since the Greek letter *φ* (‘f’) is generally written as *ph* in English, but *w* is used instead of *o,* as the letter *w* is visually similar to the Greek letter *ω* (‘o’). Therefore, the usage *graphw* shows the English influence on the sound for *f* but the Greek influence for the usage of *w* to refer to the Greek letter *ω* which refers to the first-person singular used in Greek verbs and which is pronounced the same way as the letter *o.*

Since the parts of *homograph* were defined similarly by both groups, the definitions of *homograph* were also similar; almost all referred to the meaning *homograph* has in linguistics. Furthermore, as the definitions of *homo-* did not vary between the two groups, it was interesting

to find out that failing to notice the meaning of *homo-* in *homograph* lead also Greek respondents to quite different definitions of the word, which is something that did not appear in any other words. That is, there were differences in the definitions of the parts and the words among Finns whereas Greeks showed a great deal of consistency in the way they defined the other five loanwords. The following examples 80 and 81 show how defining *homo-* as 'human' affected the overall meaning of *homograph* among Greeks:

> 80. homo + graphic "homo" comes out of the Latin word "homo" which means "human" and "graphic" comes out of the greek word which means that something is written down. Probably, a homograph is human being drawn on paper. (G36)

> 81. Homo + grapho Homo means of same gender and grapho means write. Homograph probably means something being written by the same agent. (G19)

One other major difference in the answers when comparing them to answers of other words was that the definitions of *homograph* between the two groups were somewhat similar. That is, both Greek and Finnish respondents referred to the definition it has in linguistics. Moreover, Finns deducted often the meaning based on the parts' meanings, even as often as Greeks. This kind of similarity between the two groups was evident only with *homograph*, as the crosslinguistic influence of Greek affected greatly the Greek respondents' definitions of the other five loanwords and their parts. The similarity of the answers is shown in the following table:

Table 16. The definitions of homograph's meaning

Greek	**Finns**
82. Homo means 'similar, same' and graph means 'writing'.Homograph then is a word that is written in the exact same way as another word but means something different. (G9)	89. Homo means "same" and graph is something like "picture" or "figure". Homograph in linguistics stands for a case where words with different meanings or pronunciations are written in the same way. (F11)
83. homo means same and graph means something written. So homograph is something written in the same way. (G12)	90. Homo = same Graph = a symbol of meaning, for example letters Homograph = something that's written similarly (F33)
84. homo means 'same' graph means writing, letter, diagram So homograph could be a letter that shares some linguistic properties with another letter. (G21)	91. homo = same graph = written meaningful element of communication Homograph = Cannot remember having seen this word much. Perhaps a written unit of information that can refer to different things (sounds, meanings)? (F6)
85. Homo means 'the same' and graph refers to script. Homograph then means something like "a similar way of writing or representing something." (G33)	92. homo = one graph = visual representation Two words being written the same way, but having different meanings. (F32)

86. Homograph homo means "alike,same" and graph means "write". So a homograph is a word that has the same written form as another but not the same meaning. (G29)	93. Homo = same, similar Graph = a chart? Homograph = same version of another chart? (F5)
87. homo means 'the same; and graph means 'to write'. homograph means written in the same way (G6)	94. homo=the same, graph=something to do with writing. homograph=a word or some other written unit that looks like another written word? (F27)
88. homo means 'the same' and graph means 'written'. So homographs are words that are written the same (but vary in meaning and/or pronunciation). (G38)	95. homo means 'the same' and graph 'a letter' so a letter that is written in the same way? (F30)

Examples 84, 89 and 91 in Table 16 illustrate the linguistic nature of some definitions that could be found. Examples 93, 94 and 95 are good illustrations of the Finnish respondents' usage of the parts' meanings to guess the overall meaning of the word. Furthermore, many Finnish respondents were able to define the meanings of the parts but not the overall meaning as 24 defined *homo-* and 26 defined *–graph* but only 15 defined *homograph*. For instance, example 91 shows how the overall meaning of the word was somewhat unfamiliar but still deductible as the meanings of the parts were familiar.

As it has hopefully become apparent by now, the results of this section show evidence of crosslinguistic influence from Greek to English. Moreover, these results can also be argued to be instances of *lexical transfer* as they are supported by the statements made in chapter 6.2.3 on lexical transfer. In fact, from the three subcategories of Jarvis and Pavlenko (2008: 74-75) listed in the chapter, only the last one, *CLI affecting word choice*, was not present in the findings as the productive skills of the respondents were not examined. For example, the typological influence of Greek in the data can be regarded as an instance of morphological and semantic information affecting the cognate forms, thus referring to the first subcategory from the ones listed in chapter 6.2.3.

Furthermore, the results also show clear instances of *item transfer*, discussed in chapter 6.2.2, being present among Greek students as they were able to transfer their mental concepts of word parts into the meaning of a word in which the parts were used. Their definitions of the parts showed clear logic and similarity although, at first, it was not always evident how the overall meaning could be deducted from those of the parts. This also shows that the mental lexicons of the Greek respondents in Greek affect that of English, a notion which was discussed in more detail in chapter 5.1. This finding can also be connected to Odlin's (1989: 113) notion on *interlingual identification* as discussed in chapter 6.2.

