FACULTEIT LETTEREN EN WIJSBEGEERTE

INCIDENTAL ENGLISH GRAMMAR ACQUISITION BY BELGIAN PUPILS IN THE FIRST GRADE OF SECONDARY SCHOOL

Quentin Decourcelle
Stamnummer: 01408205

Promotor: Prof. Dr. Mieke Van Herreweghe

Masterproef voorgelegd voor het behalen van de graad master in de richting Taal- en Letterkunde

Academiejaar: 2016 - 2017

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Preface

This study would not have been possible without the collaboration and contributions of many different people whose names cannot all be cited. I am grateful to all these people and their assistance is gratefully acknowledged.

First, I would like to thank my supervisor Professor Mieke Van Herreweghe. We have been working together for a second time with great pleasure. I was aware that these times were hectic times for you because of the elections, but we could still meet on a regular basis. Therefore, I am thankful to you. I am also thankful to Professor Piet Van Avermaet for his useful comments and pieces of advice about methodology. I am looking forward to next year for a further collaboration with both of you. I am further grateful to Doctor Ludovic De Cuypere for his help regarding statistical analyses.

Second, I am thankful to the school headmasters and teachers for allowing me to perform my tests. As a result, I would like to thank the Collège Saint-Henri in Comines, the Collège de la Lys in Comines, the Institut Saint-Charles in Péruwelz, the Institut la Sainte-Union in Dour, the Sint-Jozefscollege in Wervik, the Aloysiuscollege in Diksmuide and the Sint-Janscollege in Poperinge.

Finally, on a more personal note, I gratefully acknowledge the contributions of Christian Seront. I enjoyed the discussions about the English language with a cup of tea. I would like to thank, my friend, Martin Desmet for his explanations about language education in Wallonia. Last, but not least, I am very grateful to my parents for their never-ending support.

Quentin Decourcelle

May 18th, 2017

List of Tables

List of Figures

Table of Contents

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Abstract (in Dutch)

De incidentele Engelse input is niet gelijk tussen Vlaanderen en Wallonië. Verschillende studies tonen dat Vlaamse leerlingen meer Engelse krijgen te horen dan hun Waalse tegenhangers (Ginsburgh & Weber, 2006; Koolstra & Beentjes, 1999; Gilquin and Granger, 2011). Bovendien beweert 53% van de Vlaamse bevolking de Engelse taal te kennen; terwijl slechts 17% van de Waalse bevolking dit beweert (Van Parijs, 2007). In de afgelopen jaren was er een groeiende interesse voor "media-induced SLA" in Vlaanderen (Van Herreweghe, 2015), maar de nadruk was tot nu toe vooral op incidentele lexicale en fonologische acquisitie gebaseerd. Daarom analyseert deze proefschrift de receptieve kennis van Engelse grammatica door twaalf jarige Waalse en Vlaamse leerlingen. In totaal namen 108 Vlaamse leerlingen en 124 Waalse informanten deel aan deze studie. Op basis van een corpus van vragenlijsten, dagboeken en Engelse grammatica-tests wordt eerst beweert dat de belangrijkste bronnen van Engels contact muziek en televisie waren. Aangezien dat de Vlaamse leerlingen meer in contact waren met die Engelse bronnen, scoorden ze gemiddelde hoger dan de Waalse leerlingen op de receptieve Engelse grammatica-test. Met andere woorden, de Vlaamse informanten namen voordeel van een regelmatig Engelse input, die hun receptieve taalvaardigheden verbeterden. Daarom wordt ten tweede beweert dat er een positieve correlatie bestaat tussen een regelmatige Engelse input en incidentele L2 grammatica verwerving.

Abstract (in English)

The incidental English input is not equally well balanced between Flanders and Wallonia. Several studies show that Flemish pupils get to hear more English than their Walloon counterparts Furthermore, 53% of the Flemish people claim to know English; whereas only 17% of the Walloon people claim to do so (Van Parijs, 2007). In the last couple of years, there has been a growing interest for media-induced SLA in Flanders (Van Herreweghe, 2015), but the main focus was on incidental lexical and phonological acquisition. Therefore, this dissertation analyses the receptive knowledge of English grammar by Flemish and Walloon pupils, aged 12. In total, 108 Flemish pupils and 124 Walloon informants took part in this study. Drawing on a corpus of questionnaires, diaries and English grammar tests, it is first argued that the main sources of English contact were music and television. As the Flemish pupils were more in contact with these English sources, they scored higher than the Walloon pupils on the receptive English grammar test. In other words, Flemish pupils benefited from a regular English input, which enhanced their receptive skills. Therefore, it is secondly argued that there was a positive correlation between a regular English input and incidental L2 grammar acquisition.

Key words: acquisition, receptive, media, pupils and grammar

1. Introduction

English gained a lot of importance in the last decades and became a world language. As a result, the importance of English has repercussions on the language preferences in Belgium as well. For instance, Belgian children get to hear more English than their grandparents. This English contact already starts at a very young age as English is present everywhere in Belgium. There is English on TV, on the radio or in video games. Consequently, some researchers focused on the incidental acquisition of English vocabulary by Belgian children, aged 12 (Houthuys, 2011; Duyck, 2013). Those studies found that Belgian children, either Flemish or Walloon, could acquire some English vocabulary through popular culture. However, there are few studies (Decourcelle, 2016) that focused on the incidental acquisition of English grammar. The aim of this study is to find whether the daily contacts with English popular culture can also enhance the receptive English grammar acquisition of the Belgian children. The study focuses on both Belgian regions, that is, Wallonia and Flanders.

The study involves three Walloon cities (i.e. Comines, Péruwelz and Dour) and three Flemish cities (i.e. Wervik, Poperinge and Diksmuide). There is a total of 232 pupils who all study general education. The pupils were provided with a questionnaire, a diary and an English grammar test. The questionnaire covers the sociolinguistic backgrounds of the pupils and their contacts with English through popular culture. The diary includes the contacts with English through popular culture on one specific week. Finally, the English grammar test covers the sentence structures (simple, dative, passive and relative clauses), the morphosyntactic features (third person marker *-s* and regular plural) and morphosemantic features (negation and pronoun object).

The first part of this study comprises a literature survey of second language acquisition (SLA). It first includes an overview of the worldwide importance of English, as well as its dominant place in Belgian culture. I shall also explore the teaching of English in Belgium. Second, the concept of SLA will be defined. It comprises a brief historical overview of the field starting with Krashen in the late seventies. Special attention is also paid to universal grammar (UG), which implies a discussion of the language acquisition device and L1 transfer. Finally, the last part of the theoretical survey is devoted to the individual differences in SLA, including age, language aptitude, intelligence, motivation, language anxiety and language identity.

The second part of this study deals with the methodology and the results. This part is subdivided into three main sections. The first and second section are highly complementary, as they deal with the results of the questionnaires and the diaries. The main aim of this two sections is to unravel the English contacts of the Belgian children. This involves their contacts with English through popular culture and their attitude towards the English language. The third part is devoted to the English grammar test, with special attention to sentence structures, morphosemantic features and morphosyntactic features.

Eventually, I shall discuss the main differences between Flanders and Wallonia regarding English contacts and how these contacts influence the receptive incidental grammar acquisition of the Belgian children.

2. English: a world language

It is generally accepted among scholars that multilingualism has become the norm in most countries. In fact, most people are able to speak several languages, or at least, several language varieties. Nowadays, many people learn English either as a second language or as a foreign language. As many people speak English around the world, many different English varieties came to existence. In this chapter, I shall focus on the different English varieties: I shall examine the differences between English as a mother tongue, English as a Second Language (ESL) and English as a Foreign Language (EFL).

2.1. World Englishes

Around the world, people get to hear different English varieties while watching television, surfing on the internet or listening to music. McArthur (1987) shed light on the unity and diversity of the English language.

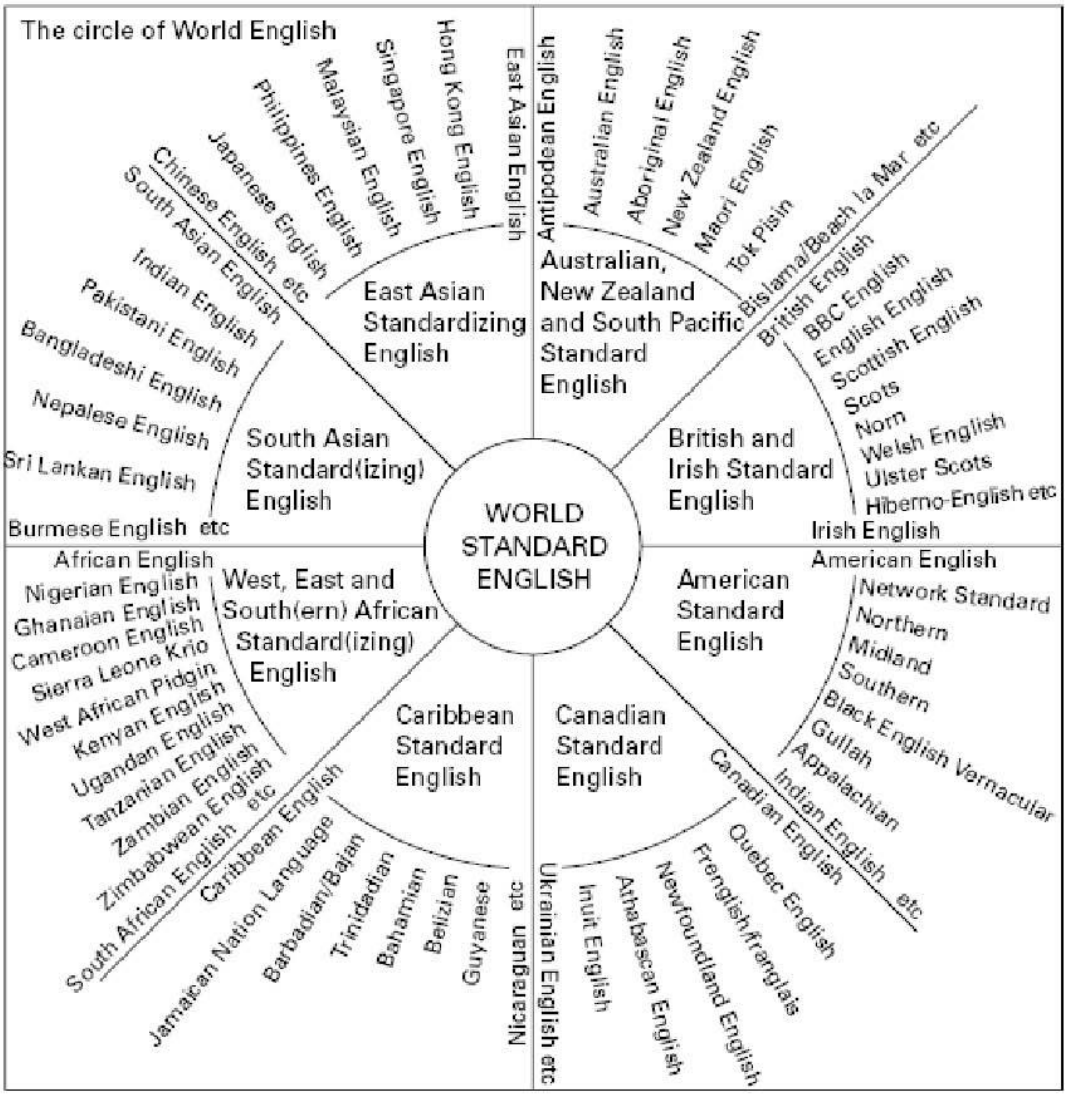


Figure 1 World Standard English according to T. McArthur (1987)

Figure 1 suggests that there is one common core of World Standard English (WSE). Standardised English varieties are placed around the WSE. These varieties are further subdivided into regional varieties, for instance, BBC English, Appalachian or Tanzanian English. However, arguing that there is one common core language, i.e. WSE, is to some extent misleading. Crystal (2003: 111) argues that "a totally uniform, regionally neutral, and unarguably prestigious variety does not yet exist worldwide". On the one hand, countries in which English is the mother tongue are aware of their linguistic identity and want to protect it. For example, Britons do not want to be confused with Americans and New Zealanders do not want to be confused with Australians. On the other hand, countries in which English is spoken as a second language or as a foreign language consciously choose to follow a specific variety, usually British English or General American (GA). These varieties vary in lexicon and pronunciation, which further means that people from different countries get to hear different English varieties.

At the same time, B.B. Kachru (1992) suggested a model to categorise the World Englishes. His three circles model emphasises the differences between English as a mother tongue, ESL and EFL.

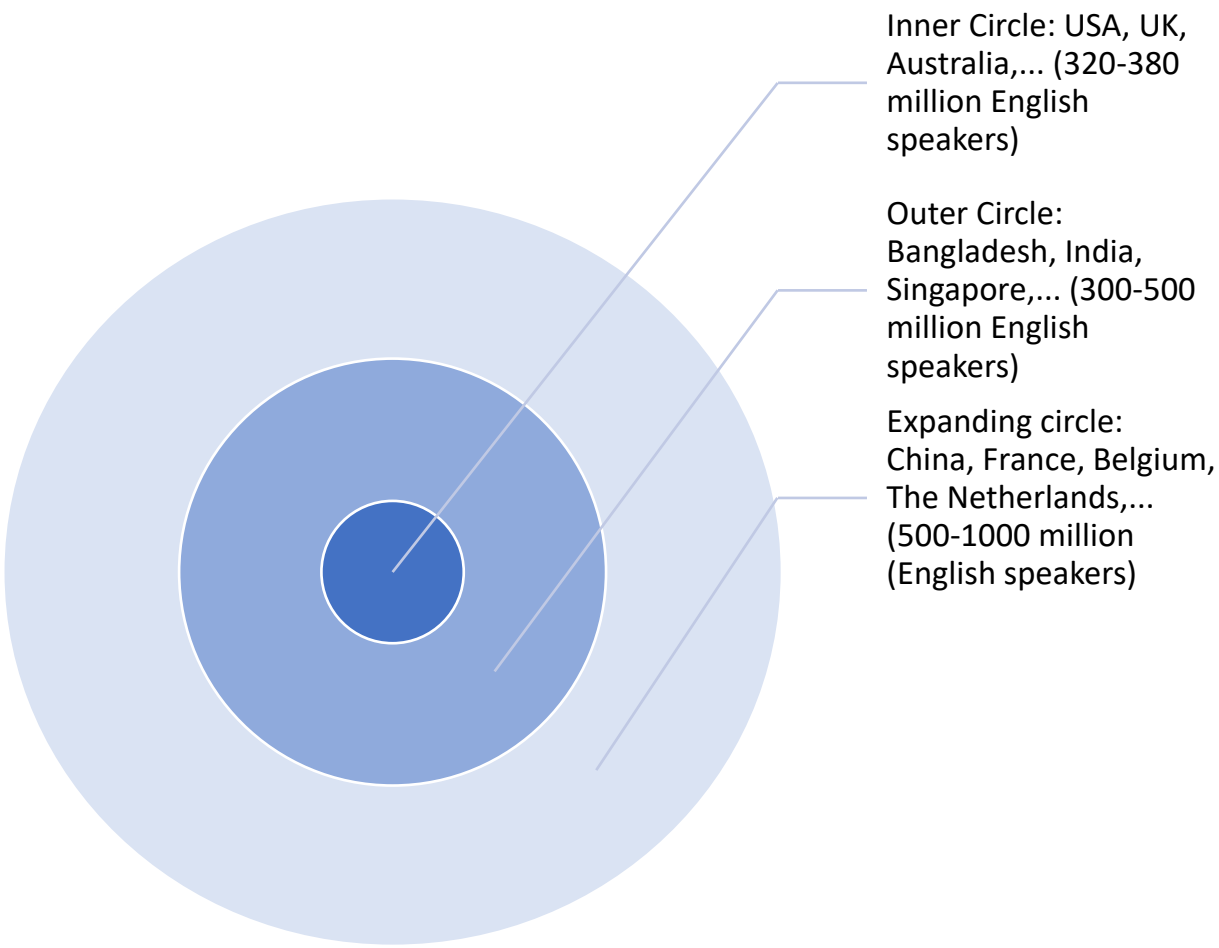


Figure 2 Kachru's concentric circles (1992)

Kachru's model is divided into three circles, i.e. *Inner Circle*, O*uter Circle* and *Expanding Circle*. The *inner circle* refers to countries where English is spoken as a native language. Those countries include the United Kingdom, the United States of America, Canada, Australia, Ireland and New Zealand. Those are "norm providing" (White, 1997) for foreign English speakers. This circle includes 320 to 380 million native English speakers (Crystal, 2003). The *Outer Circle*, or the *Extended circle*, refers to the early spread of English, where English became the official language in institutions, and came to be used as a second language. This circle is mainly based on former British colonies. In the sixteenth century, Britain had colonies in West Africa, including Nigeria, Cameroon or Gambia. Britain further colonised East Africa (e.g. Kenya, Uganda or Zambia) and South East Asia (e.g. India, Bangladesh and Pakistan) in the nineteenth century. In these countries, English still plays an important role in administration, law and education (Crystal, 2003). In other words, these countries are "norm developing" (White, 1997), which corresponds to the standardising varieties mentioned by McArthur (1987). This circle includes 300 to 500 million English speakers (Crystal, 2003). The last circle, the so-called *Expanded Circle*, involves countries where English is recognised as internationally important. However, these countries are not tied historically to the inner circle, neither have they been colonised, which means that English does not have an official status in the *Expanded Circle*. In these countries, English is taught as a foreign language as English is the main means of communication in international contexts. Examples include France, Belgium, Japan or Brazil (Crystal, 2003). Those English varieties are "norm dependent" (White, 1997). This circle involves between 500 to 1000 million non-native English speakers (Crystal, 2003).

To distinguish between the *outer* and *expanded* circles, Jenkins (2003) further argues that speakers of English as a Foreign Language (EFL) have been recently referred to as speakers of English as an International Language (EIL) or speakers of English as a Lingua Franca (ELF). Contrary to the outer circle countries, where speakers of English as a Second Language (ESL) are found, the expanded circle countries do not use English as an official language. In fact, they use English "as a contact language among themselves [rather] than with native speakers of English." (Jenkins, 2003: 4).

2.2. Why is English a dominant language?

Non-Native Speakers (NNS) of English are influenced by the English language and the English world for historical, economic and political reasons. First, British or American imperialism impacted on legal procedures, which means that some proceedings may be carried out in English (Crystal, 2003). These, for instance, involve asylum procedures that might be performed in English in Belgium (Maryns, 2015). Secondly, ensuing from historical developments, people might want to learn English for political reasons. In fact, English provides a "neutral means of communication between […] different ethnic groups" living in the same country (Crystal, 2003: 106). English is further used on the radio, on television and in newspapers. Thirdly, the USA is the most powerful country economically speaking. Therefore, English is essential when it comes to trading and business. Using English as a means of communication is the key to success if a company wants to develop worldwide. The same holds true for the advertising industries that are English dependent (Crystal, 2003). English is, fourthly, "the language of air traffic control […] in international maritime, policing, and emergency services" (Crystal, 2003: 106). Fifthly, English is the main means of communication in the intellectual world. Most scientific discoveries or academic information are translated into

English. As far as linguistics and literature are concerned, most great authors, as Dante or Goethe, are translated into English. In other words, English is fulfilling the role Latin performed for centuries (Crystal, 2003: 106). In the entertainment world, English also occupies a preponderant place. For instance, English appears to be the main language in video games, in music, and on television.

Next, English acts steadily more as a *lingua franca* as pointed out by Crystal (2003: 12):

> The more a community is linguistically mixed, the less it can rely on individuals to ensure communication between different groups. In communities where only two or three languages are in contact, bilingualism (or trilingualism) is a possible solution, for most young children can acquire more than one language with unselfconscious ease. But in communities where there are many languages in contact, as in much of Africa and South-east Asia, such a natural solution does not readily apply. The problem has traditionally been solved by finding a language to act as a *lingua franca*, or 'common language'.

So, the need for a lingua franca rose after the Second World War when the United Nations (UN) was created in order to prevent such conflicts to happen again in the future. Other international bodies have been created since then, including for instance, the World Bank (1945), UNESCO (1946), UNICEF (1946), the World Health Organization (1948), and so on. These organisations had the need for a single lingua franca, or at least a restricted number of languages to reduce translation and interpretation costs (Crystal, 2003). For instance, the European parliament has twenty-four official languages (i.e. official EU languages), but in practice, English is preferred as a lingua franca. In other words, MEPs prefer to share one common language, that is to say, English.

However, some people sometimes argue that English has raised to its dominant status because of its easy language features, including grammar, pronunciation and vocabulary. Arguing that one language is easier than another is the consequence of "chauvinism or naïve linguistic thinking" according to Crystal (2003: 106). For instance, Crystal (2003) argues that English does not have complex inflectional endings, but it has a complex syntax. In other words, different languages show different features, but one language is by no means easier than another, as there are no objective standards of language comparison (op. cit.). In short, English has raised to a world language because of its political, economic and intellectual importance, rather than for its assumed beauty or easiness.

2.3. English in Belgium

Belgium has four linguistic regions, that is, the French-speaking region in the south, the Dutch-speaking region in the north, the bilingual region of Brussels-Capital and the German-speaking region in the east (Belgian Constitution, 1994: article 2). However, English does not have any official status in Belgium as English is a foreign language. In most schools, English is taught from secondary school onwards. In fact, Belgian children have to learn French and Dutch, which are official languages in Belgium, before being taught English. However, there are some exceptions in Wallonia. For example, if a Walloon child chooses English as first foreign language in primary school he/she cannot change his/her language choices before he/she gets to high school, i.e. first year of secondary school (cf. section 2.4.).

Yet, Belgian children get to hear English through the media. Several studies (Koolstra & Beentjes, 1999; Gilquin and Granger, 2011) point out that Flemish learners get to hear more English than their Walloon counterparts. Koolstra and Beentjes (1999) even argue that Flemish children spend half of their TV time watching English broadcasts, including films, soaps or TV shows. Consequently, Flemish children, by hearing English sounds all day long, have a higher English proficiency than their Walloon counterparts (Ginsburgh & Weber, 2006; Decourcelle, 2016). Van Parijs (2007) further argues that the English proficiency of Belgians is evolving as shown in figure 3. It seems that the younger generation, aged 15 to 24, thinks that they master the English language better than their older counterparts. Van Parijs (2007) also claims that the percentage of people who think that they speak English well reaches 50% in Flanders, and only 20% in Wallonia. These figures suggest that Flemish people are aware of their better English proficiency. Van Parijs supported the 'ban dubbing' campaign in the early 2000's, but with limited success in Wallonia and France, as most films are still dubbed in Wallonia (Gilquin and Granger, 2011).

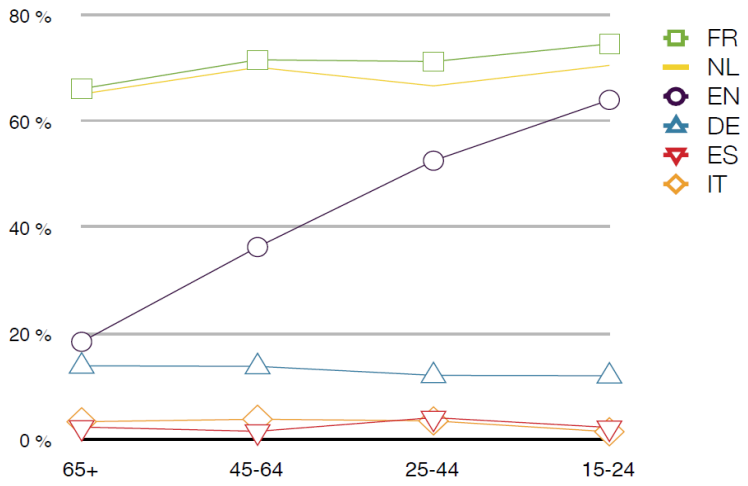


Figure 3 Belgium linguistic competence per age group 2005 according to Van Parijs, 2006

2.4. Learning English in Belgium

Wallonia and Flanders have two separate departments of language education. In fact, Belgium is made up of four linguistic regions, that is, the French-speaking region in the south, the Dutch-speaking region in the north, the bilingual region of Brussels Capital and the German-speaking region in the east (Belgian Constitution, 1994: article 2). Officially, Brussels is the only bilingual region, but some Belgian communities, the so-called communities with facilities, are allowed to depart from the monolingual policy (Decourcelle, 2017). These are subdivided into five categories which are depicted in figure 4 (Linguistic Laws, July 30, 1963):

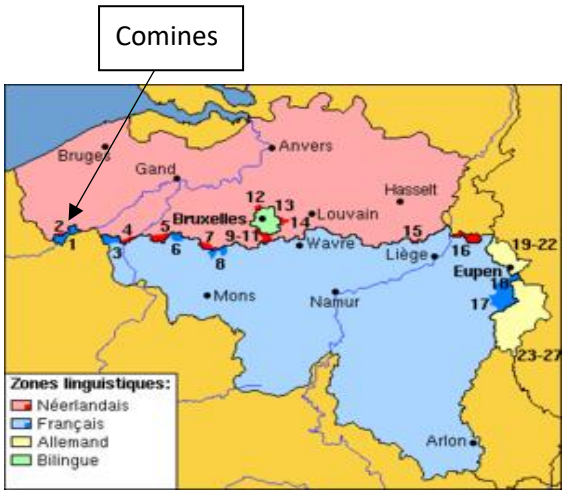


Figure 4 Communities with facilities in Belgium retrieved from http://redac.cuk.ch/archives_v3/4561/facilites.jpg

- Brussels outlying districts, that is, Kraainem, Drogenbos, Linkebeek, Sint-Genesius-Rode, Wemmel and Wezembeek-Oppem.
- Walloon communities with facilities for the Dutch-speaking population, such as Comines-Warneton, Enghien, Flobecq and Mouscron.
- Walloon communities with facilities for the German-speaking population, such as Malmedy and Waimes.