All six words discussed above are used in linguistics but only *homograph* and the definitions of it were similar between Greek and Finnish respondents. It is plausible that this similarity was affected by the frequent usage of *homo* in everyday language. Furthermore, as all respondents could divide five of the words accordingly, it suggests that in general Finnish students can recognize word parts that are used in academic words but they are not aware of their meaning. This notion further implies, as all the word parts are also used in many other academic words, that they are either not aware of the similarities between the parts that are used in academic words, or the meanings of many academic words are learned as unanalyzed chunks, thus implicating the same notion as the one made by Nation (2001: 46-47) in chapter 4.3.2. This causes the meaning of the word parts to remain opaque, as explained in the chapter 4.1.

These statements are further supported by the fact that 91% of the Finnish respondents stated that they know the meaning of *synopsis* when they were asked to tick the words they know, as discussed above in chapter 8.1. Most of the Finnish respondents ticked *synopsis*, and yet, only two Finnish respondents stated that *syn-* means 'together' when they were asked to define the meanings of *synonym*'s parts. This strongly suggests that words are learned as entities, without meaningful parts. As explained in chapter 4.3.2, Nation and Meara (2010: 43-44) state that in order to acquire receptive use of word parts, the parts and their meanings should be recognized in different words. Therefore, it can be concluded that these results indicate that Finnish students have not acquired such receptive use of word parts which would be needed when acquiring new, unfamiliar words. The receptive use of word parts also enhances the ability to check if the meaning of an unfamiliar word has been guessed correctly from the context.

Based on these findings, it is apparent that Greek students benefit from their knowledge in Greek. Greek language aided them in understanding the meanings of word parts more in depth when compared to the Finnish students. In fact, these results are supported by the statements of Nation (2001: 280) and Saville-Troike (2012: 149), discussed in chapter 4.3.2 that the classical elements and the morphological structures used in academic words remain opaque for someone who does not know Greek. It was suggested in chapter 4.1 by Charles (2000: 217) and by Nation (2001: 217) that researchers of any field are most likely familiar with the meanings of classical elements that are regularly used in academic vocabulary and in word formation even though they do not know Greek. The results, however, indicate that Finnish students of English are not able to show this kind of knowledge in general. When compared to their future colleagues, the Greek students of English, the results strongly suggest that the direct knowledge of Greek is indeed needed when deducting the meanings of academic words and their parts. Moreover, with

the results of my study I am able to show evidence to contradict with Ringbom's (2007: 117) argument in chapter 6.3.2 that the future English teachers or others at a high proficiency level in English do not benefit anymore from the crosslinguistic similarities. In short, my findings clearly show that Greeks benefit greatly from their mother tongue even at an advanced level of English and the instances of transfer were numerous in the data.

8.5 Awareness of crosslinguistic similarities and differences

The respondents were last asked how their knowledge in other languages, including their mother tongue, helps them with unfamiliar words in English with the aim of detecting awareness of crosslinguistic similarities and differences. The following Tables 17 and 18 show the common features that were detectable in the answers of Greek and Finnish respondents. I should add that many responses were quite rich and detailed, but unfortunately, I am not able to discuss all answers due to the scope of this paper. I will, however, give some examples of the answers, categories as well as differences between the respondents to further illustrate the topic. As it was explained in chapter 6.2.3, awareness is one of the factors that affect the transferability of lexical items. The results listed in Tables 17 and 18 demonstrate, indeed, that the answers of Greek respondents show more unanimous ways in which they were aware of the strategies they used when encountering unfamiliar words in English as well as their mother tongue affecting the transfer, thus reinforcing the crosslinguistic influence of their mother tongue to the English lexicon.

8.5.1 Greek respondents' awareness of crosslinguistic similarities

Table 17 shows the three categories, and their sub-categories, that were evident in the Greek respondents' answers concerning the awareness of crosslinguistic similarity:

Table 17. Greek respondents' awareness of crosslinguistic similarities

96. […] Also, there are some similarities between German, French (languages I know) and English. (G7) 97. […] I had the chance to learn Latin and German therefore it is much easier for me to translate English words if they are taken from those languages. (G36)	Latin (8) German (7) French (3) Spanish (2) Italian (1)	Languages that help with unfamiliar words in English (36/92%)
98. My native language is greek,so usually it is easy for me to undestand scientific terms or other specific vocabulary in english as the english language has borrowed many greek and ancient greek words. (G32) 99. There are many words from my mother tongue that are used as loanwords in the other languages […] (G2) 100. Greek helps me really a lot, because there may be words in English that I have never seen, but are almost identical to Greek […] (G37)	Mother tongue, (Greek) (36) and Ancient Greek (2)	
101. There are many words from my mother tongue that are used as loanwords […] (G2) 102. […] it is easy for me to undestand scientific terms or other specific vocabulary in english as the english language has borrowed many greek and ancient greek words. (G32) 103. […] Many words in English have either directly a greek root or a latin root, which is often taken from Greek as well. […] (G16) 104. Many words in English are loanwords from Greek, my mother tongue, so I can recognise the words' etymology and find out their meaning. […] (G12)	Many English loanwords are from Greek (15) The etymology of English lexicon (6)	Awareness of etymology in English loanwords (21/54%)
105. […] I tend to use techniques of 'deconstruction' of words in order to guess their meaning. […] (G39) 106. […] my mother tongue (Greek) helps me in "chopping up" the parts of the word and then I apply the meaning of the Greek words to the English one. (G4) 107. When I believe that a word comes from Greek, which is my mother tongue, I try to process it phonetically to work out its meaning. […] (G30) 108. […] the context helps me to understand what the new word is about. (G10) 109. […] or even guess from the context. (G22)	Breaking words into parts (16) English forms are recognized phonetically in Greek (8) Guessing from the context (2)	Strategies used with unfamiliar words (26/ 72%)