- German communities with facilities for the French-speaking population, such as Amel, Büllingen, Burg-Reuland, Bütgenbach, Eupen, Kelmis, Lontzen, Raeren and Sankt Vith.
- Flemish communities with facilities for the French-speaking population, such as Bever, Herstappe, Mesen, Ronse, Spiere-Helkijn and Voeren.

The facilities, for instance, include road signs and official documents in the two main community languages. The used languages depend on the location of the community. For instance, Comines is surrounded by Flanders, but mainly French-speaking, which means that the Flemish population in Comines can ask for official documents in Dutch.

In Flanders, the first foreign language that children will learn is French. They start learning French in the fifth year of primary school (Goethals, 1997). The second foreign language is English. According to Goethals (1997), there is one minor difference between Catholic schools and community schools. In fact, pupils in Catholic schools start learning English in the second year of secondary school, whereas pupils in community schools start learning English in the first year of secondary school. The third foreign language is German or Spanish and is learned from the fifth year of secondary school onwards. However, Goethals (1997) points out that the third foreign language is not compulsory and depends on the students' option choices (e.g. Latin-languages, math-languages, etc.)

In Wallonia, a pupil might choose between Dutch, English and German as first foreign language, as stated in "Le Moniteur Belge" (i.e. the official government bulletin).

> Dans la Région wallonne, à l'exception des communes visées à l'article 3 de la Loi du 30 juillet 1963, la langue moderne peut être le néerlandais, l'anglais ou l'allemand. Le directeur, dans l'enseignement de la communauté française, le pouvoir organisateur dans l'enseignement subventionné, peut, par école, après avoir pris l'avis du conseil de participation, proposer l'apprentissage d'une seule langue ou le choix entre deux langues. (Décret sur l'enseignement fondamental, July 13, 1998: art. 7)

In other words, most Walloon children learn a first foreign language (usually English or Dutch) from the fifth year of primary school onwards (Blondin & Straeten, 2002). In primary schools, German is usually taught in the east of Belgium (i.e. at the German border). In other regions, German is generally a third foreign language and is taught from the fifth year of secondary school onwards (op. cit.). Principals and headmasters are free to propose one or two foreign languages to their pupils. However, the pupils have to choose one foreign language, which they will keep until the first year of secondary school. When they enter secondary school, the pupils are free to change their foreign languages choices (op. cit.). According to Blondin et *al.* (2008), Walloon pupils can choose a second foreign language in the third year of secondary school. They can then choose one of the languages they did not choose as first foreign language (i.e. English, Dutch or German). However, it is not compulsory for a Walloon pupil to choose a second foreign language. In short, Walloon pupils can start English in the fifth year of primary school, the first year of secondary school or the third year of secondary school depending on the school they go to.

In Walloon communities with facilities for the Dutch-speaking population, the first foreign language (Dutch) is compulsory and is taught from grade three onwards (Blondin & Straeten,

2002). In those regions, English classes start in the first year of secondary school or in the third year of secondary school.

A last possibility concerns immersion programmes (such as CLIL), which are predominant in Wallonia. Again, there is a high variability in Wallonia. However, the language choices generally remain the same, that is, English, Dutch or German. In Wallonia, such programmes can start from nursery school onwards. In contrast, immersion programmes have a limited reach in Flanders (De Standaard, August 27, 2014). Basically, immersion programmes consist of half of the curriculum in French or Dutch (i.e. the L1 depending on the region) and the other half in the L2. Siegel (2006, 195) argues that "immersion programs are found in coexisting L2 or external L2 situations. The L2 is used as the medium of instruction for all or most content areas, usually beginning early in primary school".

3. Second Language Acquisition (SLA)

SLA is a complex phenomenon involving several factors, as motivation, age or language aptitude. The aim of this chapter is to define the concept of SLA as well as to examine some key issues in the field, including the language acquisition device, the L1 transfer and the universal grammar.

3.1. Some definitions

First of all, second language acquisition contrasts with first language acquisition, even if they are tied historically. In fact, SLA research originates from research on first language acquisition, which is generally defined as follows:

> Fist language acquisition occurs when the learner – usually a child – has been without a language so far and now acquires one. (Klein, 1986: 4)

In other words, first language acquisition is usually connected to native language or mother tongue. In fact, language is a social construct, which means that children are regulated by language. According to Clark (2009: 21), language "tells them about the world, events, actions, objects and relations […], and presents them with affective attitudes to people and events." However, a child might sometimes be exposed to several languages. In this case, Crystal (2003: 108) states that a child will select one language to be its mother tongue. This statement, yet, excludes the instances of simultaneous bilingualism, that is a child who learns two languages at the same time, for instance, because it grew up in a bilingual family (Werker and Byers-Heinlein, 2008).

Ellis (1994: 11) argues that "the term 'second' language is generally used to refer to any language other than the first language". Consequently, SLA occurs when someone acquires a language which is not its mother tongue. Some scholars (Klein, 1986: Ellis, 1994; Crystal; 2003) further distinguish between SLA and Foreign Language Acquisition (FLA), but I shall use these terms interchangeably in this master's dissertation. I argue that SLA and FLA are closely-knit. However, if one of those terms is used in a specific context, I shall then make the distinction explicit and clarify the differences between both concepts. Basically, SLA occurs when "a language plays an institutional and social role in the community" (Ellis, 1994: 11-12),

and FLA "denotes a language acquired in a milieu where it is normally not in use […] and which, when acquired, is not used by the learner in routine situations" (Klein, 1986: 19). In other words, when SLA and FLA are being distinguished, SLA refers to the L2; whereas FLA refers to the L3. However, it should be noted that L2 learning is much more common than L3 learning according to Crystal (2003).

3.2. Is acquisition different from learning?

Dąbrowska (2012) argues that a second language is learnt explicitly whereas a mother tongue is acquired implicitly. In other words, she emphasises the difference between learning a second language and acquiring a first language.

In the early eighties, Krashen (1982) already mentioned the differences between *learning* and *acquisition*. Krashen (1982:13) argues that language *acquisition* is "a process similar to the way children develop ability in their first language". In other words, *acquisition* is "a spontaneous process of rule internalization that results from natural language use" (Ellis, 1985), hence the link with the L1 implicit acquisition for Dąbrowska. In fact, *acquisition* is a subconscious process, whereas *learning* is a conscious process. When *acquisition* and *learning* are distinguished, *learning* denotes "the development of conscious L2 knowledge through formal study" (Ellis, 1985). However, some scholars use both terms, that is, *acquisition* and *learning*, interchangeably. In this sense, *acquisition* is defined "as the internalization of rules and formulas which are then used to communicate in the L2" (Ellis, 1985).

In this master's dissertation, I shall use the term *acquisition* as defined by Krashen (1982). I shall, thus, not equate *acquisition* to *learning*, as the aim of this study is to investigate the incidental and receptive L2 grammar acquisition.

Cognitively, the distinction between *acquisition* and *learning* makes sense. On the one hand, for most speakers, the acquired language is located in the language areas, that is the left hemisphere of the brain; On the other hand, the learnt knowledge is also stored in the left hemisphere, but not necessarily in the language areas (Ellis, 1985). Moreover, learnt knowledge is limited to "controlled processing" (Ellis, 1985), or in other words, the conscious learning of a second language via formal study.

Finally, it is important to distinguish between implicit learning and explicit learning. The former refers to "the process whereby knowledge is acquired largely independently of awareness of both the process and the products of acquisition"; whereas the latter includes the awareness of the process and the products of acquisition (Reber, Allen & Reber, 1999: 475). In other words, implicit learning occurs while watching television or listening to the radio; whereas explicit learning generally takes place in a classroom setting.

3.3. Krashen as a starting point

Krashen was a leading figure in SLA in the 1980's. Basically, he states that a language is acquired through interaction with the language and through the comprehension of the language input by the learner. Despite the fact that Krashen's theories have been heavily criticised (cf. Zafar, 2011 for a review of some critiques), some hypotheses, including the natural order

hypothesis and the affective filter hypothesis, still deserve attention for the purpose of this master's dissertation.

Krashen's natural order hypothesis (1982) states that grammatical structures are acquired in a more or less invariant and predictable order. Some L1 grammatical structures tend to be acquired rather early, and others much later. He further suggested that in a natural communication task, a learner will use the standard order. Krashen based his research on Brown's (1973) and De Villiers and De Villiers's findings (1973). In other words, he reviewed the literature of the seventies on morpheme acquisition and stated some guidelines. Early acquired morphemes include the progressive marker *-ing* (for instance, she is sing*ing*) and the plural marker /s/ (as in bears); whereas late acquired morphemes include the third person singular marker /s/ (for example, he play*s* football) and the genitive marker /s/ (as in John'*s* hat).

However, if the task requires metalinguistic use, i.e. reflecting on rules and using rules as taught at school, a new order might develop. Dulay and Burt (1973, 1974) argue that the natural order for grammatical morphemes changed for children acquiring ESL. They proposed an acquisition hierarchy, in which they grouped some grammatical features in order to show the different developmental stages for L2 learners (figure 5).

Stage	**Grammatical features acquired**	
I	CASE Nominative/Accusative	WORD ORDER
II	SINGULAR COPULA ('s/is) PLURAL AUXILIARY (are)	SINGULAR AUXILIARY PROGESSIVE (-ing)
III	PAST IRREGULAR POSSESSIVE ('s) 3rd PERSON SINGULAR (-s)	would LONG PLURAL (-es)
IV	Have	-en

Figure 5 The acquisition hierarchy (according to Dulay and Burt, 1974)

Noteworthy, the acquisition hierarchy is not impacted by the speakers' mother tongue. Krashen (1982), then, condensed the findings on L1 and L2 acquisition, and consequently, developed an average order as shown in figure 6.

It seems that there are some similarities between both models. For instance, word order and progressive marker *-ing* tend to be acquired early by first and second language speakers of English. The third person singular marker *-s* and the genitive *-s* seem to be much more difficult to acquire and are consequently acquired at a later stage in both models. Noteworthy, all the models show strong similarities, hence the average order by Krashen (1982).

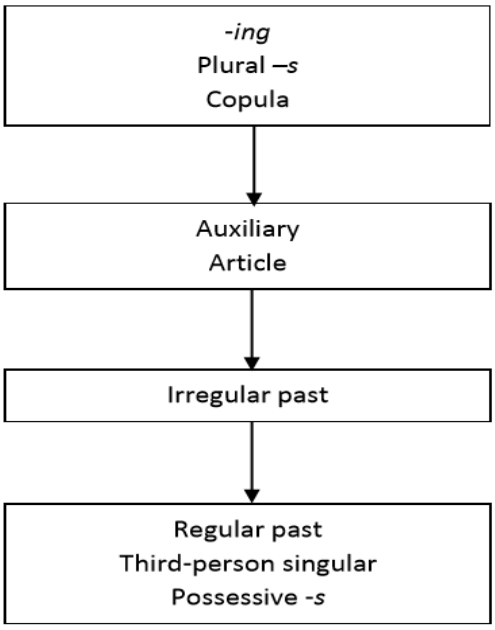


Figure 6 "Average order of acquisition of grammatical morphemes for English as a second language" (Krashen, 1982: 16)

The affective filter hypothesis (Krashen, 1982) also originates from Dulay and Burt's research (1973). This hypothesis, basically, connects SLA to affective factors and how these impact on SLA. The affective filter hypothesis can be subdivided into three main categories, that is to say, motivation, self-confidence and anxiety. I shall now focus on the affective filter hypothesis itself and I shall devote section 4 to the individual differences.

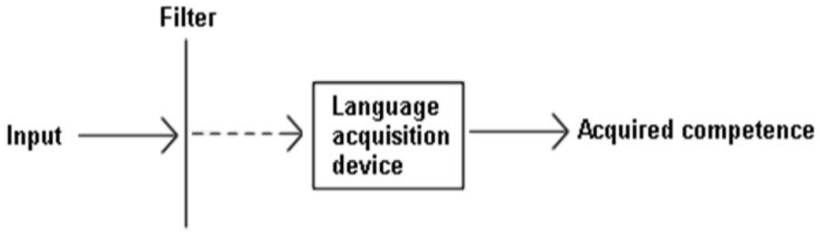


Figure 7 The Affective Filter Hypothesis (Krashen, 1982)

The affective filter hypothesis (figure 7) posits that "acquirers vary with respect to the strength or level of their Affective Filters" (Krashen, 1982). In other words, low anxiety, high motivation and high self-confidence reduce the impact of the filter and guarantee acquisition; whereas high anxiety, low motivation and low self-confidence rise the impact of the filter and alter acquisition. In fact, learners who have a positive attitude towards language acquisition will seek more L2 input than learners who have a negative attitude towards language acquisition. The pupils who have a positive attitude will also have a weaker filter, which means that the L2 input can strike deeper (op. cit.), hence the L2 acquisition. In short, the affective filter does not influence the route of development but it rather affects the rate of development.

3.4. Universal Grammar (UG) and Language Acquisition Device (LAD)

UG, which was developed by Chomsky in the sixties, had a huge impact on language acquisition. In this section, I aim to answer three main questions:

1. What constitutes knowledge of language?
2. How is knowledge of language acquired?
3. What does UG consist of?

I shall briefly explain how these questions are relevant for SLA research. Noteworthy, the answers to these questions are mainly based on Mitchell et *al.,* 2013.

3.4.1. What constitutes knowledge of language?

According to Chomsky (1986), all human languages are constrained by *principles* and *parameters*. In fact, generativists aim to explain the similarities and differences between human languages. Chomsky (1986) further argues that there is one core language that includes both components (i.e. *principles* and *parameters*). Basically, the former "are unvarying and apply to all natural languages" (Mitchell et *al.,* 2013: 62); whereas, the latter "possess a limited number of open values which characterize differences between languages" (op. cit.). However, in the Minimalist Program, the core language has been reduced to lexicon which is subdivided into *lexical categories* and *functional categories*. Lexical categories refer to the content words (for instance, verbs and nouns); while functional categories involve grammatical words (e.g. auxiliaries and determiners) and abstract grammatical features (e.g. tense).

3.4.2. How is knowledge of language acquired?

It is usually accepted among scholars that children successfully acquire their mother tongue. The children also acquire a rich and abstract language knowledge despite the lack of linguistic evidence in their observable environment (Lardiere, 2012). This learnability problem is referred to as the *poverty of stimulus*. According to Chomsky, children cannot acquire a language in such a short time span without "the help of an innate language faculty to guide [them]" (Mitchell et *al.,* 2013). In fact, children often get to hear a messy input and are still able to master their native language properly. Language is further one of the most abstract concepts that exists and young children are still capable of acquiring it rapidly (cf. critical period in section 4.1).

Children acquiring ESL encounter the same logical problems as L1 acquirers. In fact, L2 acquirers have to get to grasp a language that they do not often hear or that they are less exposed to in their daily lives. However, they already master one language (i.e. their mother tongue) and are already accomplished communicators in this language. This means that "they already have a mental representation of language, with the parameters set to the values of their native language" (Mitchel et *al.,* 2013). This further means that L2 acquirers are better "equipped" to acquire other languages (op. cit.)

3.4.3. What does UG consist of?[1]

3.4.3.1. Principles

UG consists of a set of principles and parameters. The principles are unvarying from one language to another, which supports the idea that language acquisition is highly constrained. According to the generativist view, the constraints, which limit the language variability, make it easier for children to acquire a language. For instance, the principle of structure-dependency states that languages are made up of small units (i.e. words and morphemes), which are reorganised into bigger units, i.e. sentence structures, the so-called "building blocks of language" (Mitchell et *al.*, 2013: 70). I shall consider the following examples in order to illustrate the structure-dependency theory:

(1) [$_{NP}$My friend] goes to Spain in March.
(2) [$_{NP}$My best friend] goes to Spain in March.
(3) [$_{NP}$The friend who I met in London and who plays tennis] goes to Spain in March.

My friend, my best friend and *the friend who I met in London and who plays tennis* are groupings that play the same role in the sentence (i.e. subject). Noteworthy, it is perfectly possible to add many more details about that friend, but the sentence might become difficult to understand because of the overflow of details. However, the most important word in all these groupings remains the word *friend*. Such a grouping is called a phrase. Moreover, the word *friend,* which is the head of the phrase, is a noun. This further means that in these examples, the phrase is a Noun-Phrase (NP). From a generativist point of view, all the languages work in the same way (Mitchell et *al.* 2013). In fact, a sentence is generally made up of a NP and a Verb-Phrase (VP), as in [$_{NP}$John][$_{VP}$plays].

Next, structure-dependency is important for language acquisition because it is a universal principle. I shall use two examples, one from English and one from French, to illustrate the principle of structure-dependency.

(4) [$_{NP}$The boy] [$_{VP}$chases [$_{NP}$the girl]].
(5) [$_{NP}$The girl] [$_{VP}$is chased [$_{PP}$by the boy]].
(6) [$_{NP}$Le garçon] [$_{VP}$poursuit [$_{NP}$la fille]].
(7) [$_{NP}$La fille] [$_{VP}$est poursuivie [$_{PP}$par le garçon]].

In both languages, the active sentences (4) and (6) can become the passive sentences (5) and (7) by raising the object Noun-Phrase (NP) to the subject position (op. cit.). Noteworthy, if the NP is made longer, for instance, by adding the adjective 'young' (or 'jeune' in French), it does not affect the passive construction, as the whole NP block 'the young girl' or 'la jeune fille' raises to subject position. When it comes to active/passive structures French and English work in the same way. In other words, the structure-dependency is perceived as a universal principle of language because it "is common to all languages, as they are all organized hierarchically in terms of phrases (Noun-Phrases, Verb-Phrases, Prepositional-Phrases etc.)" (Mitchell et *al.* 2013: 73).

[1] This section is based on Mitchell et *al.*, 2013 (cf. reference list).

3.4.3.2. Parameters

In the previous section, it has been argued that the principle of structure-dependency makes part of the innate language faculty, but the structural properties might also vary from one language to another. In other words, parameters involve the structural properties that vary from one language to another (Mitchell et *al.*, 2013). For instance, the head parameter is highly variable, as it concerns the structure of phrases (e.g. place of adverbs, negation, etc.). The head is the central element of a phrase. For example, a NP has a noun for head, a VP has a verb for head, etc. The head-position might vary across languages. English, Dutch and French are usually head first languages as illustrated in the following examples.

(8) [NPPaul qui est malade] [VPa [NPun grand chien [PPavec des oreilles brunes]]].
(9) [NPPaul die ziek is] [VPheeft [NPeen grote hond [PPmet bruine horen]]].
(10) [NPPaul who is ill] [VPhas [NPa big dog [PPwith brown ears]]].

In the subject, the head is a noun (i.e. *Paul*). The head appears to the left of the complements (i.e. *qui est malade*/ *die ziek is*/ *who is ill*). Interestingly, the same order holds true in Verb-Phrases (e.g. *a un grand chien/ heeft een grote hond/ has a big dog*) or in Complementizer-Phrases (e.g. *met bruine horen/ with brown ears/ avec des oreilles brunes)*. However, complements should not be confused with modifiers. Typical modifiers are adjectives (e.g. *brunes/bruine/brown*). which tend to appear to the left of the noun in English and Dutch (e.g. *brown ears/bruine horen*) and to the right of the noun in French (e.g. *des oreilles brunes*). However, French also accepts the adjective-noun order, as in *un grand chien*. In other words, these languages show low variability in the head position. In contrast, Japanese is a head-last language.[2]

(11) [NPE wa] [VP[PPkabe ni] kakatte imasu]].
Picture wall on is hanging.
"The picture is hanging on the wall."

This example shows that the preposition *ni* appears to the right of the PP complement *kabe* and the head verb *kakatte imasu* appears to the right of the verb complement *kabe ni*. In both cases, the head comes after the complement, i.e. head-last.

3.4.4. LAD

Chomsky (1965) states that an innate language faculty guides children in their language acquisition. As a result, Mitchell et *al.* (2013, 65) propose six main arguments in favour of the innate language faculty:

1. Children go through developmental stages.
2. These stages are very similar among children learning the same language, although individual children's rate of progress is variable.
3. These stages are similar across languages.
4. Child language is rule-governed and systematic, though the rules created by the children do not necessarily correspond to adult ones.
5. Children are resistant to correction.

[2] For clarity's sake, the example about Japanese is slightly adapted from Mitchell et *al.* 2013.

6. Children's processing capacity limits the number of rules they can apply at any one time, and they will revert to earlier hypotheses when two or more rules compete.

These six arguments are generally used by generativists to support the existence of an innate language faculty. In fact, Chomsky (1965) argues that a child possesses a biological organ, or an independent mental organ that would facilitate the language acquisition. This mental organ is referred to as Language Acquisition Device (LAD).

Next to that, language acquisition is closely connected to the theory of markedness.

> The child prefers to learn unmarked rules that conform to Universal Grammar rather than marker rules that do not square with it. […] Core grammar and peripheral grammar are weighted differently in the child's mind. (Cook, cited in Ellis, 1985: 199)

To understand the theory of markedness, I shall first explain the notions of *core* and *periphery*. The former refers to the rules that "the child discovers with the aid of UG" and those are generally unmarked; while the latter involves "elements that are not constrained by UG" and those are typically marked (Ellis, 1985: 193). Peripheral rules typically include rules that are derived from the language history (e.g. "the more the merrier" originated in Old English), borrowings (e.g. French borrowings), or new creations (op. cit.). Core rules are, thus, unmarked, as they follow the general tendencies of language; whereas peripheral rules are marked because those are exceptions. Rutherford (1982) provides the following example: the adjectives 'big', 'long' or 'fast' are unmarked compared to the adjectives 'small', 'short' or 'slow'. The three first adjectives are unmarked because those adjectives can be found in declarative and interrogative sentences; while the three other adjectives can only be found in declarative sentences. In other words, the sentence "How slow can you run?" is syntactically incorrect.

3.4.5. Optimality Theory (OT)

In the late 1970's, the generativists argued that the natural order and the role of transfer were closely connected. For instance, Wode (1984, cited in Ellis, 1985: 204) claims that:

> The developmental sequences seem to reflect the internal complexity of the structure or the structural system to be learned, hence the degree of markedness. It seems that the unmarked or the less marked items are learned early, and the more marked ones later.

Wode (1984, in Ellis, 1985) further argues that negation is acquired at an early stage because the pattern "subject + negation + verb phrase" is widespread and exists in a large number of languages. Wode concludes that the absence of preverbal negation in either the native language (e.g. German) or the target language (e.g. English) did not impact on the developmental order. In other words, strong typological universals, such as preverbal negation, might not be influenced by the formal characteristics of the L1 and L2. In order to shed light on the developmental order for negatives, I shall refer to the Optimality Theory (OT).

It seems that the negation pattern follows a certain developmental order (Ravem, 1968; Cazden et *al*., 1975; Wode, 1981; De Swart, 2009). Those studies focused on L1 Spanish and German speakers who were learning ESL. However, De Swart (2009) covers a wide range of languages (e.g. French, Dutch, Arabic, Piedmontese, Koromfe, etc.). All these researchers concluded that a uniform developmental order for negation could exist.

De Swart (2009, 252) argues that "In Optimality Theory (OT), grammatical well-formedness is associated with a harmony function over a connectionist netwerk [sic]". In other words, constraints are ranked differently in different languages (i.e. parameters), but they are universal across languages (i.e. principles). Constraints can be of two kinds, i.e. markedness constraints and faithfulness constraints. The former "are output oriented only" (De Swart, 2009: 252) which means that "they penalize marked (long, complex, infrequent) forms and favor unmarked (short, simple, frequent) expressions" (op. cit.). The latter refers to both, input and output relations, which means that "the nature of the input [has] to be reflected in the output" (op. cit.). Constraints can either be satisfied or violated. In fact, the conflict, involving both types of constraints, is solved by ranking. As a result, "lower ranked constraints can be violated in order to satisfy a higher ranked constraint" (op. cit.). In short, "Different grammars arise from the interaction within a fixed set of constraints" (op. cit.).

De Swart (2009) further elaborated on the markedness theory and investigated L2 acquisition. She states that "the L2 learner starts out with a grammar in which all markedness constraints are ranked higher than all faithfulness constraints" (De Swart, 2009: 253). In other words, this statement implies that both, marked or unmarked constraints, are always preferred to faithfulness constraints. For instance, the L2 learner goes through five stages when acquiring the negation. In stage zero, "all markedness constraints are ranked above all faithfulness constraints" (De Swart, 2009: 287). Faithfulness constraints appear in the first stage, i.e. holophrastic negation which is generally used to show a denial or refusal (e.g. *No, a demonstration*) (op. cit.). The second stage "allows the structuring of utterances based on topic focus articulation" (op. cit). However, all lexical items might appear in focus or topic position (i.e. pre-basic variety). The sentence *Me no drawing in here* would be a typical stage two utterance (Ellis, 2015). The third stage involves "the conventionalization of negation as a focus operator" (op. cit.). This means that the learner is now able to produce sentences as *Don't look my card* (Ellis, 2015). Furthermore, stage three (i.e. basic variety) is not impacted by the L1. Ellis (2015) further argues that "the prevalence of negative + verb – irrespective of whether the source language is pre-verb-negating (like Spanish) or post-verb-negating (like German)-suggests that it constitutes a basic option" [3]. In the final stage (i.e. post-basic negation) learners can use the auxiliary *do* with the negative *not* correctly (i.e. before the main verb). Learners eventually produce sentences like *He doesn't know anything* (Ellis, 2015).

3.4.6. L1 transfer

Ellis (2015) provides a general definition for L1 transfer, that is, "Language transfer is said to occur when there is evidence that the linguistic features of one language influence those of another language". In other words, Ellis is referring to a learner who is making a mistake that is related to his L1 (i.e. negative transfer). However, L1 transfer can also facilitate L2 learning (i.e. positive transfer). Ellis (2015) further argues that language learning is facilitated, for example, "when the two languages share cognates". French and English share many cognates because of historical reasons (e.g. *Juge* in French and *Judge* in English). Next, L1 transfer is not restricted to vocabulary, it can also occur in other linguistic features.

> Transfer is most clearly evident in pronunciation. When French people speak English, they are likely to sound French. In fact, however, cross-linguistic influence has been

[3] Ellis's statement (2015) confirms the earlier statement about the universality of preverbal negation made by Wode (1984).

> observed in every aspect of language – in pronunciation, orthography, vocabulary, grammar, semantics, pragmatics, and discourse. (Ellis, 2015)

Moreover, transfer can occur in any L2 developmental stage. Ellis (2015) also distinguishes between three main L1 transfers, i.e. linguistic transfer, semantic transfer and conceptual transfer. Linguistic transfer occurs "when learners incorporate an L1 structure into their L2 system" (op. cit.). For instance, L1 Spanish-speakers who consistently use the negative particle *no* to form English negative sentences. Semantic transfer refers to "the mapping of a concept shared by two languages onto a translation equivalent" (op. cit.). For example, Finnish learners often use *tongue* to refer to *language* in English. Conceptual transfer takes place "when the concept itself differs in the two languages". For example, different languages conceptualise an object differently. Ellis (2015) gives the following example: "an English learner of Russian refers to a paper cup as 'chaska' (=cup) rather than 'stakanchik' (=little glass)".

Finally, a number of factors play a role in L1 transfer.

> The relative **markedness** of the equivalent L1 and L2 forms; the distance between the two languages, the learners' intuitions about the transferability of specific linguistic forms; the context in which learning takes place […]; the learner's age […]; and psychological factors […]. (Ellis, bold is not mine, 2015)

In order to shed light on the distance between two languages, I shall now refer to the Interpretability Hypotheses.

3.4.7. Interpretability Hypotheses (IH) and Feature Reassembly Hypothesis

It is generally accepted among generativists that L1 prior knowledge influences the L2 grammar development. However, it is still debatable to what extent the L1 impacts on the L2. Lardiere (2012: 112) argues that it is necessary for the learner to "(re)select and (re)assemble the features of the morphemes of the target language". In other words, a learner might be prevented from acquiring a specific L2 feature because this specific morphosyntactic feature has not yet been activated in the native language. This theory is known as the Interpretability Hypotheses (Lardiere, 2012). That specific feature might not be acquired because of the Critical Period Hypothesis (CPH) or because of the distance between the L1 and the L2 (cf. Ellis, 2015).

Lardiere (2008) further proposes the Feature Reassembly Hypothesis. Lardiere's hypothesis concerns the ultimate L2 attainment and the persistent role of the L1. Basically, the hypothesis states that L1 formal features have already been assembled in a certain way, but those features have to be reassembled in a different way in the L2 as another "package" (morpheme assembling) applies to the L2. Moreover, the learner must acquire the new environment in which the feature is used in the L2. In fact, the environment may vary a lot in the L2. For instance, plural-marking in English is invariable with regards to animacy or definiteness, but these features are relevant for plural-marking in Mandarin (op. cit.). In other words, the learner must reassemble the features acquired in his L1 in order to fit the L2 features. However, the L2 learner's idiolect might sometimes never match the native speaker's idiolect because of the learner's high variability in inflection production (op. cit.).

4. Individual differences in SLA

4.1. Age

Age effects on language learning have been preponderant since the 1960's. The neurologists Penfield and Roberts (1959) argue that L2 learning should ideally happen before puberty because age and brain plasticity prevents the L2 learner from fully acquiring the L2 later on. A couple of years later, Eric Lenneberg is the first one to refer to the age constraint in Language acquisition as the Critical Period Hypothesis (CPH). The term was previously used on studies about animal behaviour. Lenneberg (1967) refers to the same constraints as Penfield and Roberts, that is, the brain plasticity and age. Scholars agree upon the existence of a critical period for L1 acquisition, but it still remains controversial for L2 acquisition (DeKeyser, 2012). In fact, the L1 should ideally be acquired before puberty. Curtiss (1977), for example, showed the incapacity of the wild child Genie to learn a language after being excluded from social and communicative life in her childhood. She was able to learn English vocabulary, but was incapable of learning English grammar (Ellis, 2015). Curtiss (1977) argues that Genie could not acquire the English grammar because she had already passed the critical period (i.e. puberty). However, this example remains controversial, as the reasons for preventing Genie from social contacts remain obscure.

Lenneberg (1967) raised some crucial aspects of L2 learning. He first argues that L2 learners have generally acquired their mother tongue when learning another language, which means that L2 learners have already acquired the fundamental principles of language. Secondly, he mentions that L2 learners are cognitively more mature. In other words, L2 learners are able to understand the abstract features of language. Thirdly, he states that L2 adult learners experience some difficulties to match the native speakers' language proficiency. However, he admits that L2 learning can take place after puberty, but with more difficulties.

DeKeyser (2012) refers to the new preferred designation "age effects" or "sensitive period". These terms are preferred to "critical period" because scholars do not agree upon a clear onset or offset for the critical period. However, according to DeKeyser (op. cit.), scholars often confuse speed of learning and L2 attainment. In fact, most studies on L2 ultimate attainment test L2 learners who have been learning the L2 for a couple of years, but it is almost impossible to acquire the full L2 competence in such a short time span, as the L2 competence is still developing (DeKeyser, 2012). In other words, scholars rather test the speed of learning than the ultimate attainment. Therefore, DeKeyser argues in favour of studies with the same L2 learners, but at different points in time, such as Jia and Fuse (2007) on immigrants in the USA.

Scholars often distinguish between phonology, morphosyntax and lexicon, while dealing with the sensitive period. The main reason for doing this involves that age effects may vary according to the mentioned dependent variables. In fact, stronger age effects might apply to pronunciation than to grammar. Therefore, some scholars (Granena, 2012; DeKeyser, 2012) argue that the sensitive period for grammar acquisition is in the mid-teens, i.e. a couple of years after the sensitive period for phonological acquisition. However, lexicon seems to be less inclined to age limit, as it seems to be acquired throughout life (DeKeyser, 2012).

4.2. Language aptitude

Language aptitude was a central concept in the early years of SLA research. The leading figure was the cognitive psychologist J.B. Carroll.

> The assumptions he gave us were that (a) the constellation of abilities that capture the notion of foreign language aptitude is distinct from other cognitive abilities, including intelligence, (b) aptitude is fairly stable in nature, and (c) is itself componential. (Skehan, 2012)

In other words, Carroll's aim was to investigate whether a learner will be efficient at language learning. He defined language aptitude as "the amount of time a student needs to learn a given task, unit of instruction, or curriculum to an acceptable criterion of mastery under optimal conditions of instruction and student motivation" (Carroll, cited in Decourcelle, 2016: 12). He further argues that language aptitude is subdivided into four main factors, i.e. phonemic coding ability, grammatical sensitivity, inductive language-learning ability and rote-learning ability (figure 8). The abilities cover the three main dependent variables, i.e. phonology, morphosyntax and lexicon.

Ability	Definition
Phonemic coding ability	The ability to code unfamiliar sounds in a way that they can be remembered.
Grammatical sensitivity	The ability to recognise the grammatical functions of words in sentences.
Inductive language-learning ability	The ability to identify patterns of correspondence and relationships between form and meaning
Rote-learning ability	The ability to form and remember associations between L1 and L2 vocabulary items.

Figure 8 Carroll's model of language aptitude (according to Carroll and Sapon, 1959)

Following, he administered a wide variety of aptitude tests and achievement tests in order to establish whether there was a link between both tests. This enabled him to find empirical evidence for the four-factor view, which later resulted in the Modern Language Aptitude Test (MLAT) (Carroll & Sapon, 1959). The MLAT was designed for assessing language aptitude and contained sub-tests, such as Number Learning, Phonetic Script, Hidden Words, Words in Sentences and Paired Associates (Skehan, 2012). The MLAT was originally designed for L1 English speakers learning another language, but it has been translated and validated in some other languages, including French.

4.2.1. Aptitude and SLA

Language aptitude primarily concerns language learning rather than language acquisition, but it can still be useful for L2 acquisition. Skehan (2012) proposes a six stages model for language aptitude in L2 acquisition, i.e. (1) input processing and noticing, (2) pattern identification, (3) complexification/ restructuring/ integration, (4) error avoidance, (5) repertoire and salience creation, (6) automatization and lexicalisation. These are close to the ones used in memory

processing. Basically, the three first stages refer to the acquirers' ability to process rules into systems, and thus, involve the rule-based nature of language. The acquirer has to be exposed to the target language, so that (1) input processing can take place. Once, the acquirer has had some input, he might search for (2) patterns in the target language. Finally, he is able to understand more complex features of the target language, which also enables him to (3) restructure his L2 knowledge. These stages imply low variation among acquirers (op. cit.). Therefore, these are sometimes used as a starting point for generativists dealing with SLA. The last three stages rather concern the long-term memory, which means that speed of learning and proceduralisation are involved (op. cit.). These stages include much more variability among acquirers. Basically, these stages refer to the acquirers' aptitude to acquire an error free and fluent L2. Once, the acquirer has integrated the rule-based nature of the target language, he is able to use an (4) error free L2, in which he will (5) detect and integrate L2 salient features. The final step is the (6) automatization of L2 morphosyntactic and lexical features.

4.2.2. Aptitude and critical/sensitive period

Both, aptitude and sensitive period, seem to be correlated as learners with high aptitude do not suffer from age limits. For instance, Abrahamsson and Hyltenstam (2008) showed that immigrants, who arrived in Sweden before twelve, could reach high levels of L2 proficiency independently from high or low aptitude. However, adult immigrants, who arrived in Sweden after twelve, had limited L2 proficiency and could not reach nativeness-like, unless they had a high aptitude.

4.3. Intelligence

Intelligence is a general factor, hence the abbreviation *g factor* (Ellis, 1985). It usually refers to a whole set of academic skills, involving the capacity to use those skills in different circumstances. Therefore, Ellis (1985: 110) defines intelligence as "the underlying ability to learn, rather than the actual knowledge that is supposedly measured by intelligence tests".

Some scholars (Oller & Perkins, 1978) argue that language acquisition is closely connected to the *g factor*. However, Lenneberg (1967) showed that intelligence is not a crucial factor in child language acquisition, as most children are able to acquire a first language. The rare exceptions concern the children who are "severely mentally retarded" (Ellis, 1985). In other words, Oller and Perkins (1978) lacked some pieces of evidence to argue in favour of a connection between intelligence and language acquisition.

In fact, there is little evidence for a clear link between language proficiency and intelligence (for instance, the state of art, *The Routledge Handbook of Second Language Acquisition,* does not cover intelligence anymore). However, Ellis (1985) argues that intelligence might influence second language learning rather than second language acquisition.

> To put it another way, intelligence may be a powerful predictor of success in classroom SLA, particularly when this consists of formal teaching methods, but much less so in naturalistic SLA, when L2 knowledge is developed through learning how to communicate in the target language. (Ellis, 1985: 111)

In other words, intelligence might be a predictor of academic success rather than a predictor of language proficiency.

In line with that, Cummins (1979) argues that language ability should be divided into two separate entities, i.e. cognitive/academic language ability (CALP) and basic interpersonal communication skills (BICS). The former refers to formal academic learning, that is, the kind of language proficiency or language knowledge that is closely-knit with the overall cognitive and academic skills, as listening, reading, speaking and writing. In other words, CALP is essential for a language learner and is cognitively demanding (Haynes, 2007). CALP is thus linked to proficiency in academic areas. The latter involves the "language skills needed in social situations […] [and is] not very demanding cognitively" (op. cit.). For instance, SLL use BIC skills when playing sports or shopping. Cummins further argues that language learners will transfer skills or concepts acquired in their L1 to their L2. This theory is known as the Common Underlying Proficiency (CUP).

4.4. Motivation

Motivational theories can be subdivided into two main streams, i.e. natural versus rational motivation and content versus process motivation. The first refers to natural forces (e.g. drives, needs or desires). The second focuses on whether someone is motivated by the content, i.e. "what is it about?", or the process, i.e. "how is it done?".

4.4.1. Natural forces

I shall briefly deal with the natural forces, especially Maslow's pyramid, which provides an overview of the human needs and how they might be related to language learning. The hierarchy of needs (Maslow, 1970) was originally a five-stage model as shown in figure 9.

Figure 9 Maslow's pyramid (1970)

The most elementary needs are physiological, e.g. having warm or being able to drink. The second step is safety, which involves, for instance, feeling safe at home or in the streets. The third step includes *belonging* and *love*, e.g. having a closely-knit family. The last but one step *self-esteem* refers to the respect of others and by others. The final step is *self-actualization*, which means that someone has found a meaning to life, and consequently, this person is fulfilled and is doing all s/he is capable of (McLeod, 2014). This concept of hierarchy of needs can be applied to an educational setting. In fact, the model suggests that a learner will be able to perform well at school only if all the stages are fulfilled. For instance, a learner who is thirsty will not be able to learn new material or to perform well on tests. A pupil who feels excluded by his/her classmates might also have troubles at learning because the *belonging-love* step would not be fulfilled.

4.4.2. Content and process motivation

Robert Gardner and Wallace Lambert (1972) were the most influential scholars working on motivation in the second-half of the twentieth century. They argue that SLA and motivation are inseparable. They emphasise the social and psychological aspects of language learning, which further implies that learning motivation differs from foreign language learning motivation. In fact, they argue that Foreign Language Learning (FLL) is more complex because it includes the acquisition of the foreign language and the identification with the target language community. Therefore, they designed two concepts, that is *integrative motivation* and *instrumental motivation*. The former refers to a "sincere and personal interest in the people and culture represented by other groups"; while the latter reflects "the practical value and advantages of learning a new language" (Gardner & Wallace, 1972: 132). In other words, a learner, who wants, for instance, to study English because he intends to live or work in Australia, would be instrumentally motivated; whereas, a learner, who wants to be able to communicate in English when travelling to an English-speaking country, would be integratively motivated. Integrative motivation further involves admiration of the target culture, including, for instance, its literature and customs (Cook, 2013). As far as Belgians are concerned, it seems that they primarily learn foreign languages for integratively motivated reasons, including the wish to communicate in English with English native speakers. In other words, instrumental motivation seems to be less important than integrative motivation for Belgian people (Cook, 2013).

A further distinction concerns the incentive theories, that is to say, intrinsic motivation (IM) and extrinsic motivation (EM). On the one hand, IM denotes the "motivation to engage in an activity because that activity is enjoyable and satisfying to do" (Noels *et al.*, 2000:61). In other words, the focus is on the topic or subject rather than punishments or rewards. According to Wigfield *et al.* (2004), being intrinsically motivated as a learner implies autonomy (i.e. the learners control the factors related to their educational results), self-efficacy beliefs (i.e. the learners must be aware that they can reach their aims, which requires the mastery of the required skills) and topic interest (i.e. the learners must be interested in the content, rather than focusing on getting good grades). On the other hand, EM denotes the "actions carried out to achieve some instrumental end, such as earning a reward or avoiding a punishment" (Noels *et al.*, 2000: 61). A competitive atmosphere is an example of EM. For instance, learners who want better grades than their fellows will be extrinsically motivated because they will have to work harder than their fellows to achieve their aim.

The concepts of IM and EM led Deci and Ryan (2008) to the Self-Determination Theory (SDT). In line with that, they propose the concepts of autonomous motivation and controlled motivation.

> Autonomous motivation comprises both intrinsic motivation and the types of extrinsic motivation in which people have identified with an activity's value and ideally will have integrated it into their sense of self. (Deci & Ryan, 2008: 182)

They do not consider IM and EM as separate entities, but rather as two intertwined concepts. However, they stress the notion of the learner's autonomy, which is a key factor of IM. They also argue that EM is part of the autonomous motivation, as the learners should identify themselves with the activity, i.e. they should find the activity enjoyable. They define controlled motivation as follows:

> Controlled motivation consists of both external regulation, in which one's behaviour is a function of external contingencies of reward or punishment, and introjected regulation, in which the regulation of action has been partially internalized and is energized by factors such as an approval motive, avoidance of shame, contingent self-esteem, and ego-involvements. (Deci & Ryan, 2008: 182).

In other words, controlled motivation is much closer to EM even though it involves some feelings as shame or joy. For instance, a learner wants to get good grades for two reasons. S/he first wants to get the reward or avoid the punishment. Secondly, s/he has been encouraged to work hard to get this reward in order to avoid shame.

For instance, Noels et *al.* (2000) found strong evidence for SDT in L2 motivation. They found that freedom of choice in SLL and the intention to pursue L2 learning were connected to self-regulated forms of motivation (i.e. intrinsic and identified motivation). In the same research, including 159 Canadian bilingual French-English learners, they also found that instrumental reasons were closely connected to EM.

4.5. Language anxiety

Language learners might feel some anxiety while talking in a foreign language or while being evaluated in a foreign language. Anxiety is usually associated with a feeling of tension, worry or apprehension, hence, the following definition:

> a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process. (Horwitz, Horwitz and Cope, 1986: 128)

In other words, language learners might become anxious when they realise that their classmates are performing better than they do. Therefore, these scholars subdivided foreign language anxiety (FLA) into three components, i.e. communication apprehension, test anxiety and fear of negative evaluation. Communication apprehension refers to "a type of shyness characterized as fear of, or anxiety about communicating with people" (op. cit. 127). In other words, pupils or language learners might be afraid of communicating in a foreign language because they do not master the target language, which means that they are inclined to make mistakes in that foreign language. Test anxiety involves "the type of performance anxiety resulting from a fear of failure in an academic evaluation setting" (op. cit.). In fact, foreign language learners experience a feeling of stress or anxiety when they are facing an exam or a test situation, which might lead to poor achievement. Finally, fear of negative evaluation includes "the apprehension about other's evaluations, avoidance of evaluative situations" (op. cit.). In contrast to test anxiety, fear of negative evaluation is not restricted to tests or exams, but it can occur in any social situation. In other words, language learners feel anxiety because they expect to be negatively evaluated by others.

However, language anxiety is not negative per se because it might help some learners to perform better, as high-level performances usually require a bit of anxiety. This is, for instance, comparable to a sportsman who is about to run a sprint. He is likely to feel some anxiety before the start, which will probably improve his performance if the anxiety is controlled. In short, language anxiety, just like motivation, might be a source of efficient learning if it is controlled or poor learning if it is uncontrolled.

Eventually, Horwitz, Horwitz and Cope (1986) found a significant negative correlation between foreign language anxiety and foreign language learning. The study included two different classes, L2 Spanish classes and L2 French classes. In both cases, they found a negative correlation and concluded that students experiencing a higher level of FLA had lower marks than their counterparts.

4.6. Identity, agency and SLA

L2 learners have been named differently depending on their L2 proficiency, their abilities or their identities. However, someone is always categorised by others, which implies a certain degree of subjectivity. For instance, L2 learners might be referred to as *heritage-language learners, non-native speakers* or *immigrants* on the basis of their L2 knowledge; while other L2 learners might be referred to as *bilinguals, multilinguals* or *advanced L2 users* on the basis of their social backgrounds, their L2 dispositions and accomplishments (Duff, 2012).

> *Identity* traditionally was understood in terms of one's connection or identification with a particular social group, the emotional ties one has with that group, and the meanings that connection has for an individual. (Duff, 2012: 415)

In other words, someone constructs his/her identity by self- and other-categorisation, which implies awareness of the place he or she occupies in society.

> *Agency* refers to people's ability to make choices, take control, self-regulate, and thereby pursue their goals as individuals leading, potentially, to personal or social transformation. (Duff, 2012: 417)

As a result, agency enables someone to take a certain point of view or a certain place in society, including, for instance, the preference for a specific L2 variety or for specific language practices.

In recent research, language identity has often been connected to motivation and described in terms of "self", which means that motivation is a dynamic concept (Duff, 2012). In fact, motivation evolves and changes in relation to one's identities. A human being has several identities, i.e. a linguistic identity, a sexual identity, a social identity, etc. All these possible selves might impact in one way or another on the L2 practices and choices. For instance, French speakers might deliberately choose for a French pronunciation in L2 English because they want to show their backgrounds and where they come from. According to Duff (2012), this perspective is in contrast with early sociological studies, in which scholars tended to categorise the aspects of identity (e.g. gender, ethnicity or socio-economic status). In short, early research treated the aspects of identity separately; whereas recent studies tend to treat the different identities of someone as a continuum.

For instance, Abdi (2011) found that a teacher of Spanish encouraged heritage language speakers of Spanish to speak Spanish in the classroom to expose the students to authentic Spanish. However, the teacher had been married to a Mexican. Therefore, the teacher identified herself with an outspoken Hispanic male teenager. Interestingly, the strong teacher's identification with the heritage speaker created some tensions among heritage speakers and non-heritage speakers which had negative repercussions on the students' motivation and

students' learning. In fact, the non-heritage speakers had a feeling of inferiority and a feeling of exclusion. This study was set in a Canadian high school.

5. Methodology

The research project started with a smaller-scale investigation (i.e. Decourcelle, 2016) in which it was argued that the acquisition of English grammar by Walloon pupils was far behind that of Flemish pupils. In line with that, the aim of this study is to further investigate the English grammar competence of Walloon and Flemish pupils. However, this study is slightly different from the previous one, as it exclusively focuses on receptive skills (i.e. listening and reading). The current study comprises two main research questions. First, how do Flemish and Walloon pupils get in contact with English grammar and consequently what are the major sources of English contact in both regions (RQ 1)? Second, is there a specific grammar order of acquisition for teenagers who incidentally acquire English as a foreign language and does this order vary according to the L1 (RQ 2)?

All the informants of the study are in first year of secondary school and study general education. The Flemish pupils have French as a first foreign language, whereas Walloon pupils have Dutch as a first foreign language. A couple of Walloon pupils have already been taught English in primary school and some are native speakers of English, but those pupils are not taken into account as they do not fit the main criterion (i.e. prior to English formal instruction).

The selected schools are situated in the cities of Poperinge (West-Flanders), Diksmuide (West-Flanders), Wervik (West-Flanders), Comines-Warneton (Hainaut), Péruwelz (Hainaut) and Dour (Hainaut). These towns were selected on the basis of the four following criteria. First, all the selected cities have between 15,000 and 20,000 inhabitants. Second, the population pyramids of the cities match the average Belgium population pyramid as represented in figure 10. [4]

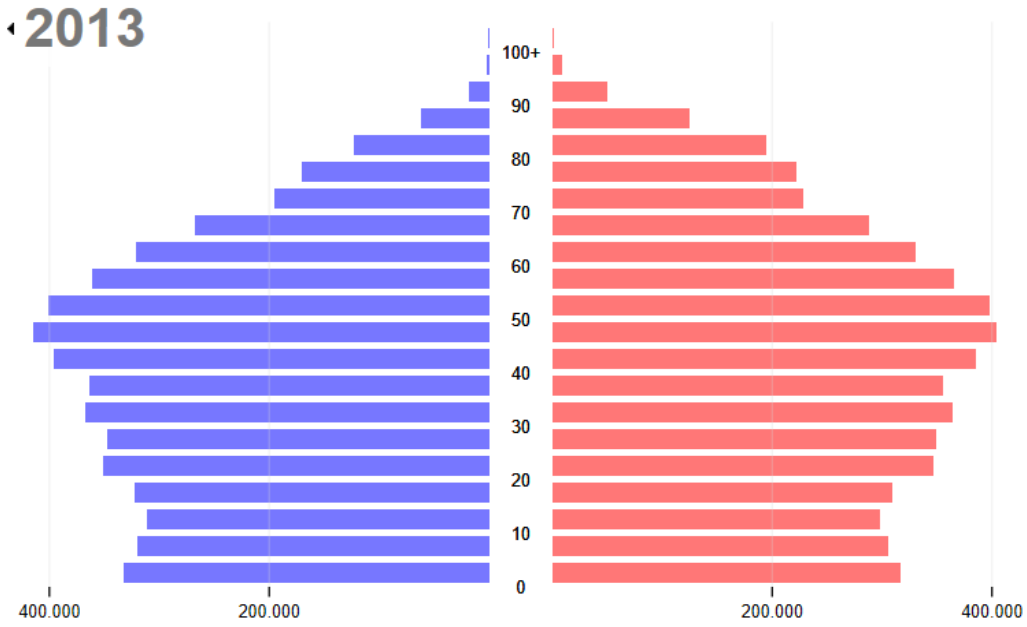


Figure 10 Average Belgian population pyramid according to be.STAT

[4] This data was based on a census performed in 2012 for the municipal elections. For further details, see: http://statbel.fgov.be/fr/statistiques/chiffcomm/

Third, the average annual income of the inhabitants ranges from €12,500 to €14,000. Next, the selected schools are Catholic schools in Flanders, as only these schools do not provide English in the first year of secondary school. To preserve representativeness, the same criterion is used in Wallonia. In other words, all the selected schools are Catholic schools. This limits the number of schools to one per city except for Comines-Warneton where two Catholic schools can be found. Furthermore, all the schools are set either in West-Flanders (Flanders) or in Hainaut (Wallonia).