Three of the Greek respondents did not name any specific language or method they usually use but all of them still states that the knowledge of other languages helps with unfamiliar words in English. Also, other three of the Greek respondents explained that knowledge in Greek helps them specifically with academic vocabulary, two respondents said that they use their knowledge

in English to detect the meanings of Latin words, and four Greek respondents added that *false friends* exists between English and Greek which is why transferring the Greek meaning to the English form is not always a helpful method in guessing the meanings of unfamiliar words in English.

The fact that some Greeks, although less than half of the respondents, mentioned that they use phonetic similarities between English and Greek words to detect similarity in form and meaning suggests that even at an academic level the Greek students use techniques to overcome the typological difference between English and Greek. That is, the connections in form between English and Greek words are not directly made but need to be phonetically checked so that similarities can be detected. These results are supported by the statements in chapter three and in chapter 6.3.2 concerning the typological difference between one's mother tongue and the target language and how they affect the transferability of lexical items as well as the general learnability of vocabulary. Even though it is not surprising that the typological difference between Greek and English affect the process of identifying similarities across these two languages, and even their learnability, it is, nonetheless, surprising that such instances are present when studying English at an advanced level. Moreover, as the findings of the previous chapters suggested, transfer from Greek to English was apparent when the Greek respondents connected the Greek forms of word parts to the English loanwords. This also supports the notion that the English loanwords that are similar to the Greek words, either in meaning or in form, are strongly connected in the minds of the Greek respondents. Moreover, the form and meaning of English and Greek words are closely connected as I stated earlier, but the search for phonetic similarities suggests that for some the forms of words are phonologically connected. As explained in chapter 6.3.2. by Ringbom and Jarvis (2009:108), the typological closeness is one of the factors that affects the assumptions of formal similarities made by the learner. This might suggest that in the early stages of learning, Greeks are not able to detect the similarities that exist between English and Greek, but as their proficiency develops, they are able to overcome these typological differences to some extent as the overall results suggest that Greek respondents were able to detect the similarities.

The etymology of English lexicon category is used to describe answers that showed signs of awareness of the multiple sources that are used in English loanwords, and therefore, not only stating that English has borrowed many words from Greek, which is why *many English loanwords are from Greek* category was also included. The following examples 110, 111 and 112 illustrate this as well as the level of detail that was provided in most of the Greek

respondents' answers. That is, only few answers included a single phrase whereas most of the answers were quite analytical. Moreover, many of the answers showed a great degree of awareness of different strategies that were used to detect the meaning of unfamiliar words.

> 110. Apart from whole loanwords, there are borrowed morphemes that survive in other languages, which also helps a lot. […] words enter English from French, French has its lexicon based on Latin and Latin has its lexicon based on Greek. There are many occasions in which there are shortcuts, such as direct incoming words from Latin or from Greek. But the path may go towards the opposite direction, as well. There are words that enter the Greek lexicon from English or other languages. (G38)

> 111. […] through etymology and by analysing the unknown words. I tend to 'break' the unknown word into its parts (if any), and then I analyse the parts individually in order to find the meaning, first of the individual words and then of the unknown word that consists of them. my mother tongue and the other languages i acquire help me recognise and trace the root of many unknown words. (G35)

> 112. My L1 (native language, Greek) helps a lot in understanding certain terms of english studies. Moreover, latin itself and other latin languages help in understanding english (sth which occures and the way round, i.e from english you can be familiarised with words in other languages, depending on which language have you firstly be taught) because many words of english are word loans. (G20)

The first example, example 110, illustrates remarkably well the level of awareness many Greek respondents' answers indicated concerning the history of English language as well as the connections English loanwords have with other languages. One plausible reason to enhance the awareness of the connection between different languages is that 87% of Greek respondents reported knowing Latin. As most of the loanwords are either Greek or Latin of origin, then knowing both of those source languages surely benefits greatly the acquirement of new, unfamiliar words used in academic English. Moreover, as the awareness of etymology in English loanwords was not apparent among Finnish respondents' answers, it can be argued that the knowledge of the source languages enhances such awareness which will, in turn, increase the overall awareness of crosslinguistic similarities thus affecting transferability of lexical items. Examples 110 and 111 as well as example 112 reveal the capability of Greek respondents to analyze the factors that affect and beneficiate the learning process of unfamiliar words in English. In example 111, G35 describes strategies that are used to understand the meaning of unfamiliar words. Furthermore, example 112 shows that G20 is aware of the connection between languages and therefore can exploit it when encountering unfamiliar words. As the respondents were only asked how other languages help them with unfamiliar words in English, it is surprising how many described certain strategies and the connections different languages have in detail. This supports further the statement I made that the Greek respondents showed a

great level of awareness of the crosslinguistic similarities between languages as they were not only able to name languages that help but also to describe how they exploit those similarities.