In Flanders, 108 informants match the research criteria and are subdivided as follows: 35 pupils of the Sint-Jozefscollege (Wervik), 35 pupils of the Aloysiuscollege (Diksmuide) and 38 pupils of the Sint-Janscollege (Poperinge). In Wallonia, 124 informants match the research criteria and are subdivided as follows: 44 pupils of the Institut la Sainte-Union (Dour), 35 pupils of Institut Saint-Charles (Péruwelz), 31 pupils of the Collège Saint-Henri (Comines) and 14 pupils of the Collège de la Lys (Comines). Each school provided me with 50 minutes. Basically, the pupils had 20 minutes to fill in the questionnaires and 30 minutes to fill in the English grammar tests.

The questionnaire is the same as in Decourcelle (2016) and consists of seven main categories. It is made up of closed questions followed by some sub-questions (i.e. generally open questions) in order to allow the pupils to further clarify their answers (cf. appendix 1). Firstly, the pupils have to mention some general information about their language identity including mother tongue, English friends and former English tuition. The main aim of the general questions is to spot the pupils who do not match the previously mentioned selection criteria. Secondly, the pupils have to answer some questions regarding motivation and attitude. This includes questions about the pupils' considerations as English being an important, beautiful, worldwide or nice language. Concerning the questions about attitude and motivation, a Likert scale is used. Thirdly, the informants are asked about their TV and film watching. This includes the time spent watching TV, TV in English, films in English as well as their preferences regarding subtitling or dubbing. Fourthly, they are asked whether they read in English or buy English books. This section only comprises two questions, as Decourcelle (2016) already observed that English contact through literature is very limited. Fifthly, the pupils have to indicate their computer use. This section involves questions about the time spent on the computer, whether they use software in English or whether they play online games in English. The last section is devoted to music. Pupils have to indicate their music preferences and whether they understand the lyrics of the English songs. Finally, the pupils have the possibility to write down some example sentences they know.

In line with the questionnaires, the pupils have to fill in a one week diary in which they have to write down their daily contacts with English via popular culture, i.e. music, TV, cinema and gaming as well as the time of English contact (appendix 2). In the diaries, I ask for information about English contacts through communication (e.g. having a phone call in English), through music (e.g. listening to English music), through TV (e.g. watching a film in English), through computer (e.g. using English software), through gaming (e.g. playing on the PlayStation 4 in English) and through reading (e.g. reading an English magazine). In total, 175 diaries were collected (89 diaries in Wallonia and 86 diaries in Flanders). In fact, 57 pupils did not submit their diaries. I shall provide further details about the diaries in section 6.7.

The English grammar test focuses on receptive skills and is marked out of 40 points (appendix 3). The test is a multiple-choice test with one single correct answer every time. On the one hand, the grammar test tests morphosyntactic features including the third person singular -s and the regular plural -s and morphosemantic features, i.e. negation and object pronouns. On the other hand, it covers four grammatical structures, that is, simple, dative, passive and relative clauses. These features represent a sequence from early to late acquired grammar structures by L1 speakers (Mayberry and Lock, 2003). The test was first piloted with two Flemish cousins who were willing to participate. Their scores amounts to 32 and 35 out of 40.

The data analysis is twofold. The first part of the analysis deals with the questionnaires and the diaries. In other words, it focuses on media-induced SLA (Simon & Van Herreweghe, 2017). The second part of the analysis involves the English grammar tests. SPSS Statistics 24 is used for the statistical analyses. Moreover, the questionnaires and the tests were marked twice in order to avoid mistakes.[5]

[5] For clarity's sake, Andy Field's *Discovering statistics: using SPSS 3rd edn* (2009) was used as book of reference.

6. Research findings

In this chapter, I shall deal with the results of the questionnaires, the diaries and the English grammar tests. Accordingly, there will be three main parts. First, the general scores of the Flemish and Walloon informants will be examined in order to enable a comparison between the results of both groups. Second, the scores of both groups will be linked to the questionnaires and to the diaries. Third, the English grammar tests will be analysed in depth with special attention to grammatical structures, morphosemantic features and morphosyntactic features.

6.1. General findings

6.1.1. Score per region

In total 232 pupils took part in this study subdivided into 108 Walloon informants and 124 Flemish informants.

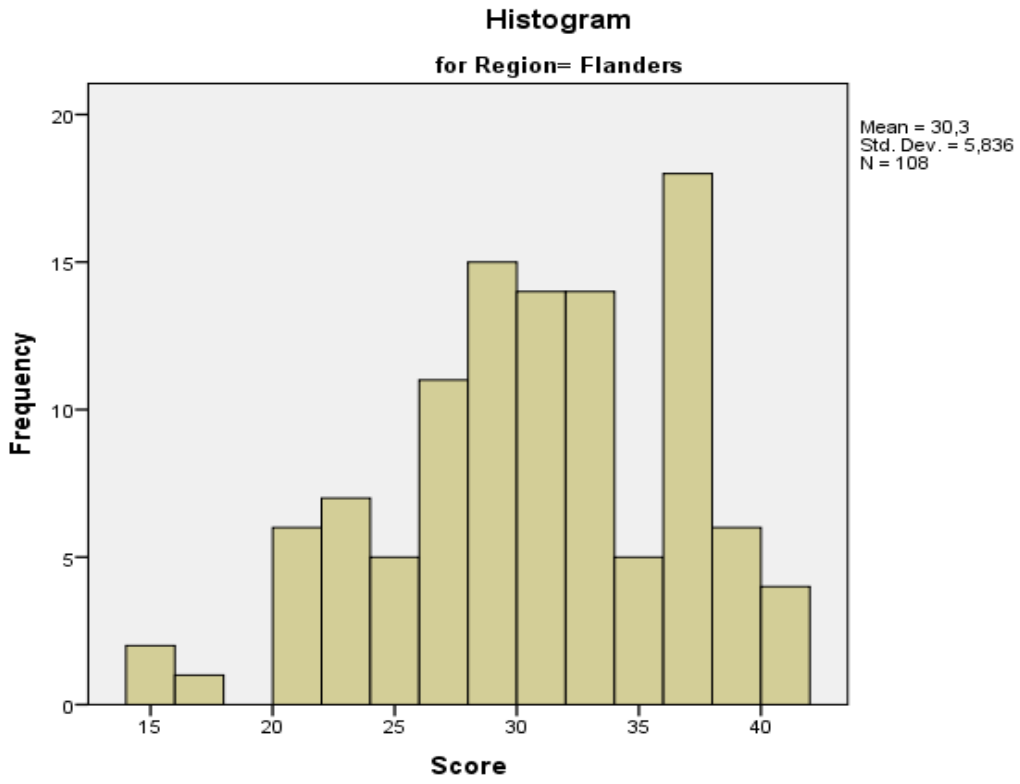


Figure 11 Histogram representing the general scores in Flanders

Figure 11 shows that the general scores of the Flemish pupils range from 15 to 40 (*M*= 30.3, *SD*= 5.83). According to the test of normality (Shapiro-Wilk), scores in Flanders are non-normally distributed (p= 0.014), with skewness of -0.39 (*SD*= 0.23) and kurtosis 0.32 (*SD*= 0.46). Therefore, a Q-Q plot (figure 12) is used in order to check normality. It reveals a normally distributed sample. Interestingly, the median reaches 30.5 which is similar to the mean. This also confirms that the variable score is normally distributed. As a result, there are no outliers in the Flemish sample.

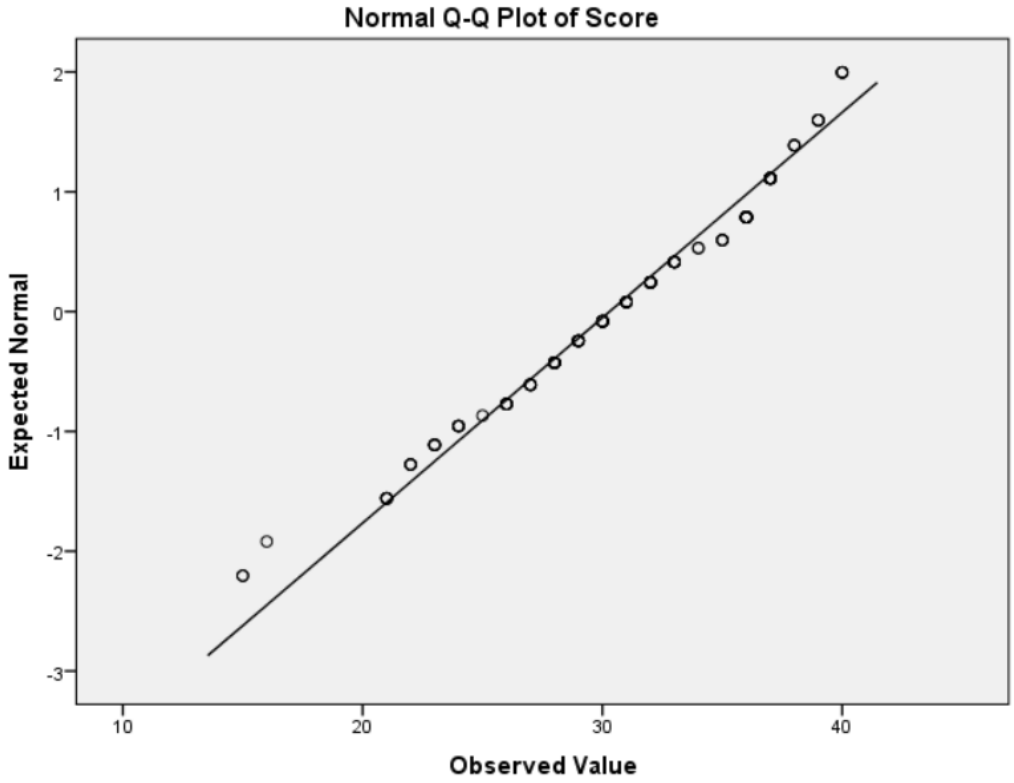


Figure 12 Q-Q plot of scores (test of normality for Flanders)

Figure 13 shows that the scores of the Walloon informants range from 8 to 39 (*M*= 18.7, *SD*= 6.78). According to the test of normality (Shapiro-Wilk), scores in Wallonia are also non-normally distributed, with skewness of 0.88 (*SD*= 0.21) and kurtosis of 0.41 (*SD*= 0.43). However, figure 14 shows that the Walloon sample is still normally distributed with a limited deviation from normality for the lowest scores and the highest scores. In other words, there is a moderate positive skewness in Wallonia. The median is 17, that is slightly different

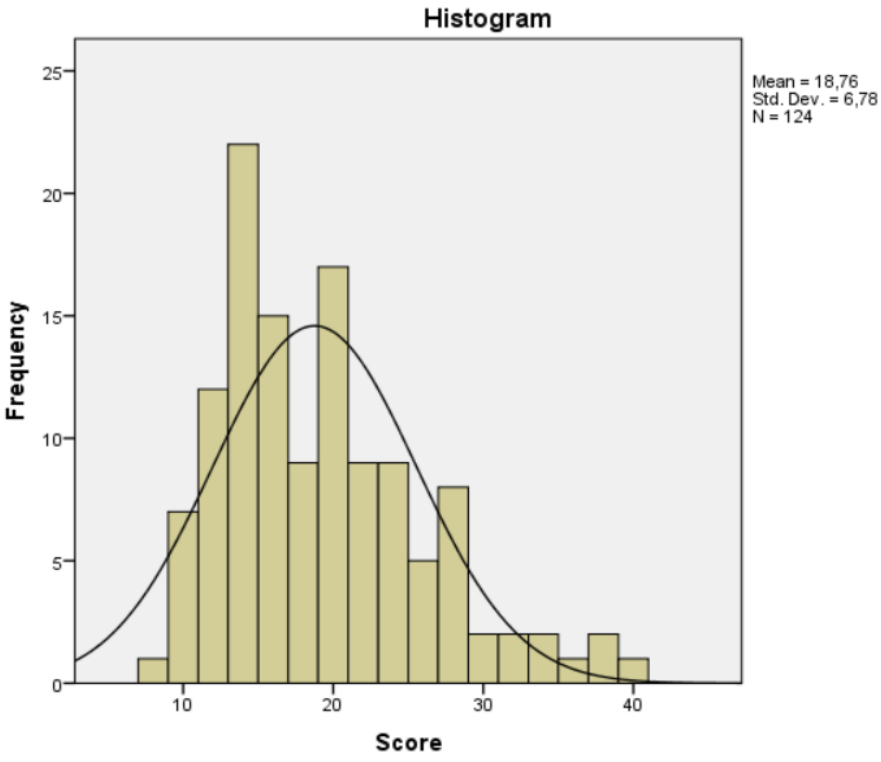


Figure 13 Histogram representing the general scores in Wallonia

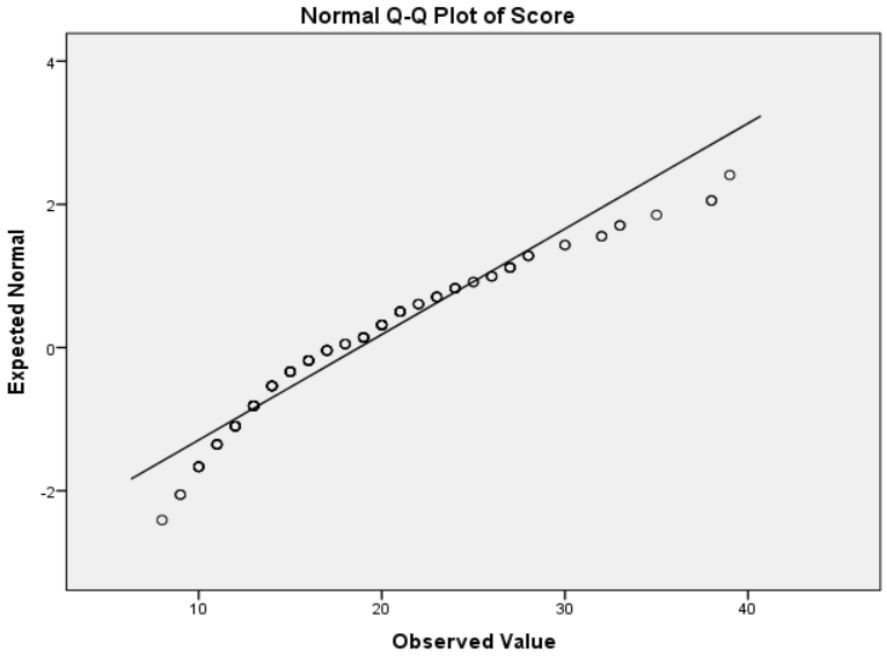


Figure 14 Q-Q plot of scores (test of normality for Wallonia)

from the mean (18.7), which indicates that there might be some outliers which is further confirmed by the following boxplot (figure 15). The median and the mean, being close to one another, confirm the marginal skewness. Next to that, the three Walloon outliers have Dutch or Dutch/French as a home language and lived in Flanders. Furthermore, they are regularly exposed to English popular culture (mainly through TV) and two of them have English acquaintances.

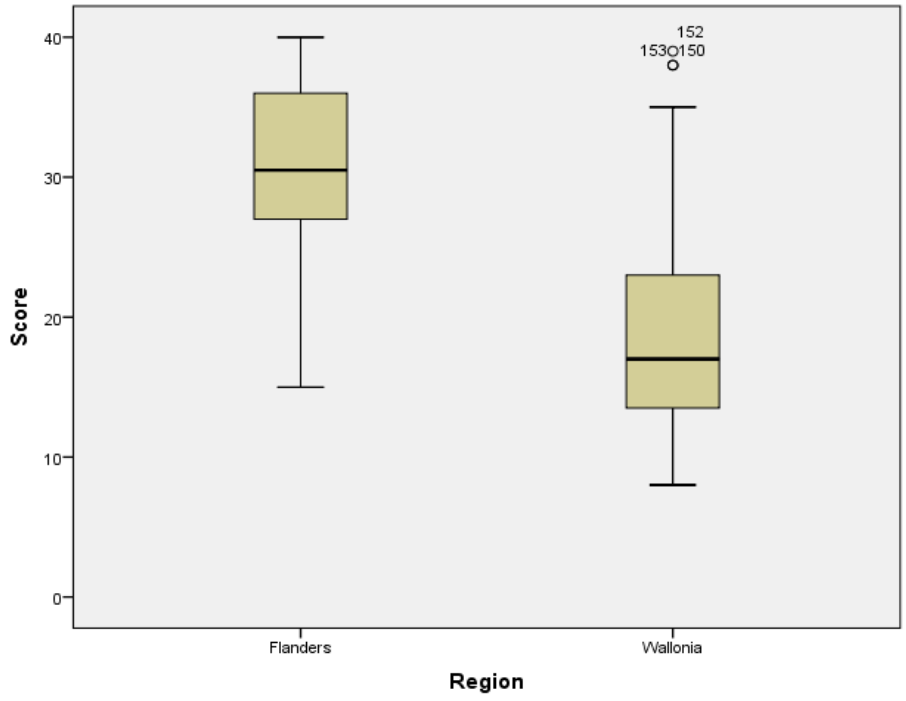


Figure 15 Boxplot representing the general scores per region

A following independent samples t-test is performed. It indicates that the difference in average scores between Flanders and Wallonia is highly significant and that the mean score is higher in Flanders (*M*= 30.3, *SD*= 5.83) than in Wallonia (*M*= 18.7, *SD*= 6.78), t(230) = 13.79, p< .001 (table 1).

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Score	Equal variances assumed	2,001	,159	13,79	230	,000	11,538	,837	9,889	13,187
	Equal variances not assumed			13,93	229,97	,000	11,538	,828	9,906	13,170

Table 1 Independent samples T-test of general scores versus region

I can conclude that, on average, the Flemish pupils score higher than the Walloon pupils on the English grammar test. In the next section, I shall explore whether there are differences across the cities, as the variable score seems to vary more in Wallonia than in Flanders.

6.1.2. Score per city

First of all, figure 16 shows that the highest overall score (i.e. 40 out of 40) is reached in Wervik, Diksmuide and Poperinge. The lowest score in Wervik is 15 (which is also the lowest score in Flanders). In Diksmuide and Poperinge, the lowest score amounts to 21.

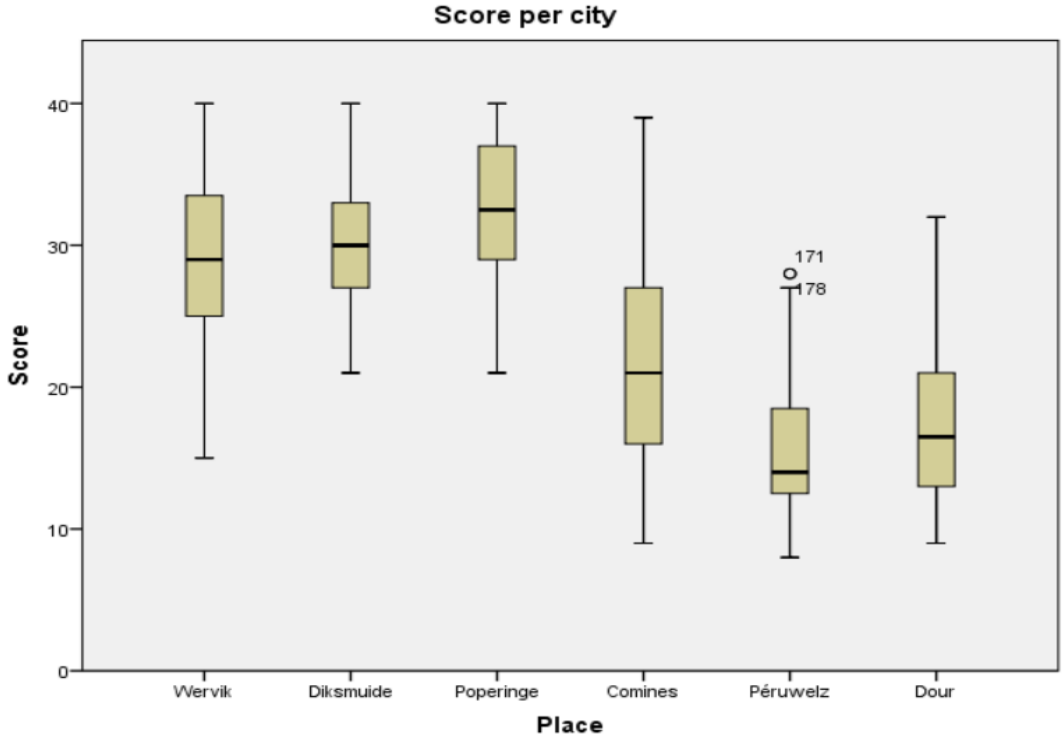


Figure 16 Boxplot representing the average scores per city

Noteworthy, the lowest score in Wervik is obtained by two French-speaking pupils. However, their scores (i.e. both had a score of 21) are in line with the mean score of the Walloon informants (i.e. 18.7). The means of the Flemish cities reach 28.6 (*SD*= 6.39), 30.1 (*SD*= 5.03) and 32 (*SD*= 5.63). In other words, the average score is the highest in Poperinge and the lowest in Wervik. Compared to the Walloon cities, their average scores are always lower than in Flanders. In fact, not a single pupil reaches the highest score in Wallonia. The means amounts to 22.4 (*SD*= 7.92) in Comines, to 15.9 (*SD*= 5.08) in Péruwelz and to 17.2 (*SD*= 4.84) in Dour. Interestingly, Comines shows the highest SD, which is in line with the previous finding about the three outliers who are Dutch speaking. This finding is not surprising as Comines is a community with facilities for Flemish people. In Comines, the highest score is 39, which is also the overall highest score in Wallonia and which is obtained by a native Dutch-speaking pupil. The lowest score in Comines amounts to 9. In Péruwelz, the highest score is 28 and the lowest score is 8, which is the lowest score for both regions, that is to say, Wallonia and Flanders. In Dour, the highest score amounts to 32 and the lowest score reaches 9, as in Comines.

As shown in table 2, a one-way analysis of variance shows that the average scores of the pupils highly differ across the different cities ($F_{5,226}$= 49.79, p< 0.001). Therefore, post-hoc analyses using Tukey's HSD are performed.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8902,959	5	1780,592	49,797	,000
Within Groups	8081,161	226	35,757		
Total	16984,121	231			

Table 2 One-way ANOVA of average scores versus cities

Interestingly, the post-hoc analyses using Tukey's HSD also indicate highly significant results between Flemish and Walloon cities (p< 0.001 in all cases as shown in table 3). However, no significant results can be found between the different Flemish cities (p> 0.05). This finding is in line with figure 16, in which the mean scores vary in a limited way across the three Flemish cities. In contrast, the mean scores of the Walloon cities vary significantly. However, the only highly significant difference concerns the average scores of the pupils of Comines compared to the average scores of the pupils of Péruwelz (p= 0.001) and Dour (p< 0.001). Again, this is largely due to the three Dutch-speaking pupils in Comines who perform well on the grammar test.

(I) Place	(J) Place	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Wervik	Diksmuide	-1,514	1,429	,897	-5,62	2,59
	Poperinge	-3,426	1,401	,145	-7,45	,60
	Comines	6,133*	1,348	,000	2,26	10,01
	Péruwelz	12,657*	1,429	,000	8,55	16,77
	Dour	11,395*	1,354	,000	7,50	15,29
Diksmuide	Wervik	1,514	1,429	,897	-2,59	5,62
	Poperinge	-1,912	1,401	,748	-5,94	2,11
	Comines	7,648*	1,348	,000	3,77	11,52
	Péruwelz	14,171*	1,429	,000	10,06	18,28
	Dour	12,910*	1,354	,000	9,02	16,80
Poperinge	Wervik	3,426	1,401	,145	-,60	7,45
	Diksmuide	1,912	1,401	,748	-2,11	5,94
	Comines	9,560*	1,317	,000	5,77	13,35
	Péruwelz	16,083*	1,401	,000	12,06	20,11
	Dour	14,822*	1,324	,000	11,02	18,63
Comines	Wervik	-6,133*	1,348	,000	-10,01	-2,26
	Diksmuide	-7,648*	1,348	,000	-11,52	-3,77
	Poperinge	-9,560*	1,317	,000	-13,35	-5,77
	Péruwelz	6,524*	1,348	,000	2,65	10,40
	Dour	5,262*	1,268	,001	1,62	8,91
Péruwelz	Wervik	-12,657*	1,429	,000	-16,77	-8,55
	Diksmuide	-14,171*	1,429	,000	-18,28	-10,06
	Poperinge	-16,083*	1,401	,000	-20,11	-12,06
	Comines	-6,524*	1,348	,000	-10,40	-2,65
	Dour	-1,262	1,354	,938	-5,15	2,63
Dour	Wervik	-11,395*	1,354	,000	-15,29	-7,50
	Diksmuide	-12,910*	1,354	,000	-16,80	-9,02
	Poperinge	-14,822*	1,324	,000	-18,63	-11,02
	Comines	-5,262*	1,268	,001	-8,91	-1,62
	Péruwelz	1,262	1,354	,938	-2,63	5,15

Table 3 Tukey's HSD post hoc test - scores versus cities

6.1.3. Score per gender

As shown in figure 17, boys and girls show very similar results on the grammar test. The two boxplots are indeed remarkably similar. In order to examine whether gender has an impact on the English grammar test, an independent samples t-test is performed and delivers non-significant results ($p > 0.05$). The means are indeed similar, i.e. 23.8 for boys (*SD*= 9.31) and 24.4 for girls (*SD*= 7.71). However, Levene's test for equality of variances reveals highly significant results ($F = 7.68$, $p < 0.01$). Therefore, degrees of freedom are adjusted from 230 to 228.

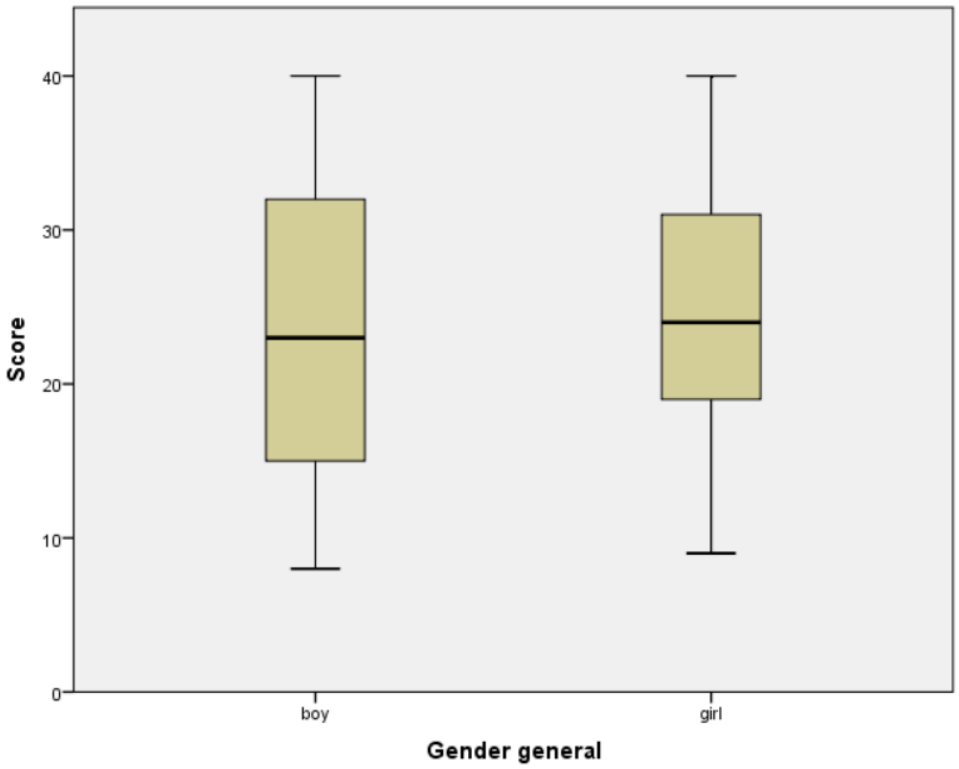


Figure 17 Boxplot representing the general scores versus gender regardless of the region

Yet, it remains interesting to compare the Flemish boys to the Flemish girls and the Walloon boys to the Walloon girls. Figure 18 shows that the mean score for the Flemish boys amounts to 31.9 (*SD*= 5.97), ranging from 16 to 40. Flemish girls obtain an average score of 29.1 (*SD*= 5.48), ranging from 15 to 40, which is similar to the average score of the Flemish boys. Next to that, the Walloon boys have an average score of 19.1 (*SD*= 7.4), ranging from 8 to 39, and the Walloon girls obtain a mean score of 18.3 (*SD*= 5.74), ranging from 9 to 33. Noteworthy, the Flemish female outliers in figure 18 are the same as dealt with in section 6.1.2. As mentioned, these Flemish pupils are French-speaking at home, which can explain why these girls are outliers. Regarding Wallonia, outlier 151 is Dutch-speaking at home. However, on the basis of

the collected data, no specific reason can be found for informant 145, who obtains a high score (i.e. 33) compared to the average score of the Walloon informants (i.e. 18.7 out of 40).

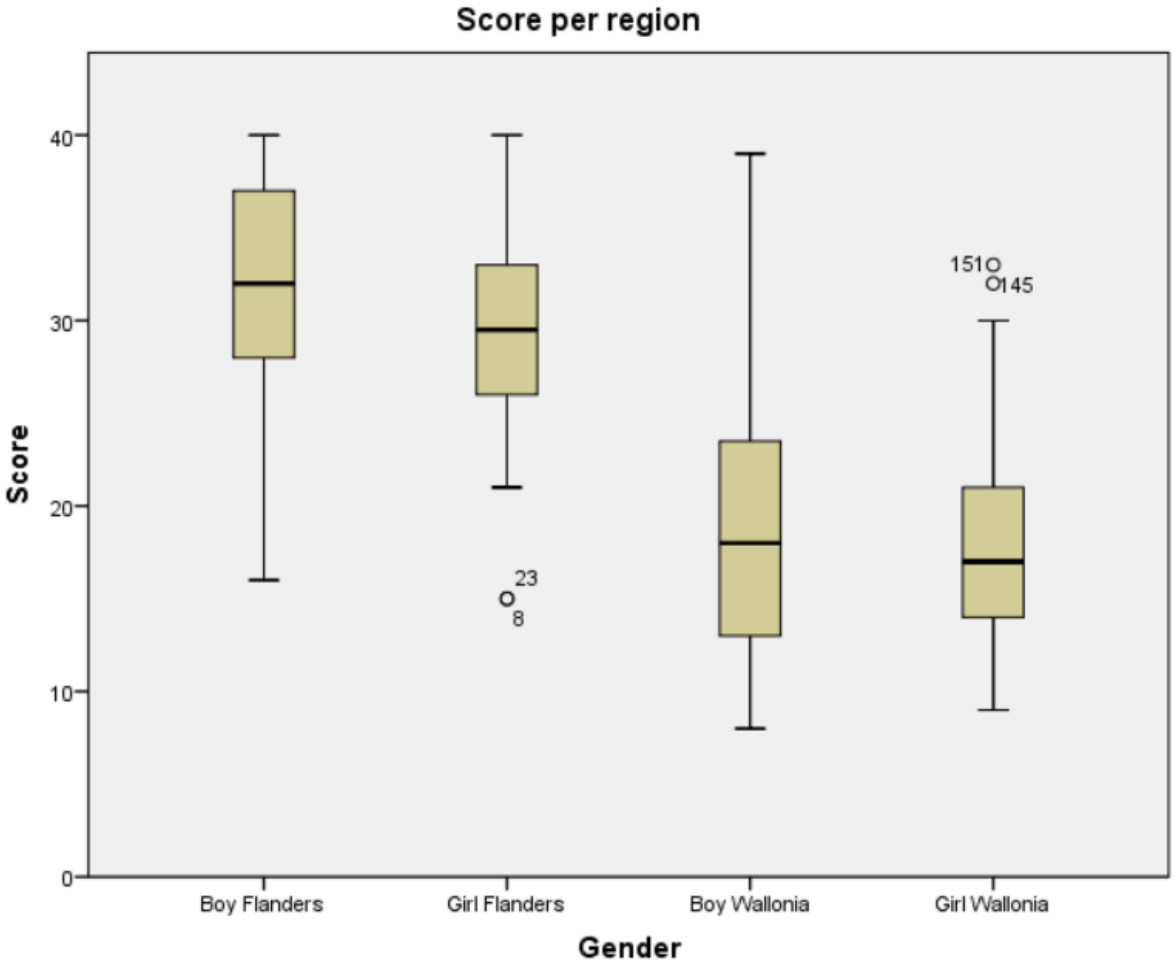


Figure 18 Boxplot representing the average scores versus gender

A one-way ANOVA (table 4) provides highly significant results, which implies that the means for both sexes are different ($F_{3,228}$= 66.35, p< 0.001). Following, post-hoc analyses using Tukey's HSD indicate that the scores of the Flemish boys and the Flemish girls significantly

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7916,525	3	2638,842	66,352	,000
Within Groups	9067,596	228	39,770		
Total	16984,121	231			

Table 4 One-way ANOVA of general scores versus gender

differ from those of their Walloon counterparts (p< 0.001). In fact, the Flemish boys and the Flemish girls score higher than the Walloon boys and the Walloon girls. However, non-significant results are obtained between boys and girls in a same region (p> 0.05). In other words, the Flemish boys and the Flemish girls have similar scores. The Walloon boys and the

Walloon girls also obtain similar scores. Yet, if the level of significance is raised to α=10%, marginally significant results are obtained in Flanders (p= 0.09), as shown in table 5. In this particular case, the Flemish boys score, on average, higher than the Flemish girls on the grammar test. But, in general, the factor "gender" does not influence the results of the English grammar test.

Multiple Comparisons

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Boy Flanders	Girl Flanders	2,854	1,227	,095	-,32	6,03
	Boy Wallonia	12,881*	1,181	,000	9,82	15,94
	Girl Wallonia	13,629*	1,295	,000	10,28	16,98
Girl Flanders	Boy Flanders	-2,854	1,227	,095	-6,03	,32
	Boy Wallonia	10,027*	1,082	,000	7,23	12,83
	Girl Wallonia	10,775*	1,205	,000	7,65	13,89
Boy Wallonia	Boy Flanders	-12,881*	1,181	,000	-15,94	-9,82
	Girl Flanders	-10,027*	1,082	,000	-12,83	-7,23
	Girl Wallonia	,747	1,158	,917	-2,25	3,75
Girl Wallonia	Boy Flanders	-13,629*	1,295	,000	-16,98	-10,28
	Girl Flanders	-10,775*	1,205	,000	-13,89	-7,65
	Boy Wallonia	-,747	1,158	,917	-3,75	2,25

Table 5 Post-hoc Tukey's HSD - general scores versus gender per region

6.1.4. Score versus home language

The questionnaires suggest that the pupils have many different home languages. Figure 19 shows that the average scores amount to 30.6 (*SD*= 5.58) for the Dutch-speaking informants, to 26.6 (*SD*= 7.83) for the informants who speak Dutch and French at home, to 18.3 (*SD*= 5.91)

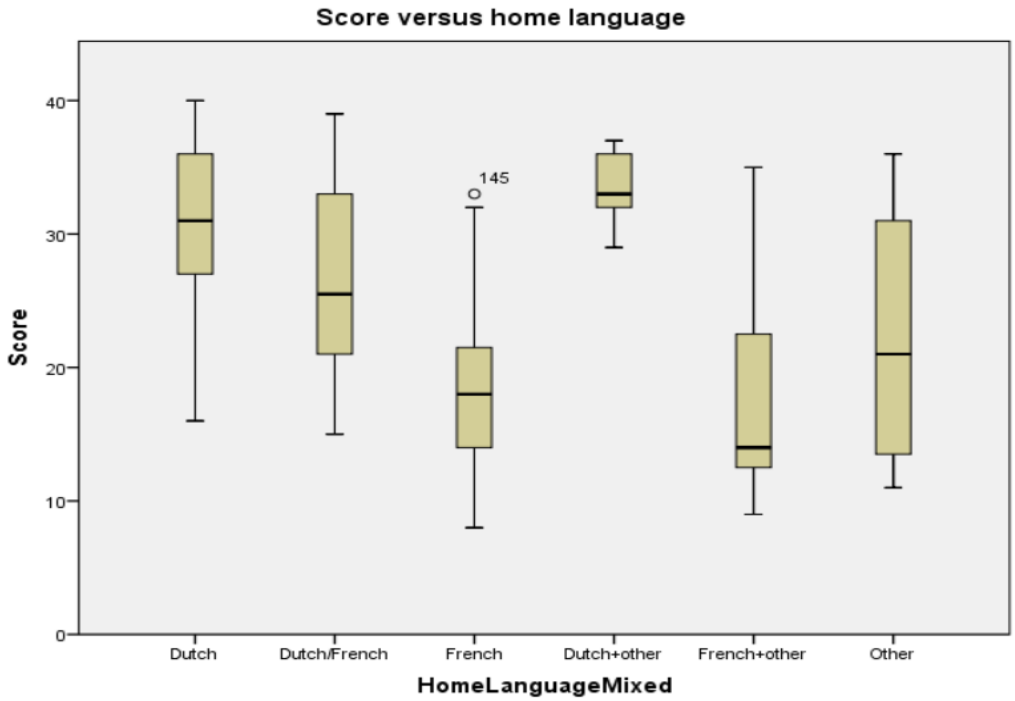


Figure 19 Boxplot representing the general scores versus the home language independently of the region

for the pupils who only speak French at home, to 33.4 (*SD*= 3.21) for the pupils who speak Dutch and another language at home (i.e. Polish, Arabic or Russian), to 17.3 (*SD*= 7.64) for the informants who speak French and another language at home (i.e. Italian or Arabic) and to 22.2 (*SD*= 11.09) for pupils who do not speak Dutch or French at home. These four pupils speak Polish, Arabic, Portuguese or Russian at home (cf. the category *other* in figure 19).

Multiple Comparisons

Dependent Variable: Score

Tukey HSD

(I) HomeLanguageMixed	(J) HomeLanguageMixed	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Dutch	Dutch/French	4,027	1,591	,119	-,55	8,60
	French	12,299*	,902	,000	9,70	14,89
	Dutch+other	-2,761	2,817	,924	-10,86	5,34
	French+other	13,366*	1,963	,000	7,72	19,01
	Other	8,389	3,132	,084	-,62	17,39

Table 6 Post-Hoc Tukey's HSD - average scores versus home language

First, the one-way ANOVA indicates that the average scores significantly differ depending on the home languages ($F_{5,226}$= 43.47, p<0.001). I further hypothesise that having Dutch as a home language should result in a higher average score than having French as a home language because Dutch and English share common grammatical features, as being two Germanic languages. Following post hoc analyses using Tukey HSD indicate that the mean score of the Dutch-speaking informants significantly differs from the mean score of the French-speaking pupils (p< 0.001) and that the mean score is higher for the Dutch-speaking informants. It also indicates that the mean score of the Dutch-speaking pupils highly differs from the average score of the pupils who speak French and another language at home (p< 0.001). The mean is higher for the Dutch-speaking group. The results of the post-hoc test (i.e. Tukey HSD) are shown in table 6. Noteworthy, the Dutch-speaking pupils of Comines (cf. section 6.1.1.) belong to the "Dutch" group; whereas the French-speaking pupils of Wervik belong to the "French" group. In other words, the analyses are performed on the basis of the languages spoken at home rather than on the basis of the regions.

Second, a linear regression is performed in order to examine the correlations between the average scores and the home languages. The home language "Dutch" is used as the constant variable for the linear regression analysis. On the one hand, it indicates a positive correlation between score and having Dutch as a home language (r= 0.57, p< 0.01). On the other hand, it suggests a negative correlation between score and having French as a home language (r= -0.61, p< 0.01). In other words, the Dutch-speaking pupils have some facilities to acquire English grammar compared to their Walloon counterparts.

In short, the informants, who do not speak Dutch at home, score lower than those who do (p< 0.05).

6.1.5. Contact with English through travelling

In this section, both samples (Wallonia and Flanders) are considered separately because non-significant results are obtained when both samples are put together (p> 0.05). In figure 20, the horizontal axis represents the scores of the Flemish pupils and the vertical axis represents the duration of the stay in days. Noteworthy, the countries are divided according to Kachru's

concentric circles. Figure 20 indicates that most of the Flemish informants never travel to English-speaking countries (cf. category "*never*"). Figure 20 also suggests that the duration of the stay has a positive influence on the scores.

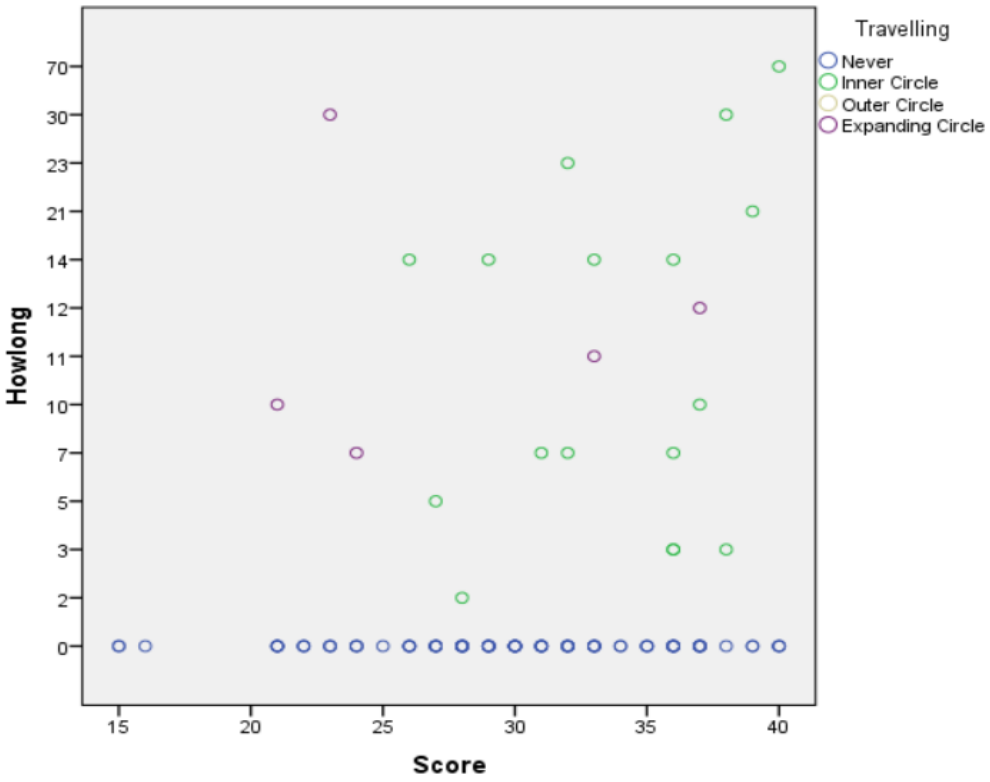


Figure 20 Scatterplot representing the scores versus the duration of the stay in Flanders

A one-way ANOVA indicates that the mean scores of the Flemish pupils vary depending on the English-speaking country they travel to ($F_{2,105}$= 4.11, *p*= 0.019). Further post-hoc analyses using Tukey's HSD suggest that there is a significant difference between pupils who never travel to an English-speaking country (*M*= 29.8, *SD*= 5.81) and those who claim to travel to countries belonging to the inner circle (*M*= 33.8, *SD*= 4.39), *p*= 0.025. Non-significant results are found for Flemish pupils who claim to travel to expanding circle countries. These results

Multiple Comparisons

Dependent Variable: Score

Tukey HSD

(I) Travelling	(J) Travelling	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Never	Inner Circle	-3,997	1,506	,025	-7,58	-,42
	Expanding Circle	2,167	2,610	,685	-4,04	8,37
Inner Circle	Never	3,997	1,506	,025	,42	7,58
	Expanding Circle	6,165	2,886	,088	-,70	13,03
Expanding Circle	Never	-2,167	2,610	,685	-8,37	4,04
	Inner Circle	-6,165	2,886	,088	-13,03	,70

Table 7 Post-hoc Tukey's HSD - score versus travelling according to Kachru's concentric circles (Flanders)

are expected, but it remains interesting to further investigate whether the duration of the stay impacts on the mean scores of the Flemish informants.

I hypothesise that a longer stay in an English-speaking country can enhance the receptive incidental English acquisition. However, no representative results can be obtained on the basis of this sample as the subcategories *Inner circle* (N= 17) and *Expanding circle* (N= 5) are underrepresented. On the basis of this limited data, Pearson's correlation is very limited and statistically non-significant (r= 0.25, p= 0.26). Basically, figure 20 confirms the non-significant correlation, as informants who do not often travel (i.e. less than 10 days) to English-speaking countries still obtain scores between 35 and 40. However, the highest score (i.e. 40) is obtained by the pupil who stayed the longest in an English-speaking country (70 days over the last couple of years).

Figure 21 represents the scores of the Walloon pupils versus the duration of the stay in days. The figure shows that not a single Walloon pupil claim to travel to an outer circle country. The mean scores amount to 18.3 (*SD*= 6.4, *N*= 97) for those who claim to never travel to an English-speaking country, to 20.7 (*SD*= 8.01, *N*= 24) for those who claim to travel to inner circle countries and to 16.7 (*SD*= 8.02, *N*= 3) for those who claim to travel to expanding circle countries. As opposed to Flanders, a one-way ANOVA for the Walloon pupils does not provide significant results ($F_{2,121}$= 1.27, p= 0.28). In other words, the average scores on the grammar test do not vary depending on the duration of the stay. Noteworthy, the highest score (39) is obtained by the Walloon pupil who stayed the longest in an English-speaking country (30 non-consecutive days).

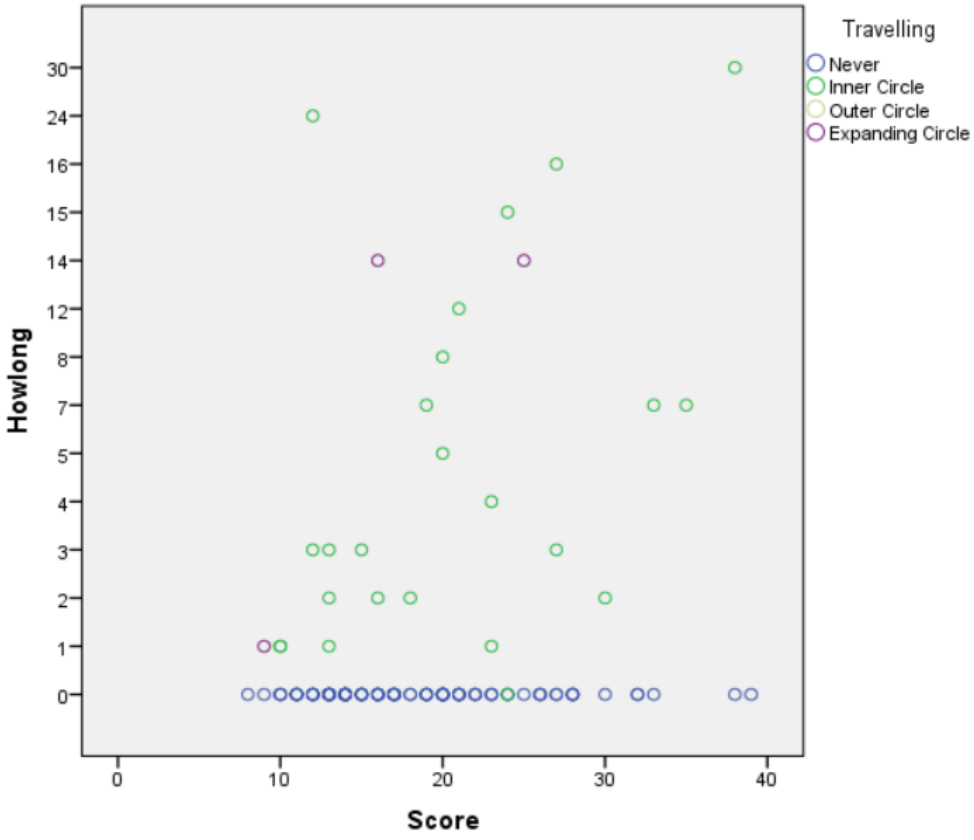


Figure 21 Scatterplot representing the scores versus the duration of the stay in Wallonia

To conclude, travelling to an English-speaking country is not a preponderant factor of incidental English grammar acquisition, which is largely due to the fact that most pupils acknowledge that they do not speak English during their stay, but their parents usually do.