8.5.2 Finnish respondents' awareness of crosslinguistic similarities and differences

When analyzing the Finnish respondents' answers, similar categories emerged although some differences can be seen when comparing them to those of Greek respondents, as Table 18 illustrates the subcategories as well as the main categories that could be detected.

Table 18. Finnish respondents' awareness of crosslinguistic similarities and differences

113. […] At least in Swedish there are quite a few words that are similar to their English counterparts. […] (F5) 114. Finnish doesn't help at all, but Swedish and German help a bit with words that are of Germanic origin. French helps sometimes [..] (F30) 115. […] Basic understanding of Latin has helped enormously to distinguish different prefixes and roots. (F6)	Latin (5) German (3) French (8) Spanish (3) Swedish (5) Greek (3)	Other languages help with unfamiliar words in English (29/97%)
116. […] my mother tongue Finnish doesn't help at all, they are very different. […] (F27) 117. Not too much, as the languages I know have loanwords from English but English doesn't have many loanwords (if at all) from the languages I know. (F17) 118. English does not borrow very much from Finnish, so my mother tongue isn't of very much help. German and Swedish are closer to each other than to English and they aren't very helpful either. (F11)	Finnish is not helping (16) Other languages do not help (5)	Languages that do not help (21/73%)
119. At this level you mostly get the meaning of words from context or from clues that are in the words themselves […] (F24) 120. [Similarities across languages] help me break words in pieces and make even some parts understandable. (F12) 121. […] very common Greek/Latin stems of other words can clue you in on the meaning of the new word. (F25) 122. […] Knowledge of Finnish "fancy loanwords" (sivistyssana) and English loanwords also support each other. […] (F6) 123. Many scientific Finnish words have a similar English version like physiology (fysiologia), psychology (psykologia), syntax (syntaksi). (F21)	Breaking words into parts (8) Detecting loanwords in Finnish (6)	Strategies used with unfamiliar words (15/52%)

As it is evident based on the categories and subcategories of common features among Finnish respondents' answers, two themes were constant as they were included in over half of the answers; Finnish does not help with unfamiliar words in English and other languages do help.

The small number of answers that agreed with the sub-categories show the variance among Finns. That is, more reasoning was provided than the table suggests but they were mentioned less than five times which is why they had to be excluded. Moreover, I should add that five of the Finnish respondents said that they use their knowledge in English to detect the meanings of words in other languages. Also, as only three of the Finnish respondents referred to the origins of English words, the sub-categories were excluded from the table.

In chapter 3.1.2 it was said that, according to Ringbom (2007: 73), the low-frequency words of academic vocabulary are shared across languages, and therefore, the cognates of these words are easily acquired. Since many of the academic words in Finnish are loanwords that exist across different languages, they could be used to detect the meanings of unfamiliar words in English. But as the results show, most Finns do not detect any similarities between English and Finnish, thus causing an argument against the statement made by Ringbom. Also, as discussed in chapter 6.3.1, after language learners have noticed that two languages do not bear resemblance with one another, they no longer try to find similarities between those languages, thus causing the Finnish respondents' answers to represent *a zero relation* whereas the answers of the Greek respondents can be seen as a direct correlation to *a similarity relation.* In fact, the differences in *similarity relations* between the groups are evident in the overall findings of my study as well since the results undoubtedly suggest that Greeks were prone to notice connections between patterns in English and in Greek while Finnish respondents broadly failed to make any connections across languages.

In general, Finns' answers provided rich detail about different languages, other than Finnish, that they use to aid understanding of unfamiliar words in English whereas Greeks provided more specific details about how their mother tongue benefits them by describing the different processes or etymological relations between Greek and English. One of the greatest difference when comparing these two tables is that almost all Greeks stated that their mother tongue helps them with unfamiliar words in English whereas six respondents said that Finnish helps to some degree either with morphology or with loanwords that are the same in Finnish and in English. However, from these six respondents, three added that in general Finnish does not help at all. Altogether, I want to conclude with the following examples 124, 125, 126 and 127, two first

being Greeks' responses and the two last being Finns' answers, because they summarize well the overall evidence of the crosslinguistic influence discussed in this chapter. Also, the following examples show that the respondents' awareness of the matter and the contrasting differences that exist between Finnish and Greek students studying English at an academic level:

> 124. My L1 (native language, Greek) helps a lot in understanding certain terms of english studies. […] (G20)
>
> 125. Because I am a Greek it's so much easier to understand unfamiliar words or very difficult words in English. (G1)
>
> 126. My English skills are very good, so most often the words I don't know are of neoclassical origin, slightly rarer academic words with prefixes and suffixes […] (F27)
>
> 127. […] Finnish is not very helpful, of course, in knowing the meanings of English words such as in this questionnaire's examples. (F32)

What should be kept in mind, however, is that all the respondents were studying English at an advanced level, hence they were all future specialists in linguistics, which is why the results on awareness might be more profound than they would be when examining Greeks and Finns who are studying something else than languages. That is, language students specialize in language features and structures which cause them to be more aware of the similarities between languages and capable of analyzing the (dis)similarities between them. In fact, this is probably one of the reasons why my findings contradict with the findings of Soufra's (2001) study, explained in chapter 6.3.2. However, as examples 124 and 125 show, Greeks still were highly aware of the benefit they gained from knowing Greek. Finns, on the other hand, acknowledged that their mother tongue did not help them with unfamiliar words in English as examples 126 and 127 illustrate.