6.1.6. English acquaintances

In order to find whether having an English acquaintance can influence the English proficiency, a linear regression is performed. It reveals non-significant results in Flanders ($F_{2,105}$=2.38, p= 0.1). In other words, there is no statistical difference in mean scores between the pupils who have English friends or English family (i.e. aunt, uncle, cousin or stepmother) and the pupils

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,208[a]	,043	,025	5,762	,043	2,385	2	105	,097

a. Predictors: (Constant), English Acquaintances Family, English Acquaintances Friends

Table 8 Linear regression analysis of English acquaintances versus score in Flanders

who do not have these acquaintances. Table 8 is the model summary of the regression analysis, which indicates that the correlation is low (r= 0.2) and accounts for a marginal amount of variation (0.04% of the cases). In short, Flemish pupils who have an English acquaintance do not statistically score better than those who do not. This can be explained by the following open question, in which most of the pupils indicate that they hardly ever speak English with their English acquaintances.

The same procedure is followed for the Walloon pupils and delivers highly non-significant results as well ($F_{3,120}$=0.78, p= 0.51). Table 9 summarises the results. Again, the correlation

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,138[a]	,019	-,005	6,799	,019	,779	3	120	,508

a. Predictors: (Constant), English Acquaintances Parents, English Acquaintances Family, English Acquaintances Friends

b. Dependent Variable: Score

Table 9 Linear regression analysis of English Acquaintances versus score in Wallonia

between score and having an English friend or English-speaking family is very limited (r= 0.14, r^2= 0.2). The Walloon pupils also acknowledge that they hardly ever speak English with their English acquaintances.

6.2. Attitude and motivation

There are five possible answers in the questionnaire for each statement about attitude and motivation, i.e., *strongly disagree*, *disagree*, *neuter*, *agree* and *strongly agree*. The subcategory *neuter* is used as a constant for the linear regression analyses. Next to that, Flanders and Wallonia are considered separately. There are three statements dealing with integrative motivation. The statements include *English is an exciting language*, *English is important for the future* and *English is a beautiful language*. There is one statement about instrumental motivation, i.e. *English is a world language*. Finally, there are three statements about attitude.

These involve *English is easy to learn, English is easy to understand* and *English is easy to produce*.

6.2.1. English is exciting

Figure 22 shows that the average scores of the Flemish pupils steadily increase when the degree of agreement with the statement *English is exciting* increases. So, I hypothesise that there is a positive correlation between score and finding English exciting. A one-way analysis of variance

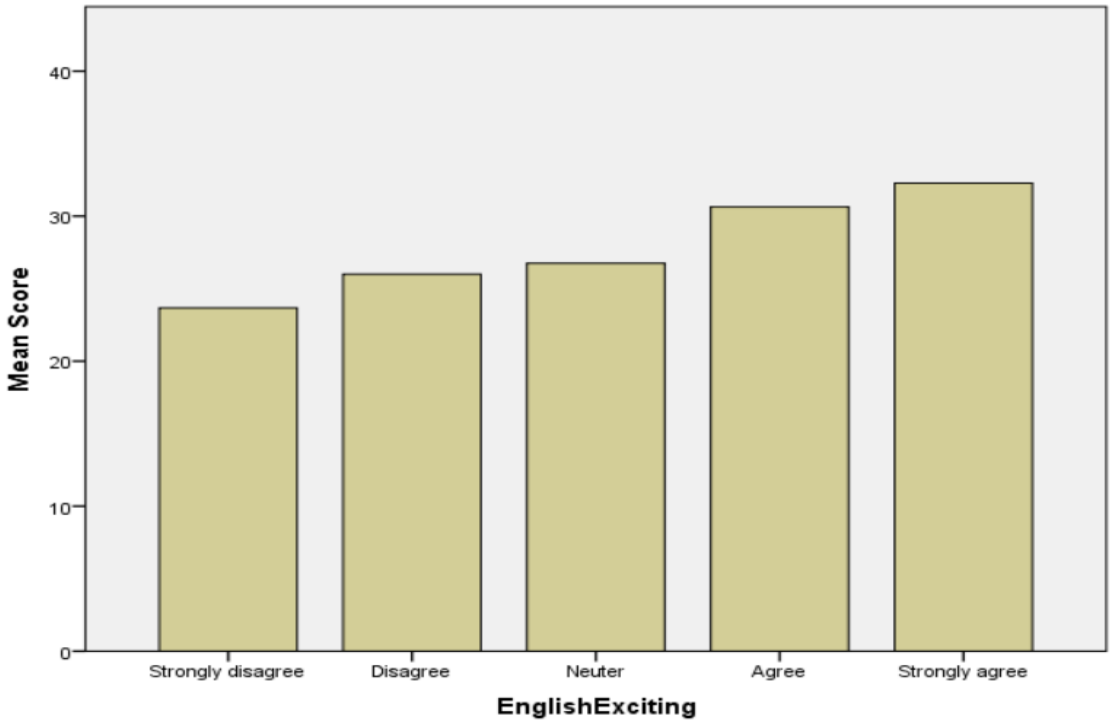


Figure 22 Histogram representing the mean scores versus the statement "English is an exciting language" (Flanders)

further shows a main effect of self-rated excitedness about the English language on the average scores, $F_{4,103}= 5.61$, $p< 0.001$. However, post-hoc analyses cannot be performed because the category *disagree* only comprises one informant. Therefore, a linear regression analysis is preferred. The model has a limited reach as shown in table 10.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,423[a]	,179	,147	5,390	,179	5,614	4	103	,000

Table 10 Linear regression of score versus "English is an exciting language" (Flanders)

In fact, the correlation is limited ($r= 0.42$, $r^2= 0.18$). Further correlation analyses show that a negative perception of English (i.e. *strongly disagree*) has a negative effect on score ($r= -0.19$, $p=0.02$). Non-significant correlation is found for the category *disagree* ($r= -0.71$, $p> 0.05$), but, as mentioned earlier, this subcategory only comprises one Flemish pupil. Non-significant correlation is also found for the category *agree* ($r= 0.36$, $p> 0.05$). Finally, a highly positive perception of English (*strongly agree*) has a positive effect on score ($r= 0.32$, $p< 0.001$). Noteworthy, only one pupil strongly disagrees with the statement and three others disagree with

this same statement. 24 Flemish pupils are neuter, 30 agree and 50 strongly agree with the statement.

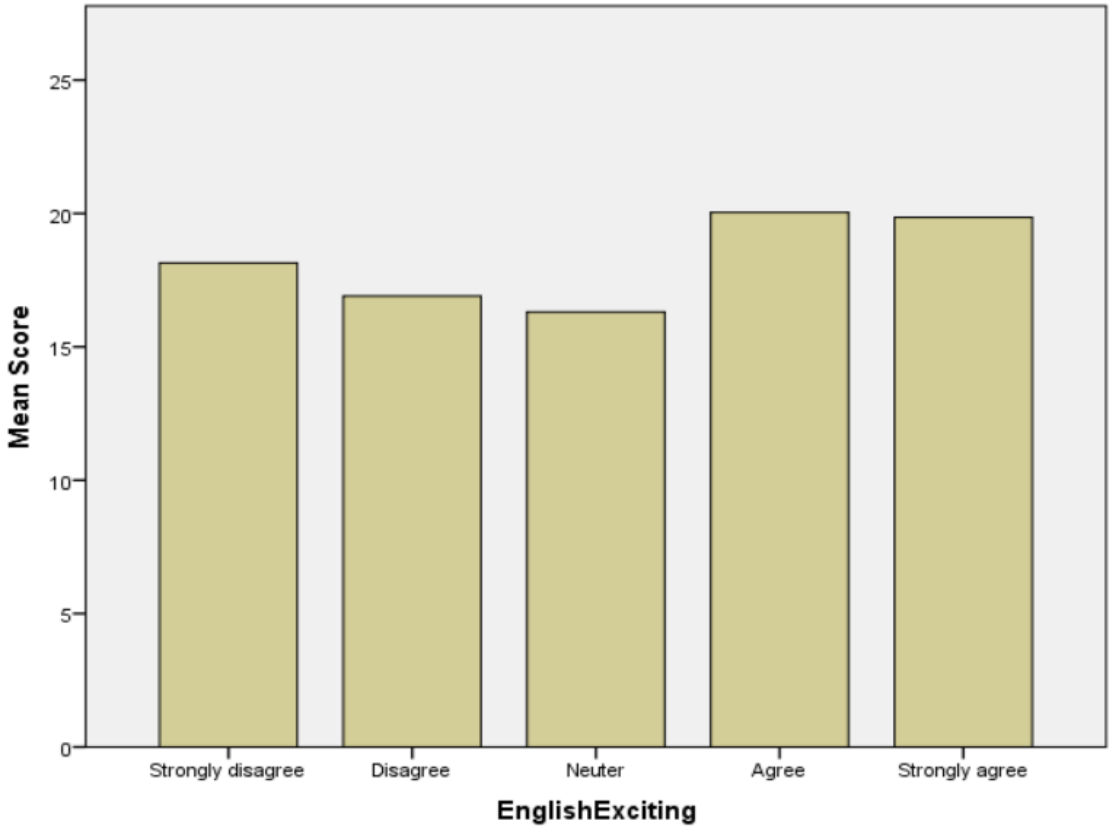


Figure 23 Histogram representing the mean scores versus the statement "English is an exciting language" (Wallonia)

In contrast to Flanders, the mean scores of the Walloon pupils amount to 18.1 (*N*= 7, *SD*= 5.73) for the answer "*strongly disagree"*, to 16.9 (*N*= 10, *SD*= 4.72) for the answer "*disagree*", to 16.3 (*N*= 26, *SD*= 6.01) for the answer "*neuter*", to 20 (*N*= 27, *SD*= 20.04) for the answer "*agree*" and to 19.9 (*N*= 49, *SD*= 7.28) for the answer "*strongly agree*". In other words, the average scores of the Walloon pupils do not suggest a positive correlation between score and finding English exciting. This is further confirmed by figure 23, which does not suggest any correlation.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,222[a]	,049	,017	6,721	,049	1,544	4	119	,194

Table 11 Linear regression analysis of the score versus "English is an exciting language" (Wallonia)

It is thus not surprising that no significant correlation between finding English exciting and the average score can be found for the Walloon informants ($F_{4,119}$= 1.54, *p*= 0.19). The results are reported in table 11.

6.2.2. English is important for the future

The scores of the Walloon participants remain constant regardless of their opinion about the statement *English is important for the future*. The means amount to 18.6 (*N*= 7, *SD*= 6.24) for the category "*strongly disagree*", to 19.8 (*N*= 9, *SD*= 6.63) for the category "*disagree*", to 19.7 (*N*= 18, *SD*= 7.86) for the category "*neuter*", to 16 (*N*= 25, *SD*= 4.36) for the category "*agree*" and to 20.2 (*N*= 57, *SD*= 7.3) for the category "*strongly agree*". However, it should be noted that most of the Walloon pupils (strongly) agree with the statement.

The same tendency holds true in Flanders. The means amount to 31.3 (*N*= 3, *SD*= 5.03) for "*strongly disagree*", to 29.5 (*N*= 2, *SD*= 7.78) for "*disagree*", to 32.7 (*N*= 17, *SD*=5.81) for "*neuter*", to 28.7 (*N*= 29, *SD*= 5.71) for "*agree*" and to 30.4 (*N*= 57, *SD*= 5.82) for "*strongly agree*". Again, most pupils agree upon the importance of English for the future, but it does not impact positively on their results.

It seems that finding English important for the future is not a preponderant factor in this dataset as no statistical difference in mean scores can be found. In fact, most of the pupils are positive towards the statement, hence the marginal differences.

6.2.3. English is a beautiful language

Both samples are considered separately. The mean scores of the Walloon pupils on the grammar test put in relation to the statement on the English beauty are as follows: 14.4 (*N*= 7, *SD*= 3.26) for "*strongly disagree*", 17 (*N*= 5, *SD*= 5.92) for "*disagree*", 19.5 (*N*= 25, *SD*= 8.31) for "*neuter*", 17.4 (*N*= 24, *SD*= 5.98) for "*agree*" and 19.7 (*N*= 54, *SD*= 6.44) for "*strongly agree*".

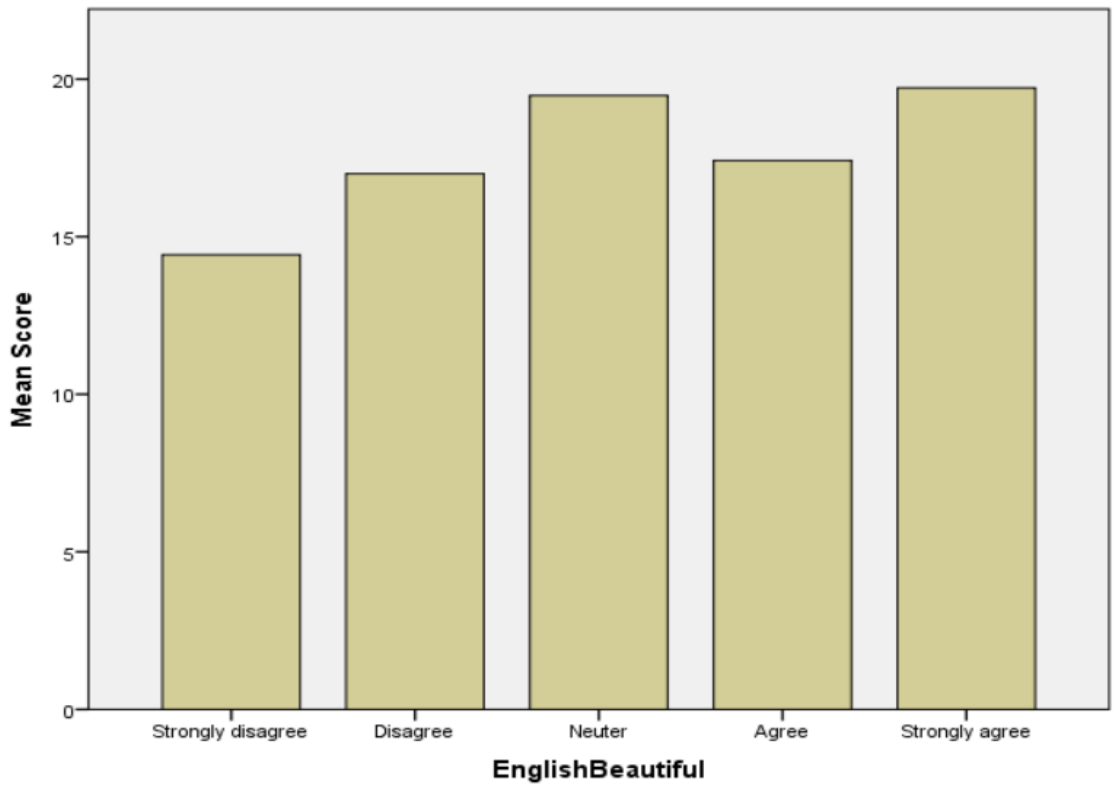


Figure 24 Histogram representing the average scores versus the statement "English is a beautiful language" (Wallonia)

In fact, most of the Walloon pupils acknowledge that English is a beautiful language, but it does not influence their scores. According to a one-way ANOVA, there is no significant difference in average scores for the Walloon pupils depending on their answers to the statement about the English beauty ($F_{4,110}$= 1.424, p= 0.231).

Figure 25 shows the average scores in relation to the Flemish informants' answers to the statement "*English is a beautiful language*". The means amount to 26 (N= 1) for the category "*strongly disagree*", to 18.5 (N= 2, SD= 3.54) for the category "*disagree*", to 28.3 (N= 15, SD= 6.6) for the category "*neuter*", to 29.3 (N= 39, SD= 5.26) for the category "*agree*" and to 32.2 (N= 51, SD= 5.27) for the category "*strongly agree*".

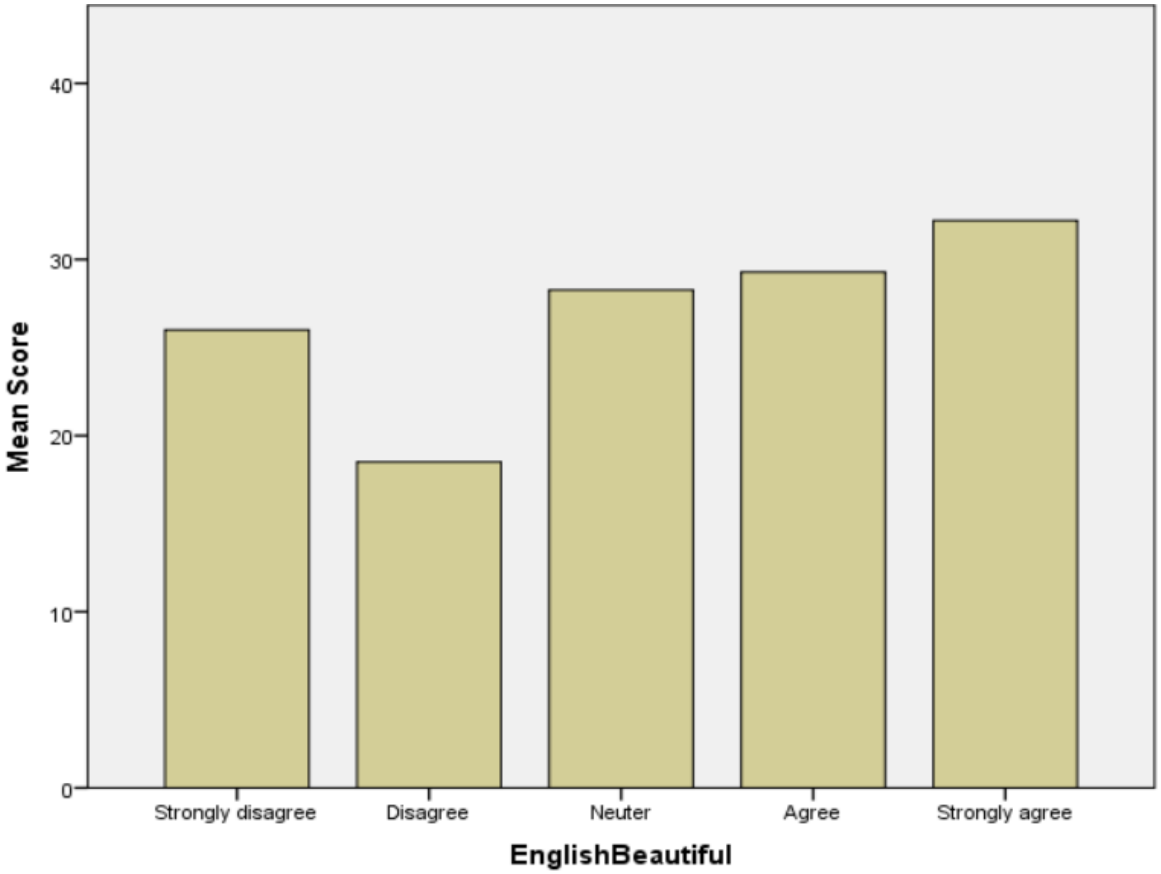


Figure 25 Histogram representing the average scores versus the statement "English is a beautiful language" (Flanders)

The analysis of variance indicates a significant difference in average scores depending on the answers the Flemish pupils provide to the statement ($F_{4,103}$=4.939, p= 0.001). A follow-up linear regression is performed (table 12). The correlation is limited (r= 0.4, r^2= 0.16). In other words, there is a positive correlation between finding English beautiful and the average score. However, the model only accounts for 16.1% of the variations, which means that the statement "*English is beautiful*" accounts for 16.1% of the variations in score.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,401[a]	,161	,128	5,449	,161	4,939	4	103	,001

Table 12 Linear regression analysis of score versus the statement "English is a beautiful language" (Flanders)

Further correlation analyses show a highly significant negative correlation between the answer "*disagree*" and the average score (r= -0.28, p= 0.002) and a highly positive correlation between the answer "*strongly agree*" and the average score (r= 0.31, p< 0.001). The correlations for the other answers are non-significant (p> 0.05). It should be interesting to perform the same test with a bigger number of participants in the categories "*strongly disagree*" and "*disagree*" in order to study the correlation more accurately. However, the results suggest a correlation between the English grammatical proficiency and finding English beautiful. It should further be noted that most of the pupils think that English is a beautiful language. Interestingly, these findings further imply that integrative motivation seems to be more important for the Flemish pupils than for their Walloon counterparts.

6.2.4. English is a world language

The Flemish pupils who strongly argue against the worldwide importance of English obtain a mean of 34.5 (N= 2, SD= 3.54). Those who argue against the worldwide importance of English have a mean of 28.1 (N= 9, SD= 4.01). Those who are neuter obtain a mean of 30.9 (N= 28 SD= 6.57). Those who agree with the statement have an average score of 28.8 (N= 35, SD= 6.57). Finally, those who strongly agree obtain an average score of 31.7 (N= 33, SD= 5.52). A one-way ANOVA is performed in order to establish whether there are significant differences in mean scores depending on the pupils' answers to the statement "*English is a world language*". In Flanders, no statistical difference in mean scores can be found ($F_{5,102}$= 1.442, p= 0.216).

In Wallonia, a one-way analysis of variance does not provide a statistical difference in mean scores in relation to the statement "*English is a world language*" ($F_{4,113}$= 0.73, p= 0.57). The mean scores amount to 16.4 (N= 8, SD= 4.27) for "*strongly disagree*", to 16.3 (N= 9, SD= 7.31) for "*disagree*", to 19.6 (N= 14, SD= 8.05) for "*neuter*", to 18.8 (N= 31, SD= 6.71) for "*agree*" and to 19.5 (N= 56, SD= 6.81) for "*strongly agree*". Noteworthy, both samples mainly agree with the statement.

6.2.5. English is easy to learn

The one-way analyses of variance are significant in both regions for the first time. Therefore, linear regression analyses are also performed for both regions. Noteworthy, the answer *"neuter"* is used as the constant for the linear regression analyses.

Regarding Wallonia, the boxplot (figure 26) tends to suggest that the means vary quite a lot. For instance, the Walloon pupils who agree with the statement "*English is easy to learn*" obtain a higher average score (M= 23.35, SD= 8.54) than those who strongly disagree with the statement (M= 15.56, SD= 6.14), p= 0.006. The mean score for the category *disagree* reaches 18.3 (SD= 5.94). It reaches 18.8 (SD= 5.89) for the category *neuter* and 18.9 (SD= 8.33) for the category *strongly agree*. A one-way ANOVA further indicates a statistical difference in mean scores in relation to the statement *"English is easy to learn*" ($F_{4,119}$= 3.207, p= 0.017). In other words, the Walloon informants obtain different average scores depending on the answers they provide to the statement "*English is easy to learn*". The regression analysis (table 13) indicates a limited positive correlation (r= 0.31, r^2= 0.01). However, further correlation analyses provide interesting results. In fact, there is a highly significant negative correlation between score and strongly disagreeing with the statement (r= -0.19, p= 0.015) and a highly significant positive

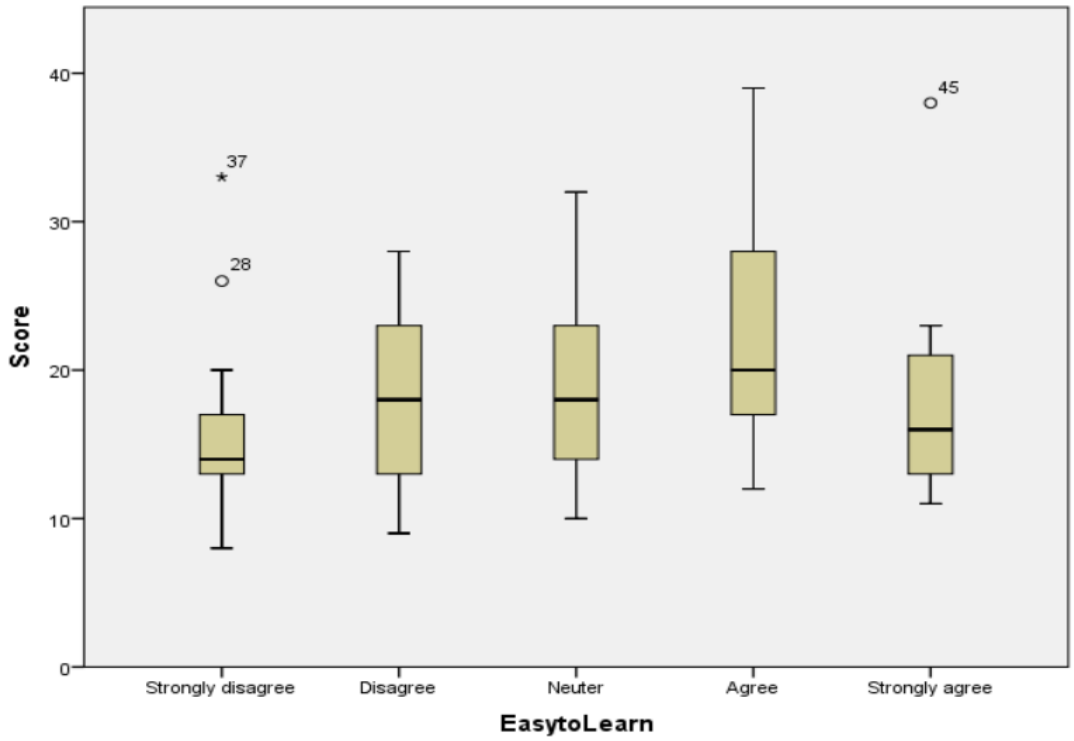


Figure 26 Boxplot representing the average scores versus the statement "English is easy to learn" (Wallonia)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,312[a]	,097	,067	6,549	,097	3,207	4	119	,015

Table 13 Linear regression of score versus the statement "English is easy to learn" (Wallonia)

correlation between score and agreeing with the statement (r= 0.27, p< 0.001). In short, it seems that a higher degree of agreement with the statement "*English is easy to learn*" positively correlates with the average scores of the Walloon pupils.

Concerning Flanders, figure 27 shows the average scores in relation to the pupils' answers to the statement about the ease to learn English. It shows that the informants who agree (M= 31.6, SD= 4.66) or strongly agree (M= 36.3, SD= 2.22) with the statement tend to score higher than those who disagree with it (M= 30.3, SD= 4.84). The one-way ANOVA indicates a highly significant difference in average scores in relation to the answers the pupils provided to the statement "*English is easy to learn*" ($F_{4,103}$= 5.8, p< 0.001). Further post-hoc analyses using Tukey's HSD indicate a highly significant difference in average scores between the categories "*neuter*" (M= 28.8, SD= 6.29) and "*strongly agree*" (M= 36.2, SD= 2.22), p< 0.001.

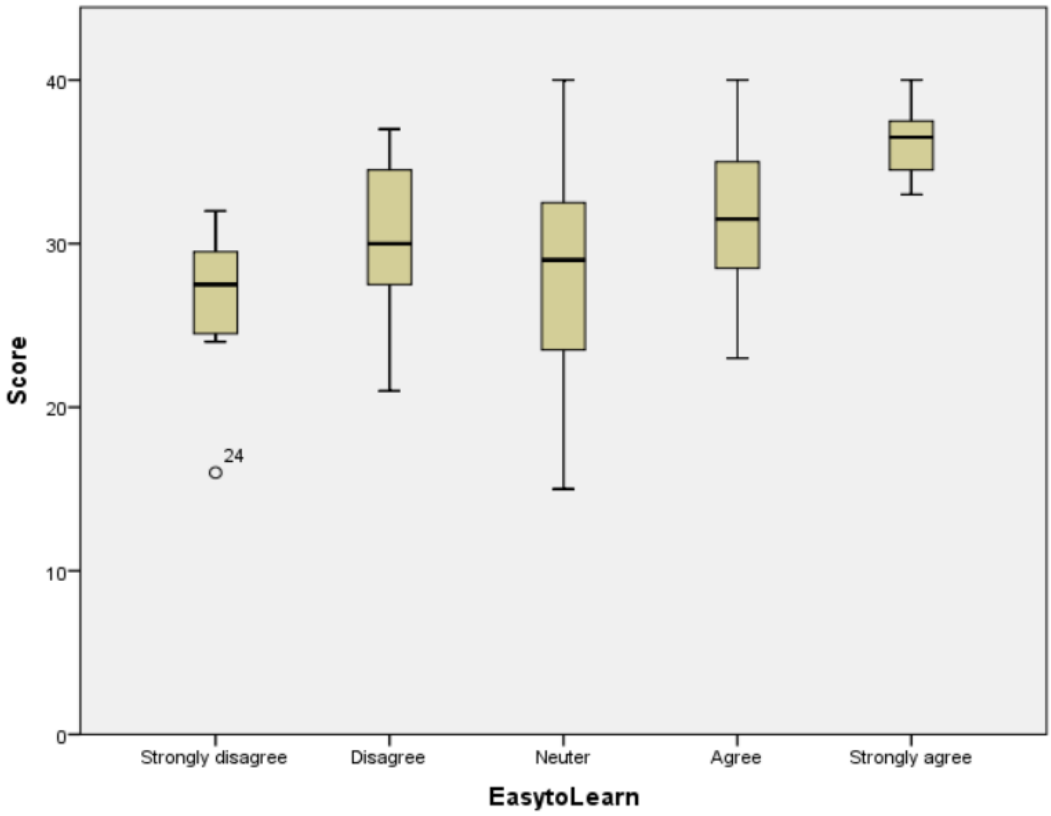


Figure 27 Boxplot representing the average scores versus the statement "English is easy to learn" (Flanders)

Table 14 shows the model summary of the regression analysis for the Flemish informants. It indicates a limited positive correlation (r= 0.43). Further analyses suggest a negative correlation between the average score and disagreeing with the statement (r= -0.19, p= 0.024) and a highly significant correlation between score and strongly agreeing with the statement (r= 0.362, p< 0.0001). In short, when the degree of agreement with the statement "*English is easy to learn*" increases, the scores of the Flemish pupils steadily increase.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,429[a]	,184	,152	5,374	,184	5,800	4	103	,000

Table 14 Linear regression analysis of score versus the statement "English is easy to learn" (Flanders)

6.2.6. English is easy to understand

Regarding Wallonia, the mean scores amount to 15.3 (*SD*= 4.94) for the pupils who strongly disagree with the statement "*English is easy to understand*", to 16.9 (*SD*= 5.82) for those who disagree with the statement, to 19.6 (*SD*= 5.64) for those who are neuter, to 20.4 (*SD*= 7.76) for

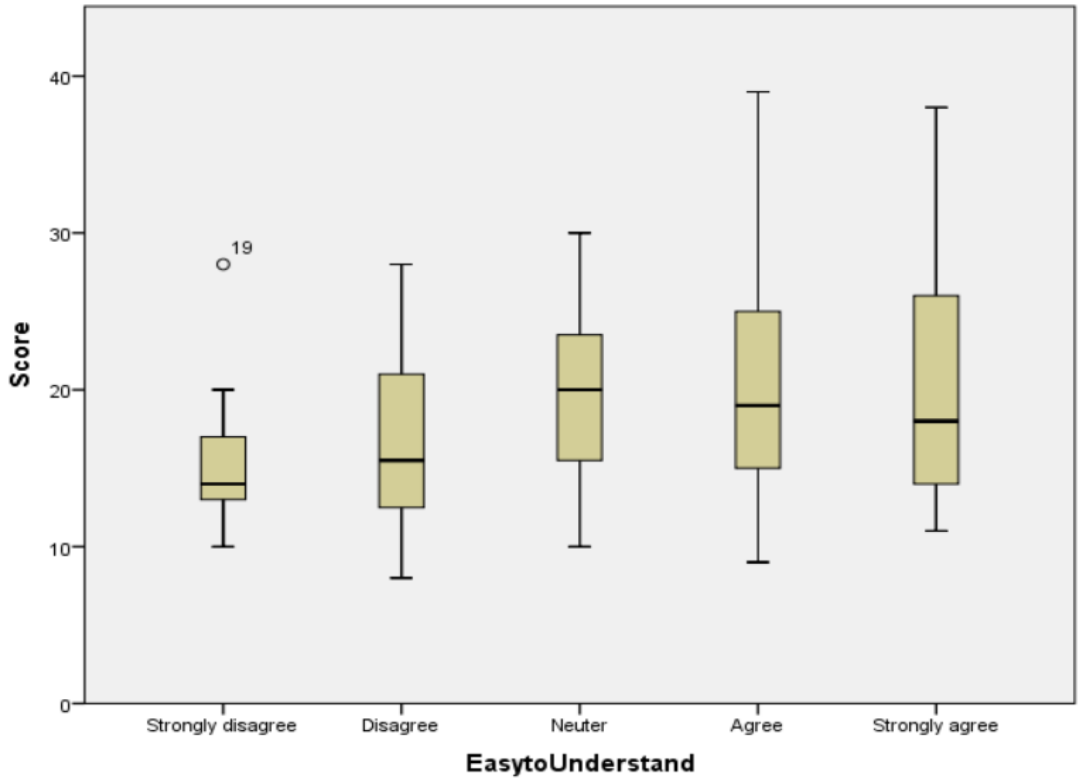


Figure 28 Boxplot representing the general scores versus the statement "English is easy to understand" (Wallonia)

those who agree with the statement and to 21.7 (*SD*= 9.4) for those who strongly agree with the statement (figure 28). The means suggest that there is a positive correlation between score and finding English easy to understand. Further correlation analyses (table 15) indicate a negative correlation between score and strongly disagreeing with the statement (r= -0.17, p= 0.026). They also show a negative correlation between score and disagreeing with the statement (r= -0.15, p= 0.049). They finally indicate a positive correlation between score and strongly agreeing with the statement (r= 0.15, p= 0.05). Eventually, a one-way ANOVA suggests that there is a marginal difference in average scores depending on the answers the Walloon pupils provided to the statement "English is easy to understand" ($F_{4,110}$= 2.57, p= 0.042).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,278[a]	,077	,046	6,622	,077	2,487	4	119	,047

Table 15 Linear regression model of score versus the statement "English is easy to understand" (Wallonia)

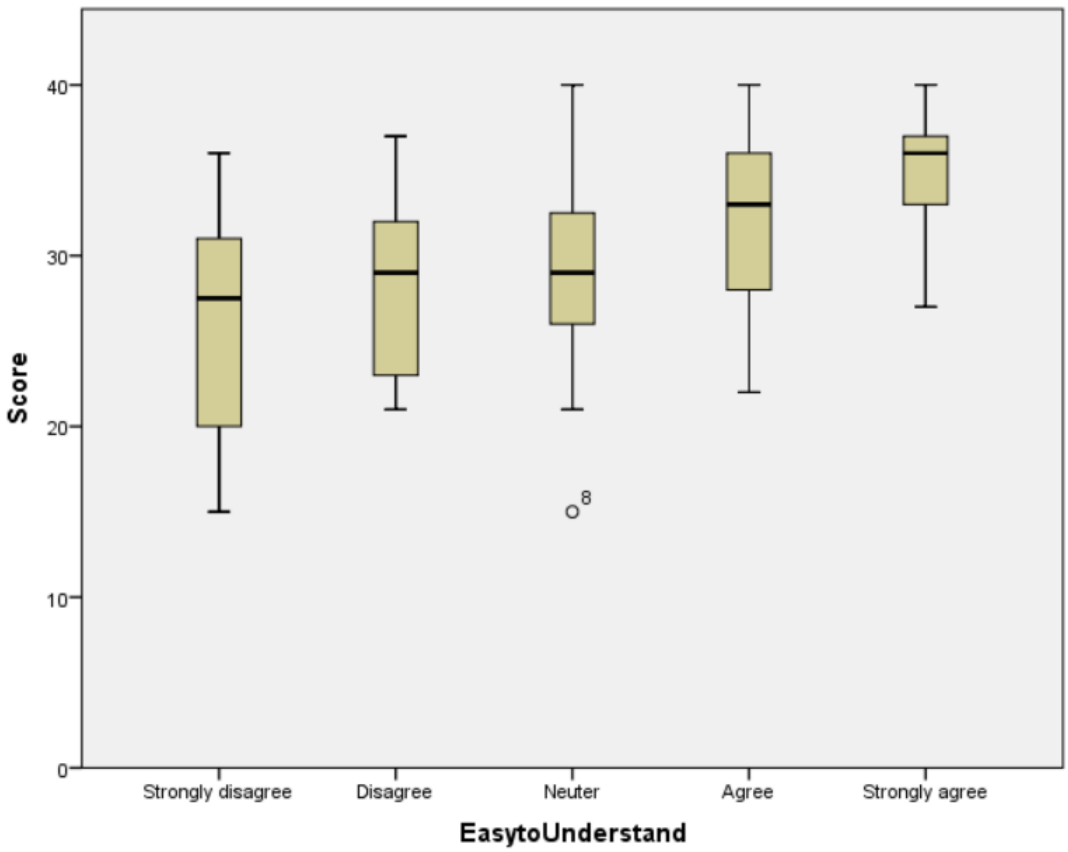


Figure 29 Boxplot representing the average scores versus the statement "English is easy to understand" (Flanders)

From left to right, the means for the Flemish pupils (figure 29) reach 26 (*SD*= 7.42), 28.3 (*SD*= 5.32), 29.4 (*SD*= 5.58), 31.5 (*SD*= 5.37) and 35.2 (*SD*= 3.62). In other words, the means steadily increase when the degree of agreement with the statement "*English is easy to understand*" increases. The correlation analyses indicate a negative correlation between score and strongly disagreeing with the statement (r= -0.21, p= 0.015). They also show a negative correlation between score and disagreeing with the statement (r= -0.15, p= 0.05). They finally indicate a positive correlation between score and strongly agreeing with the statement (r= 0.31, p< 0.001). Non-significant correlation is found for agreeing with the statement (r= 0.14, p= 0.07). Table 16 is the model summary of the linear regression. The one-way ANOVA also confirms the differences in average scores depending on the Flemish pupils' answers to the statement "*English is easy to understand*" ($F_{4,103}$= 5.18, p= 0.001).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,409[a]	,168	,135	5,427	,168	5,184	4	103	,001

Table 16 Linear regression analysis of average scores versus the statement "English is easy to understand" (Flanders)

6.2.7. English is easy to produce

Again, both regions are considered separately. From left to right, the means in Flanders (figure 30) amount to 27 (*SD*= 7.57), 29.2 (*SD*= 5.19), 30.6 (*SD*= 5.82), 31.9 (*SD*= 4.91) and 34.7 (*SD*= 5.38). It seems that the average scores of the Flemish pupils positively increase when English is considered easy to produce. However, a one-way analysis of variance for the Flemish sample

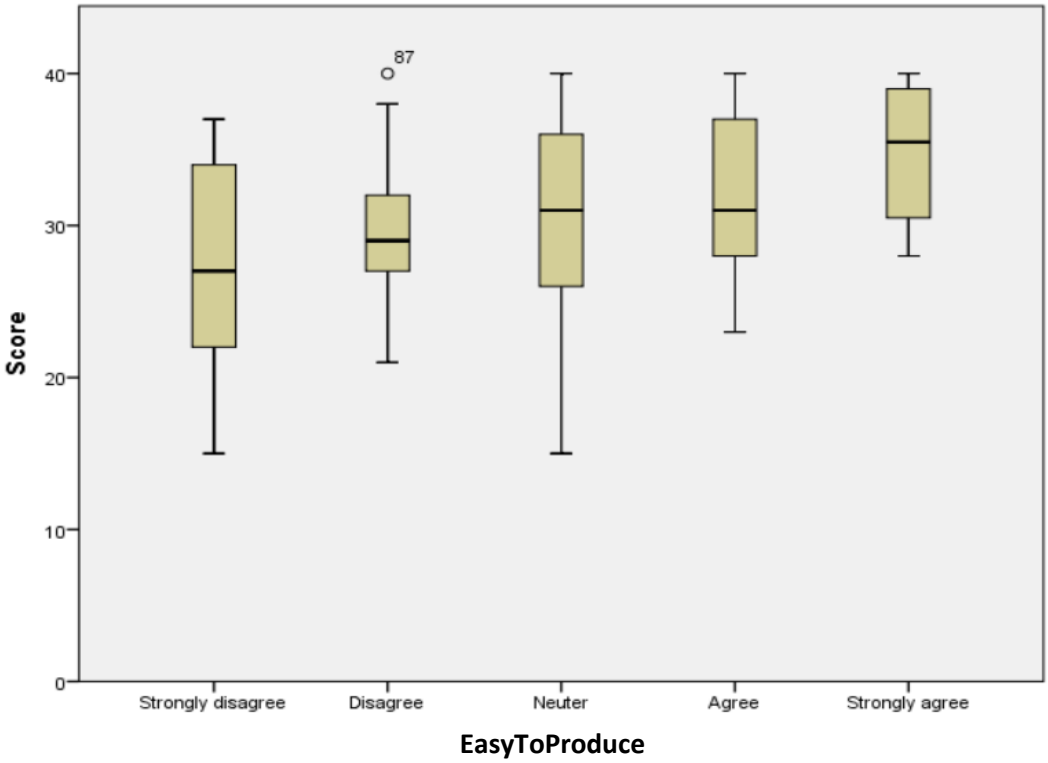


Figure 30 Boxplot representing the average scores versus the statement "English is easy to produce" (Flanders).

does not show a statistical difference in mean scores when related to the ease to produce English ($F_{4,103}$= 2.379, *p*= 0.057). However, it should be noted that the level of significance is just above the usual α= 5%.

In comparison, a one-way analysis of variance for the Walloon sample is highly non-significant ($F_{4,112}$= 0.584, *p*= 0.675), which means that the mean scores of the Walloon pupils do not vary according to the statement "*English is easy to produce*" (table 17). In fact, the means range from 16.9 (i.e. the Walloon pupils who strongly disagree with the statement) to 19.5 (i.e. the Walloon pupils who disagree with the statement). Figure 31 further shows that the means are constant for the different categories.

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	104,207	4	26,052	,584	,675
Within Groups	4998,323	112	44,628		
Total	5102,530	116			

Table 17 One-way ANOVA of score versus the statement "English is easy to produce" (Wallonia)

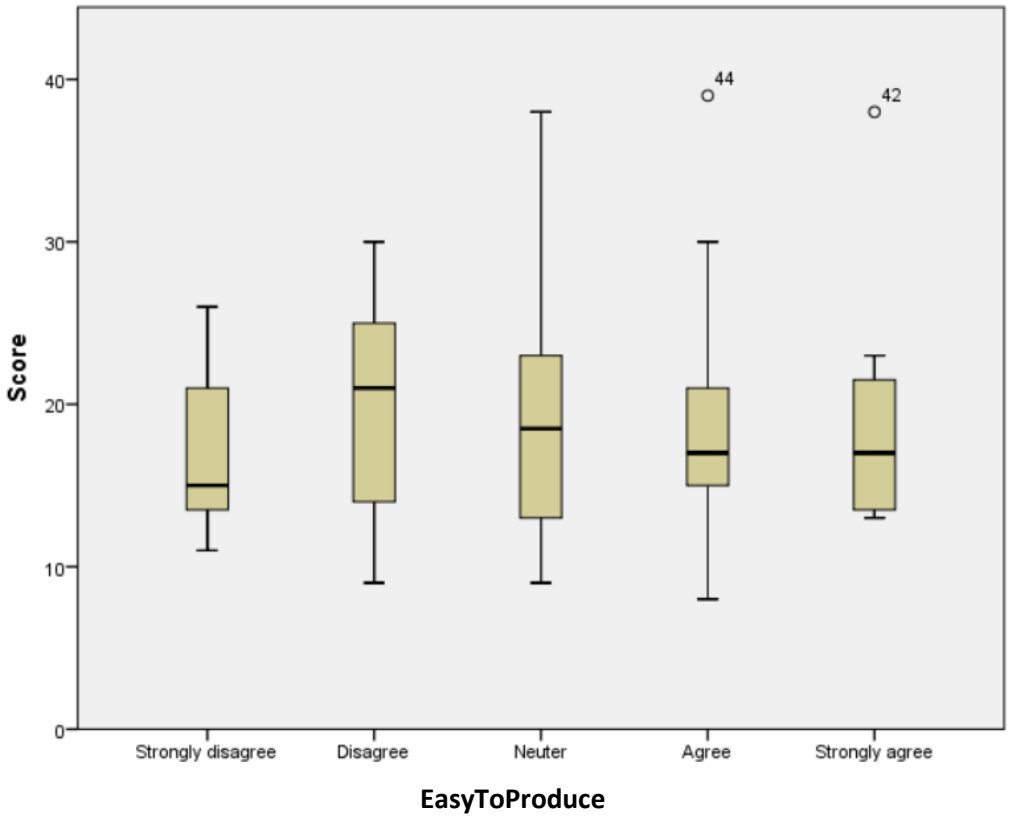


Figure 31 Boxplot representing the average scores versus the statement "English is easy to produce" (Flanders).

6.3. Contact with English through TV

6.3.1. General findings

I shall first consider figure 32, which represents the answers provided by all the pupils to the question about their daily television watching. In other words, this question is not related to the contact with English through TV. This question is rather used as a starting point and provides a general idea of the informants' TV watching. Noteworthy, four Walloon pupils and two Flemish pupils do not have a TV set at home. Interestingly, the scatterplot indicates that most of the pupils usually watch TV one or two hours a day. In fact, 76.1% of the pupils watch TV less than three hours a day. The scatterplot also confirms the statistical difference in scores between Flanders and Wallonia, $p < 0.001$ (cf. general findings). Therefore, both samples are again analysed separately.

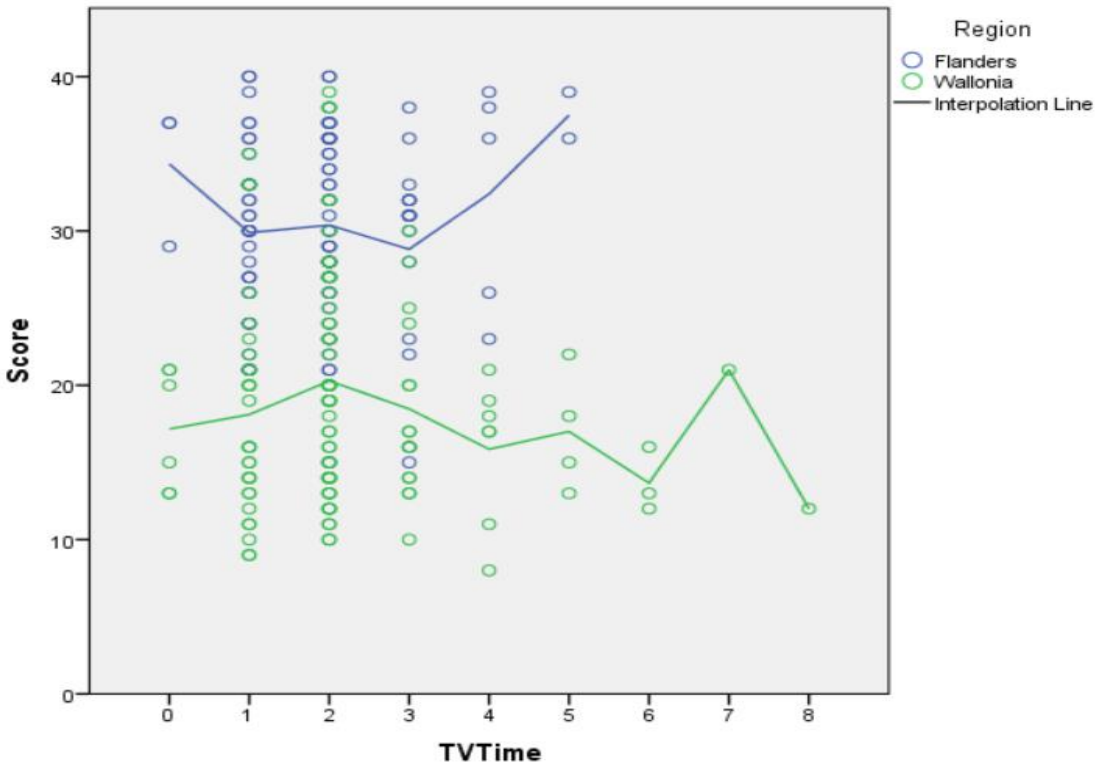


Figure 32 Scatterplot representing the scores versus the TV time per day

6.3.2. Watching TV in English

On average, the Flemish pupils who watch TV in English (*M*= 32.58, *SD*= 5.6) obtain a higher score than those who do not (*M*= 28, *SD*= 5.02), as shown in figure 33. An independent samples t-test confirms that the average score of the Flemish pupils who watch TV programmes in

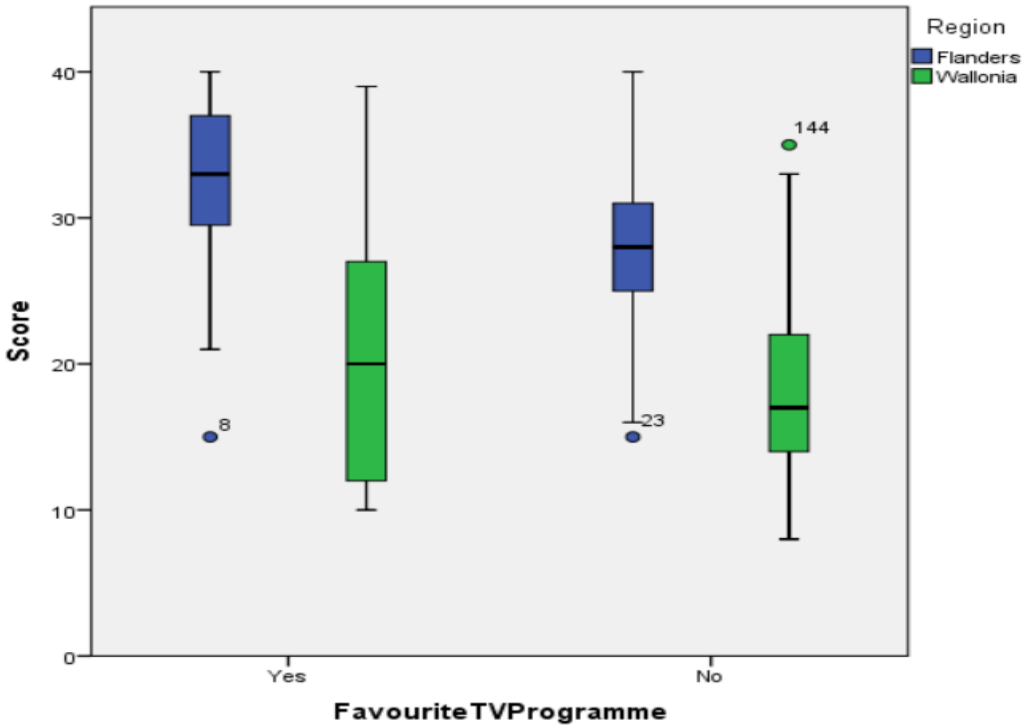


Figure 33 Boxplot representing the average scores versus watching TV in English (Flanders and Wallonia)