In conclusion, Greek respondents showed more unanimous signs of awareness of crosslinguistic influence since all categories were agreed by more than half of the Greek respondents, which is also an indication of *intergroup homogeneity*. Moreover, as same categories emerged from the Finnish respondents' answers but were far less unanimous as less than 50% of the respondents answered accordingly, it suggests that when dealing with awareness of crosslinguistic influence, there is a difference between Greek and Finnish students who study English at a university, thus referring to *intergroup heterogeneity*. It is also evident, based on the results, that knowing Greek, and being aware of its influence on the understanding of academic vocabulary, is of great benefit even at an advanced level, thus providing evidence for *crosslinguistic performance congruity*. As stated in chapter 6.2.1, Jarvis (2012: 5; 2000:

259) argues that at least two of the three types of evidence must be present to confirm the existence of crosslinguistic influence, and based on the results I have discussed in the previous chapters it is evident that all three types could be found which I will further discuss in the following chapter.

9 CONCLUSION

Based on the results discussed above, it is obvious that knowing Greek is of great benefit even at an advanced level since transfer from Greek to English was detectable in various instances. Furthermore, Greek respondents' answers showed clear signs of crosslinguistic influence, especially when compared to the answers of Finnish respondents that were significantly different from those of the Greek respondents.

In the present study my aim was to answer the following research questions:

1. How does the knowledge of Greek affect understanding the meaning of academic loanwords in English?
2. What methods and strategies are used to deduct the meaning of unfamiliar loanwords?
3. How aware are the Greek and Finnish students of the crosslinguistic influence?

Based on the data, the knowledge of Greek affected greatly understanding the meaning of academic loanwords in English. Moreover, based on the results of my study, it was evident that Greeks could exploit their knowledge in English to guess the meaning of unfamiliar words. Moreover, Greek respondents relied heavily on their mother tongue when they defined the meaning of English loanwords that are constructed from parts that are Greek of origin. The results showed that these word parts were semantically associated with the Greek words as the respondents transliterated the word parts into Greek. In addition, numerous instances of lexical item transfer were present when the words shared form and meaning between Greek and English. In short, the results of my study revealed a strong connection that existed between English and Greek words and how that connection was a great benefit when dealing with academic vocabulary.

As for the methods and strategies that were used to deduct the meaning of unfamiliar loanwords, thus referring to the second research question, Greek respondents used the meanings of word parts to define the overall meaning of words. This is a strong evidence of crosslinguistic

influence as it clear that the definitions made by the Greek respondents were highly affected by Greek. In fact, instead of finding similarities between words across languages, the results indicated that Greeks first divided words into parts after which they start looking for similarities that exist between their mother tongue and English. As discussed in chapter 3.2, Ringbom (2007: 72) explains that core meanings of words are more frequently used and therefore easier to acquire than words that have metaphorical meanings. However, the findings of my study suggested that Greeks could deduct even the metaphorical or marginal meanings of words that are rarely used by exploiting their knowledge of Greek whereas Finns were not able to do the same. For example, it was evident based on the data that Greeks knew more meanings of words that were infrequently used. They were also able to explain the meanings of words based on their parts' meaning in Greek. Finns could also recognize word structures and parts as well but they were not able define the meaning of an unfamiliar word based on the meaning of its parts. This suggested that Finns had developed the strategies for learning vocabulary described in chapter 4.2 to some extent but were not able to execute them or to beneficiate from them as much as Greeks were.

The results concerning the awareness of the crosslinguistic influence, thus referring to the third research question, suggested that Greeks were highly aware of the similarities that exist between Greek and English. Additionally, Greeks were able to recognize loanwords that were Greek of origin which suggests that Greeks are aware of the structures used in academic vocabulary. As the awareness of similarities that exist between Greek and English was clearly indicated by the results, it can be argued that knowledge of the source languages enhances such awareness which will, in turn, increase the overall awareness of crosslinguistic similarity thus affecting transferability of lexical items.

The results of my study provided evidence of crosslinguistic influence from Greek to English even at an advanced level of language learning. In addition, they showed how the knowledge of Greek benefits enormously the understanding of loanwords that have a narrow, field specific meaning. Indeed, the findings indicated that academic words that are not field specific, and can therefore be considered as high-frequency words in academia, were known by both groups equally, thus showing no indication of CLI being present. In fact, there were only two instances where CLI was not detectable; with high-frequency words used in academic texts and with words that originate from Latin. However, the knowledge of Greek and its crosslinguistic influence aided notably the understanding of loanwords that were used in linguistics. This then suggests that the knowledge of Greek is extremely beneficial for English students because,

firstly, most academic loanwords are Greek of origin or are constructed by using Greek elements, and secondly, the words used in the field of linguistics can be considered as low-frequency words (see chapter 4.1 for further information) and they must be known by students of English if they wish to succeed in their field. In fact, the results showed how the knowledge in Greek affected the number of known loanwords used in linguistics to be greater as well as the level in which they were understood to be deeper. Thus, it can be argued that knowing the source language of the English loanwords is extremely beneficial for students of English as that knowledge enhances the *width* and *depth* of vocabulary knowledge. In general, the results of my research demonstrated how knowing the meanings of morphemes that are used in loanwords, as well as knowing the language from which the words are borrowed, help the students of English enormously.

As the results showed clear signs of transfer in meaning and in form from Greek to English, thus indicating semantical connection between the two, it can be argued that the lexicon of Greek students was semantically well-organized which supports the receptive skills that are needed in language learning as discussed in chapter 5.1 when explaining the indications of Meara's (2009: 17) study. Moreover, the results of my study concerning the connections made by Greeks between their mother tongue and English are related directly to Jarvis and Pavlenko's (2008: 83) list of different ways that mental associations are made between a new word and a previously acquired word in chapter 5.1. Moreover, they stated in the chapter that such associations do not exist when there is no close translation between two languages, which was apparent among Finnish respondents and their answers.

Concerning *similarity relations*, discussed in chapter 6.3.1, the Finnish respondents' answers could be seen to represent *zero relation* whereas the answers of the Greek respondents represented a direct correlation of *similarity relation* since the results undoubtedly suggest that Greeks were prone to notice a connection between patterns in English and in Greek while Finnish respondents broadly failed to make such connections. In fact, the differences in similarity relations between the groups were evident in the overall findings of my study since the results undoubtedly suggest that Greeks were prone to notice a connection between patterns in English and in Greek while Finnish respondents failed to make connections across languages. Moreover, Finns showed some signs of transfer from Finnish to English, although all such instances could be regarded as negative since they lead to false interpretation in meaning whereas among Greek respondents, no such instances could be detected. Therefore, it can be argued that Greek students can exploit their mother tongue when there is a connection or a

similarity between an English loanword and a Greek word. This argument is supported by the fact that many of the loanwords used in the questionnaire existed also in Finnish but Finns showed no traces of exploiting this connection.

Since there were clear signs of CLI affecting the answers of Greek respondents, it can be argued, based on the statements made in chapter 6.3 by Ringbom and Jarvis (2009: 113), that more cognitive resources remain for other parts of receptive learning among Greek students as they can acquire receptive academic vocabulary knowledge fast. Finnish students, on the other hand, must focus their cognitive resources on the acquisition of receptive competence of vocabulary. It was also discussed in chapter 6.3 how Ringbom and Jarvis (2009:107) argue that it is unusual for learners to make appropriate observations about the similarities between languages, thus making the assumed similarities to be actual similarities. However, as indicated by the results, there was a connection between actual and assumed similarities among Greek respondents. Ringbom and Jarvis' statement of it being "unusual" might, nevertheless, refer to an average learner whereas the findings of my study might differ to some extent from the general theories of CLI as the data consisted of the answers made by advanced learners. As stated earlier, no previous research or theories exists that deals with CLI at an advanced level of language learning.

Moreover, the fact that CLI exists at an advanced level and that the knowledge of Greek plays a prominent role in understanding the meanings of academic loanwords, it can be argued that the *learning burden* (for further information see chapter 4.2) diminishes greatly if one knows Greek. Moreover, as explained in chapter 4.2, Nation (2011: 23-24) states that if the word is a loanword, and therefore shares the relatively same meaning across languages, then to learn that word is less demanding. The results indicated, however, that the word's existence as a loanword is not enough, but rather, explicit knowledge of that word and the meanings of its parts is needed before it can diminish the learning burden. Additionally, the relevance of understanding word formation and the meaning of word parts is further highlighted by Saville-Troike's (2012: 150) statement, explored in chapter 4.3.2, that knowledge about the features and processes used in word-formation is a requirement for managing the use of academic lexicon.

As discussed earlier, the results of my study indicated that even at an advanced level of language learning CLI affects the ability to understand the meaning of a loanword based on the meanings its parts have since, by using their mother tongue, the Greek respondents were able to recognize word parts and their meanings easier than the Finnish respondents. This is a very useful strategy

to be used when encountering unfamiliar words, as explained in more detail in chapter 4.3.2. Moreover, in chapter 4.1 it was discussed that, according to Nation (2001: 26), the morphological unfamiliarity of the Greek and Latin words intensely strengthens the lexical barrier. This further causes the deterioration of the academic meaning system and causes the vocabulary to stay receptive. Based on the results, it can be argued that Finnish students have not acquired such receptive knowledge of word parts which would be needed when acquiring new, unfamiliar words as well as in the ability to check that the meaning of an unfamiliar word has been guessed correctly from the context. Greek language, on the other hand, aided Greek respondents to understand the meaning of word parts more in depth when compared to the Finnish respondents, therefore indicating the benefit of knowing Greek in the academic context. In conclusion, the results of my study highlight the relevance of understanding the meanings of the most commonly used word parts in English as well as the benefit of knowing the classical languages if one studies English for academic purposes and wishes to succeed in it. This statement is further supported by those results that indicated the existence of deceptive cognates and how they affected the guessing process. The fact that deceptive cognates affect the guessing process still at an advanced level amplifies the need to understand the meaning of word parts. Moreover, if knowledge on word parts or on the classical elements that are used to construct English loanwords is limited, it will limit the process of acquiring new academic vocabulary.

In chapter 6.2, it was stated that the statistically significant connection between L1 and its effects on the target language as well as the description of the categories indicating statistical evidence are needed when examining CLI and its effects. As explained in chapter 6.2.1, Jarvis (2012: 5; 2000: 259) states that at least two of the three types of evidence must be found to confirm the existence of crosslinguistic influence. Firstly, by comparing Greek and Finnish students with each other, I showed evidence of *intergroup heterogeneity*. Secondly, by analyzing and indicating the similarities *within* both groups, I was able to provide evidence of *crosslinguistic performance congruity*. Lastly, by listing the results concerning both groups into separate tables and categories as well as analyzing them separately, I could show evidence of *intergroup homogeneity*. Therefore, my study provides notable evidence of crosslinguistic influence and how it affects the English lexicon even at an advanced level of learning English.

By examining the influence of Greek instead of Latin, I could detect transfer from Greek to English more easily due to the typological difference between English and Greek. Therefore, the results provided strong evidence of concepts and meanings in Greek transferring to English. Also, by studying the awareness of etymology and knowledge on morphological structures, one

of the most important strategies needed when encountering unfamiliar words as stated in chapter 4.3.2, I could provide answers and reasons to demonstrate how the knowledge of such factors beneficiated students who wish to succeed in their academic studies and acquire more thorough knowledge of the vocabulary used in such studies. In fact, one of the most prominent indications of my study is that English students would benefit notably if teaching would include information on word structures and on word formation. Moreover, in countries where Latin or Greek are not included in the curriculum, understanding the frequently used classical elements and their meanings in loanwords would enhance considerably students' vocabulary knowledge and support the learning strategies that are needed to acquire new vocabulary at the academic level of language learning.

Furthermore, by studying awareness of etymology as well as the awareness of crosslinguistic influence, I could show how they were present in various forms among English students and how they altered between the two groups. I was also able to conclude how these instances affect transfer across languages, which previous studies have ignored. By doing so, I could provide evidence for Jarvis and Pavlenko' (2008: 194) hypothesis in chapter 5.2; the attentional factors indeed do interact with transfer. As mentioned earlier in chapter 3.3, Ringbom and Jarvis (2009: 113) argue that, in language learning, SLA research has ignored prior ability to understand a language as it has focused only on the learners' success in target language production. The results of my study provide information to this neglected area of SLA research. Furthermore, my study focused only on comprehension as it has been one of the neglected areas in SLA research. In fact, by studying comprehension and perception, the results of my study provide novel insights for transfer research since previous research has completely neglected these aspects, as explained in chapter 6.4. By examining the connection between the form and meaning of a word, as well as by studying the different frequency levels of academic vocabulary, I could provide information about the development of vocabulary at an advanced level of language learning. As explained in chapter 3.3, previous studies have failed to take these matters into consideration. Moreover, by studying how the knowledge of Greek influences the comprehension of English, I could contribute to the most neglected area of study in CLI, as explained in chapter 6.4. Also, since the results of my study were statistically relevant, they provided empirical evidence for the existence of CLI and how it can aid with unfamiliar words in English. This is something that Jarvis' (2000) study, the most prominent one concerning the topic of this research, failed to do.

However, the results of my study might have been affected by the fact that most of the loanwords used in the questionnaire were Greek of origin. Academic words borrowed from Latin were included to the questionnaire to avoid results that would lead to false interpretations of the magnitude in which the knowledge of Greek is beneficial, and yet, it is still possible that such instances occurred. Moreover, the results of my study might have been affected by the method that was used to gather the data: questionnaire. That is, perhaps more informative or detailed data could have been gathered had it been collected by using interviews. Nonetheless, by using a questionnaire, I could acquire statistically relevant data from two different target groups, and therefore, provide evidence for the existence of CLI. Also, as explained in chapter seven, by including open-ended questions to the questionnaire, I was hopefully able to overcome some of the limitations questionnaires have compared to interviews.

As mentioned earlier, my study focused on comprehension. However, some areas of receptive skills that are needed in comprehension were not present in my study due to the scope of it. That is, context, for example, and how it affects comprehension could not be included. It remains therefore unknown whether context would have affected the results and how it would have affected them. Moreover, it is debatable to what extent English students must acquire knowledge of academic words and whether an approximate understanding of a word's meaning is sufficient. This emphasizes the need to be able to guess the meaning of an unfamiliar word from the context or from the word parts.

Since the results of my study were able to prove that knowledge in Greek aids notably when guessing the meaning of an unfamiliar word from its parts, more research is required to examine how context affects the differences that emerged in my study between Greek and Finnish students. Also, based on my study, no differences emerged between the groups with loanwords that originate from Latin. Further research is therefore required to find out how this affects the overall competence of academic vocabulary. Also, more information is needed on the level of proficiency that is required in Greek for it to aid with the academic lexicon. This can lead to a definition of the language skills and the level of proficiency in Latin or in Greek that are needed to master the academic vocabulary of English.

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APPENDIX: QUESTIONNAIRE

Loanwords in English

Welcome to the survey on loanwords in English.

This survey is aimed at students who are studying English at the academic level. The purpose of this survey is to gather data for my Master's thesis that focuses on loanwords in the English lexicon and on their manifestation in language.

The main purpose is to find out what your thoughts and perceptions are so there are no right or wrong answers.
Some words might be difficult or unfamiliar but please do not use a dictionary or other sources for help as a wild guess is more appreciated.

The survey will take about 15 minutes of your time and all responses to this survey will be kept anonymous.

Thank you!

Background Questions

1. Age *

- ◯ 16-20
- ◯ 21-24
- ◯ 25-28
- ◯ 29-32
- ◯ 32-

2. Mother tongue *

- ◯ Finnish
- ◯ Greek
- ◯ Other, please specify:

_____

3. What is your major subject? *

_____

_____

_____

4. What is your minor subject(s) ?

_____

_____

_____

5. On what level are you currently taking English courses at your university? *

- ◯ Basic studies (1st year of Bachelor's level)
- ◯ Subject / intermediate studies (Bachelor's level)
- ◯ Advanced studies (Master's level)

6. What is your average grade of the English courses? *

- ◯ Excellent (5)
- ◯ Very good (4)
- ◯ Good (3)
- ◯ Satisfactory (2)
- ◯ Sufficient (1)

7. Rate your language abilities in each language you know

	None	Poor	Satisfactory	Good	Excellent	Native
Finnish	◯	◯	◯	◯	◯	◯
Greek	◯	◯	◯	◯	◯	◯
English	◯	◯	◯	◯	◯	◯
Latin	◯	◯	◯	◯	◯	◯
Spanish	◯	◯	◯	◯	◯	◯
German	◯	◯	◯	◯	◯	◯
French	◯	◯	◯	◯	◯	◯
Swedish	◯	◯	◯	◯	◯	◯
Other, please specify: _____	◯	◯	◯	◯	◯	◯

Next, you will be asked to do some word recognition tasks. There are no right or wrong answers so please do NOT use a dictionary or any other sources for help as the aim of the following questions is to measure understanding instead of knowledge.

8. Detecting Words You Know

From the following list of words, tick the words you know.
You should be able to define the meaning of the words you tick, so please do not tick words that you recognize but do not know the meaning of

☐ chronology	☐ indefatigable	☐ syntax	☐ coherent
☐ homophone	☐ pleonasm	☐ pragmagraphy	☐ allegory
☐ annotate	☐ nominerate	☐ dogmagraph	☐ catharsis
☐ anglorate	☐ antithesis	☐ analogy	
☐ methodology	☐ diaphanous	☐ homograph	
☐ misanthrope	☐ chiasmus	☐ adjacent	
☐ semiotic	☐ ubiquity	☐ inchoate	
☐ dogmatic	☐ empirical	☐ ubiphile	
☐ synopsis	☐ mundane	☐ allophone	
☐ protasigraphy	☐ ephemeral	☐ excerpt	

9. Connecting Words to Their Meanings

Write the number of the correct word next to its meaning. Note that there are three extra words.

1. Didactic
2. Polysemy
3. Axiomatic
4. Hyponymy
5. Abysmal
6. Method

An instruction, designed or intended to teach	_____
Bottomless, profound, extremely bad	_____
Having several meanings	_____

10. Connecting Words to Their Meaning

Write the number of the correct word next to its meaning. Note that there are three extra words.

1. Oxymoron
2. Hyperbole
3. Synecdoche
4. Analogy
5. Metonymy
6. Periphrasis

An extreme exaggeration, overstatement	_____
A contradiction in terms that are used together	_____
A roundabout way of speaking, using several words instead of one	_____

Word Parts

Break the following words into smaller parts. Also, define the possible meanings of the parts. You do not have to know the exact meanings.

For example,

Extralinguistic:
extra + linguistic
Extra means 'outside' and linguistic has to do with the study languages. Extralinguistic then means something like "outside the field of linguistics"

12. Synonym:

_____

_____

_____

13. Philology:

14. Diachronic:

15. Allomorph:

16. Hypothesis:

17. Homograph:

18. The Origin of English Words

Write down the language from which English has possibly borrowed the word. Try to guess if you do not know.
Also, explain what made you choose that particular language.

For example,

"**Evaluation**: *French. Because I think that 'evaluer' means 'to evaluate' in French."*

Neophyte:	_____
Abnegation:	_____
Lexicography:	_____
Philology:	_____
Explicandum:	_____
Phenomenon:	_____

19. Unfamiliar Words in English *

How do the languages you know, including your mother tongue, help you in understanding the meaning of new or unfamiliar words in English?

_____

_____

_____

20. Any other comments or thoughts?

_____

_____

_____