English significantly differs from the mean score of the Flemish pupils who never do, $t(103)= 4.43$, $p< 0.0001$ (table 18). Figure 33 further indicates two Flemish outliers. Informant 8 is a bilingual French/Dutch pupil and informant 23 is a French-speaking pupil. These pupils are probably more influenced by the Walloon culture than by the Flemish one, which normally implies more contact with French than English.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	,886	,349	4,427	103	,000	4,596	1,038
	Equal variances not assumed			4,422	101,353	,000	4,596	1,039

Table 18 Independent Samples t-test - score versus watching TV in English (Flanders)

In contrast to Flanders, the Walloon pupils, who watch TV in English ($M= 20.9$, $SD= 9.4$) and those who do not, have similar mean scores ($M= 18.4$, $SD= 6.05$), as represented in figure 33. A following independent samples t-test indicates that the average score of the Walloon informants who sometimes watch TV in English does not significantly differ from the average score of the pupils who watch TV in French, $t(30)= 1.281$, $p= 0.21$. Levene's test further indicates unequal variances ($p< 0.05$), so degrees of freedom are adjusted from 113 to 30 (table 19). This finding is very surprising as it is expected that pupils who sometimes watch TV in English would score better on an English grammar test, but the Walloon pupils seem to be influenced by other factors which are considered in the following sections. However, it should be noted that the majority of the Walloon pupils ($N= 90$) claim that they never watch TV in English. In other words, only 25 Walloon pupils sometimes watch TV in English. Figure 33 shows one Walloon outlier. This finding is not surprising as that particular child has an English-speaking stepfather, which means that he probably speaks some English with him.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	9,673	,002	1,630	113	,106	2,542	1,560
	Equal variances not assumed			1,281	29,736	,210	2,542	1,985

Table 19 Independent Samples t-test - score versus watching TV in English (Wallonia)

6.3.3. Film watching

Figure 34 shows that the average scores of the Flemish pupils vary a lot depending on their film language preferences. The pupils could indicate one or several preferences. In fact, they claim that their language preferences vary according to the kind of film they are watching, hence the categories "*all*" (i.e. original version, subtitled version or dubbed version), "*subtitled + dubbed*" and "*original language + subtitled*". For instance, some pupils claim that they prefer to watch an action film in the original language, but they prefer to watch an English comedy with

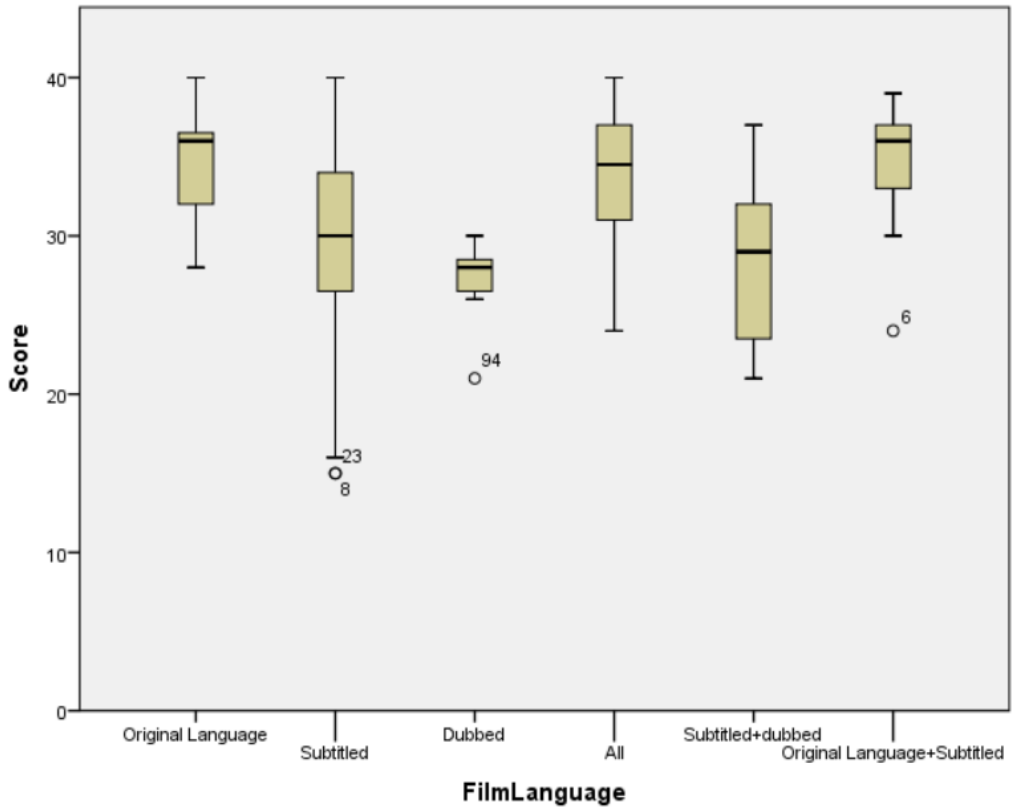


Figure 34 Boxplot representing the average scores versus the language settings (Flanders)

subtitling. The mean score reaches 34.4 (*SD*= 3.99) for the category *original language*. It reaches 29.7 (*SD*= 6.16) for the category *subtitled*, 27 (*SD*= 2.94) for the category *dubbed*, 33.5 (*SD*= 5.61) for the category *all*, 28.2 (*SD*= 5.18) for the category *subtitled+dubbed* and 34.3 (*SD*= 4.37) for the category *original language+subtitled*. The figure also indicates four outliers. Informants 8 and 23 are the recurrent French-speaking pupils mentioned in the previous sections and informants 94 and 6 do not watch many films (i.e. 2 hours a week). The one-way analysis of variance shows a main effect of language settings (i.e. original language, subtitled or dubbed) on the average scores of the Flemish informants ($F_{5,98}$= 3.558, p= 0.005). Post-hoc analyses using Tukey's HSD indicate that Flemish pupils who usually watch a film in the original language (i.e. English) with or without subtitling score marginally higher than those who generally watch dubbed and subtitled films (p= 0.046). No other significant results can be found. Therefore, the level of significance is raised to p= 0.1. Now, the post-hoc analyses indicate that the Flemish pupils who usually watch films in the original language score higher than those who either watch a dubbed film or a subtitled film (p= 0.1). They eventually indicate

that pupils who watch dubbed films score lower than those who watch films in the original language or subtitled films (p= 0.09).

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	537,939	5	107,588	3,558	,005
Within Groups	2963,599	98	30,241		
Total	3501,538	103			

Table 20 One-way ANOVA of score versus film language (Flanders)

Regarding Wallonia, figure 35 shows two Walloon outliers. Informant 36 is the pupil with an English-speaking stepfather and informant 44 is a Dutch-speaking pupil who came to Wallonia to learn French. The latter is also the pupil who obtains the highest score in Wallonia, i.e. 39 out of 40. Figure 35 further shows that the mean scores of the Walloon pupils also vary a lot depending on the pupils' language preferences. From left to right, the average scores amount to 24.6 (*SD*= 13.05), to 22.1 (*SD*= 7.94), to 17.7 (*SD*= 5.83), to 28 (*SD*= 7.07), to 19.2 (*SD*= 6.08) and to 17 (*SD*= 9.16). However, it should be noted that 81 Walloon pupils out of 112 exclusively watch dubbed films, which suggests that Walloon pupils are not accustomed to watch a subtitled

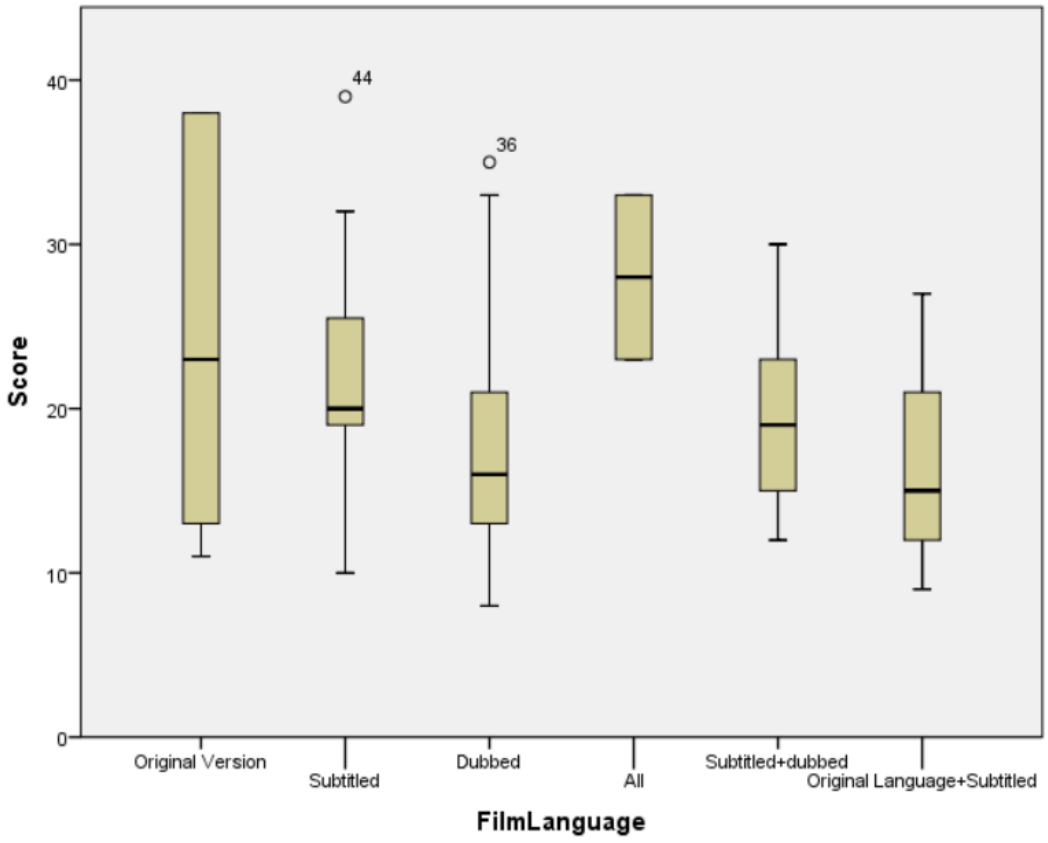


Figure 35 Boxplot representing the average scores versus the language settings (Wallonia)

film or a film in the original language. Non-parametric tests are used because the groups are not equally distributed. The independent-samples median test and the Kruskal-Wallis test indicate that the medians of score are the same across the different language preferences (p= 0.07).

6.3.4. Cinema

The same procedure is used for the language preferences at the cinema as for film watching at home. Figure 36 shows the average scores obtained by the Walloon pupils depending on their language preferences at the cinema. The pupils could tick several answers if they have several preferences, as in the previous section. The Walloon pupils who prefer the original version have

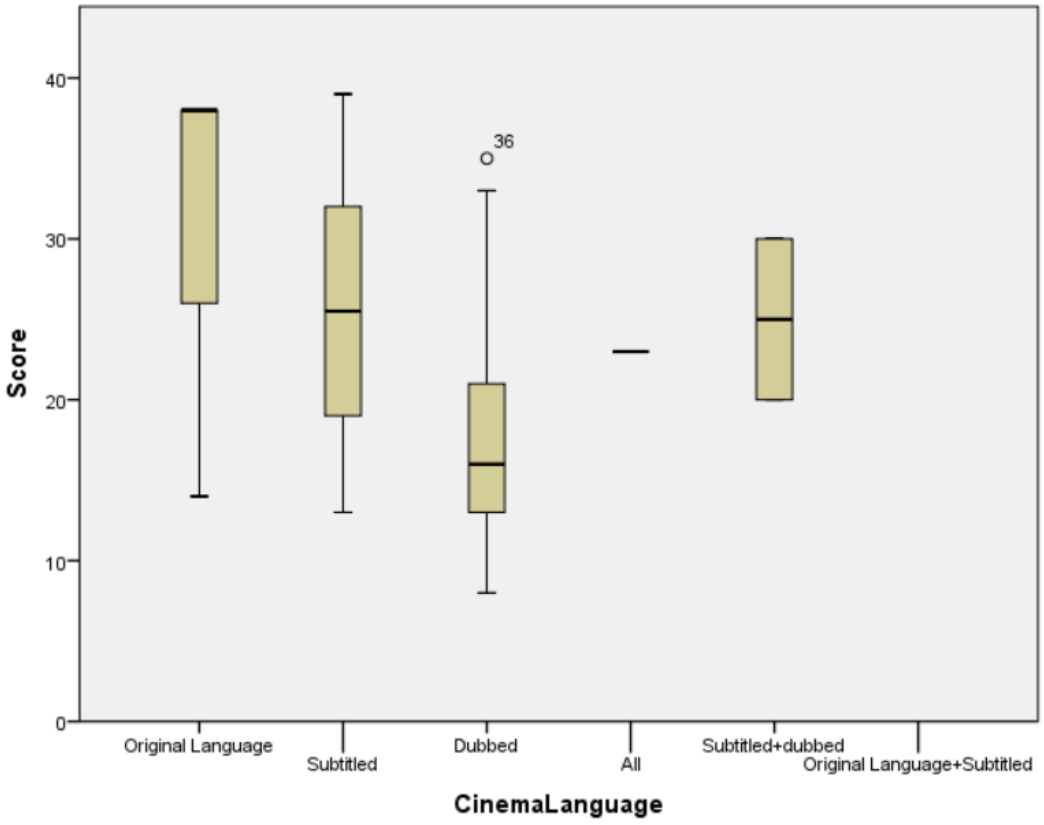


Figure 36 Boxplot representing the average scores versus cinema language preferences (Wallonia)

a mean score of 30 (*SD*= 13.86). Those who prefer the subtitled version obtain a mean score of 25.7 (*SD*= 9.24). The pupils who usually go to the cinema to watch a dubbed film have a mean score of 18 (*SD*= 6.05). Two Walloon pupils state that they enjoy a film at the cinema either dubbed or subtitled (their choices depend on the kind of film they are going to watch). These two pupils have a mean of 25 (*SD*= 7.07). One pupil, who obtains 23, has no language preferences (i.e. "*all*"). His preferences also depend on the kind of film he intends to watch. Next to that, figure 36 also shows the recurrent Walloon outlier who has an English-speaking stepfather (informant 36). As the groups are not equally distributed, non-parametric tests are preferred. They indicate that the medians of score were similar across the different language preferences at the cinema (p= 0.132). This was not surprising as most of the Walloon informants prefer the dubbed version of a film.

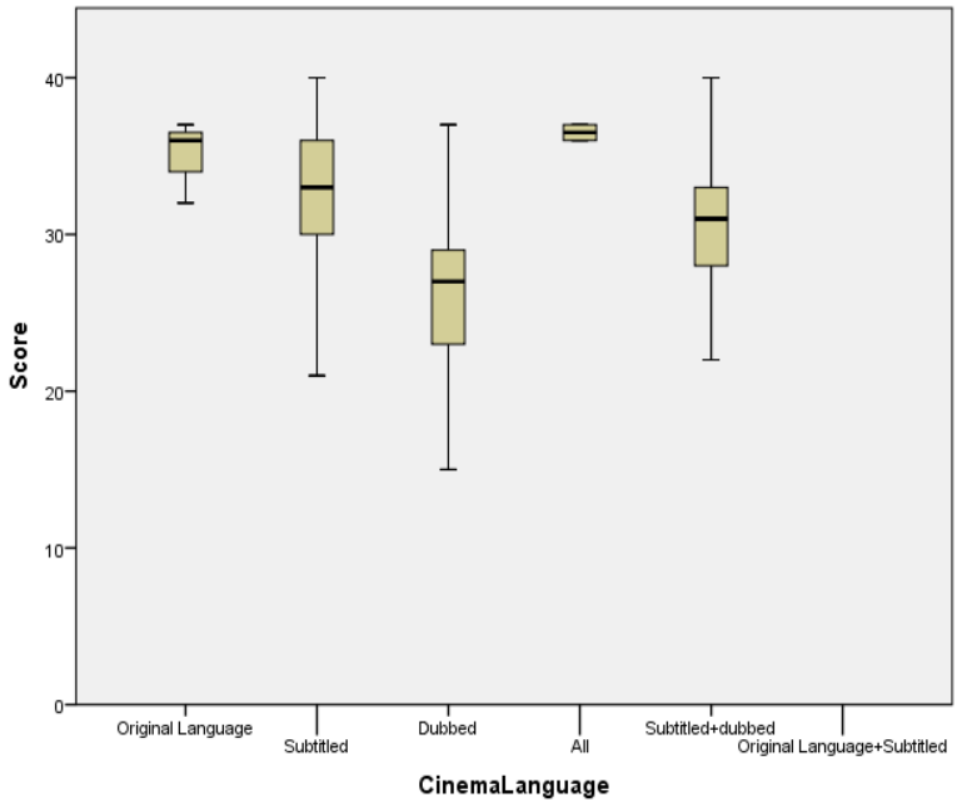


Figure 37 Boxplot representing the average scores versus cinema language preferences (Flanders)

In comparison, the mean scores (figure 37) obtained by the Flemish pupils reach 35 (*SD*= 2.65) for the pupils who prefer the original version, 32.7 (*SD*= 4.83) for those who prefer the subtitled version, 26.5 (*SD*= 5.45) for those who prefer the dubbed version. In contrast, the pupils who claim that they enjoy to go to the cinema to watch a subtitled film or a dubbed film have a mean score of 31.1 (*SD*= 4.63). Only two Flemish pupils, who have a mean score of 36.5 (*SD*= 0.7), have no language preferences at the cinema (i.e. *"all"*). The one-way analysis of variance indicates a highly significant effect of language preferences at the cinema on score ($F_{5,99}$= 8.438, p< 0.0001). In order to perform the post-hoc analyses the category "*original language and subtitling*" is deleted as there is only one Flemish informant who matches that criterion. The deletion does not influence the level of significance of the analysis of variance as shown in table 21 ($F_{4,99}$= 9.759, p< 0.0001). Post-hoc analyses using Tukey's HSD indicate that Flemish pupils who generally watch dubbed films score lower than those who normally watch the original version (p= 0.041) or than those who watch the three options (p= 0.05). The post-hoc analyses further indicate a highly significant difference in mean scores between the Flemish pupils who usually watch dubbed films and those who generally watch the subtitled version (p<

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	974,821	4	243,705	9,758	,000
Within Groups	2472,564	99	24,975		
Total	3447,385	103			

Table 21 One-way ANOVA of score versus cinema language (Flanders)

0.001) or those who either watch the subtitled or the dubbed version (p= 0.006). No other significant results are found, but these findings already indicate that watching a dubbed film has a negative impact on the incidental English acquisition.

6.4. Contact with English through reading

Interestingly, figure 38 suggests that the Flemish pupils who usually read in English perform very well on the grammar test. It also shows that the Flemish informants who often read in English obtain the highest scores. The same tendency holds true for the Walloon pupils. In fact,

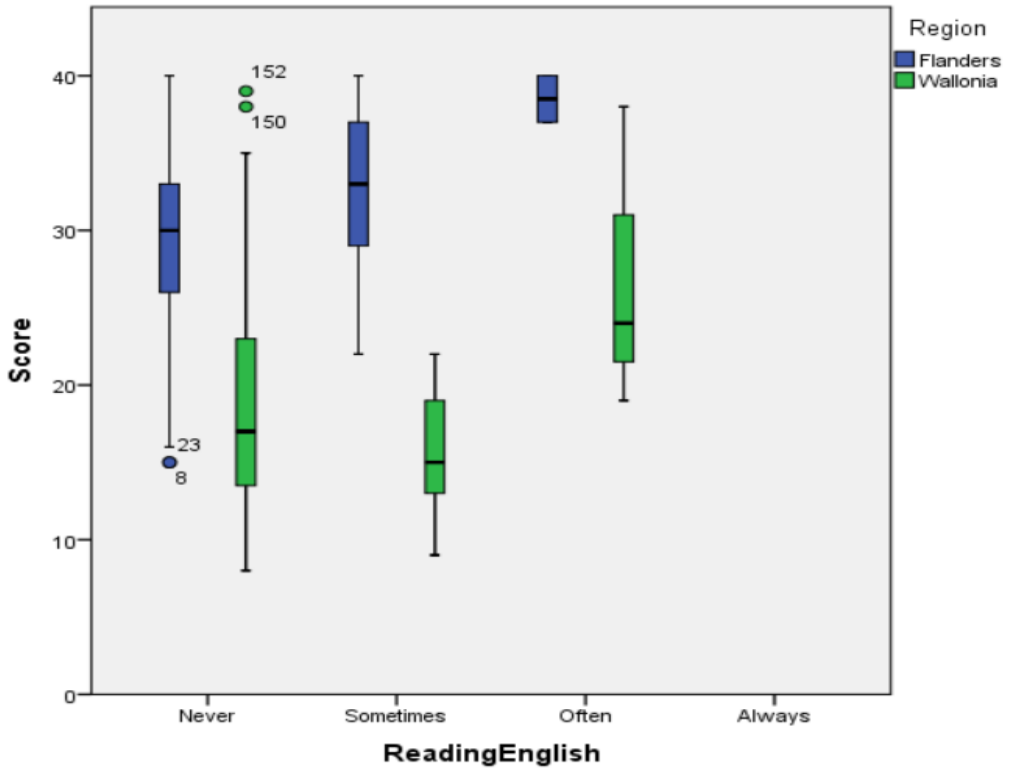


Figure 38 Boxplot representing the average scores versus buying English books/magazines (Belgium)

a one-way analysis of variance shows a main effect of buying English books or English magazines on the scores of the Flemish pupils ($F_{2,105}$= 5.426, p= 0.006). Further post-hoc analyses using Tukey's HSD indicate that Flemish pupils who sometimes buy English books (M= 32.6, SD= 5.22) score higher than those who never do (M= 29.4, SD= 5.75), p= 0.033. No other significant results can be found. It should be noted that 75% of the Flemish pupils (N=

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	341,370	2	170,685	5,426	,006
Within Groups	3303,149	105	31,459		
Total	3644,519	107			

Table 22 One-way ANOVA of score versus buying English books/magazines (Flanders)

81) claim that they never buy an English book or magazine, 23.1% claim that they sometimes do it (*N*= 25) and 1.9% often do it (*N*= 2, *M*= 38.5, *SD*= 2.12).

Regarding Wallonia, the one-way ANOVA also shows a main effect of buying English books or magazines on the average scores ($F_{2,121}$= 3.516, *p*= 0.033). Post-hoc analyses using Tukey's HSD indicate that Walloon pupils who often buy English books or magazines (*M*= 26.2, *SD*= 8.18) score higher than those who sometimes do it (*M*= 15.7, *SD*= 4.47), *p*= 0.025. No other significant results were found.

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	310,569	2	155,284	3,516	,033
Within Groups	5344,173	121	44,167		
Total	5654,742	123			

Table 23 One-way ANOVA of score versus buying English books/magazines (Wallonia)

As for the Flemish pupils, their Walloon counterparts (89.5%, *N*= 111) mainly claim that they never buy an English book or magazine. 7.3% indicate that they sometimes do it (*N*= 9) and 3.2% often do it (*N*= 4).

Noteworthy, figure 38 also shows two Walloon outliers and two Flemish outliers. These are the recurrent ones. On the one hand, the Flemish outliers are the pupils who speak French at home. On the other hand, the Walloon outliers are the informants who speak Dutch at home.

6.5. Contact with English through computer

6.5.1. Time using the computer

The aim of this paragraph is to shed light on the time spent on the computer by the pupils. According to figure 39, it seems that using the computer a lot does not influence the average scores positively. As a result, the mean scores of the Flemish pupils (vertical axis) do not vary between the different categories (horizontal axis). The same holds true for the Walloon participants. In other words, the pupils who regularly use the computer (i.e. "*every day"*) have a similar score compared to those who never use the computer. A further one-way analysis of variance does not show a significant effect of using the computer on scores in Flanders ($F_{5,102}$= 1.821, *p*= 0.115). So, using the computer once a week or using the computer every day does not significantly impact on the average score in Flanders. The same results were found in Wallonia ($F_{5,118}$= 0.993, *p*= 0.425). However, it remains interesting to further investigate the pupils' computer use in order to know whether they sometimes use English software or English games.

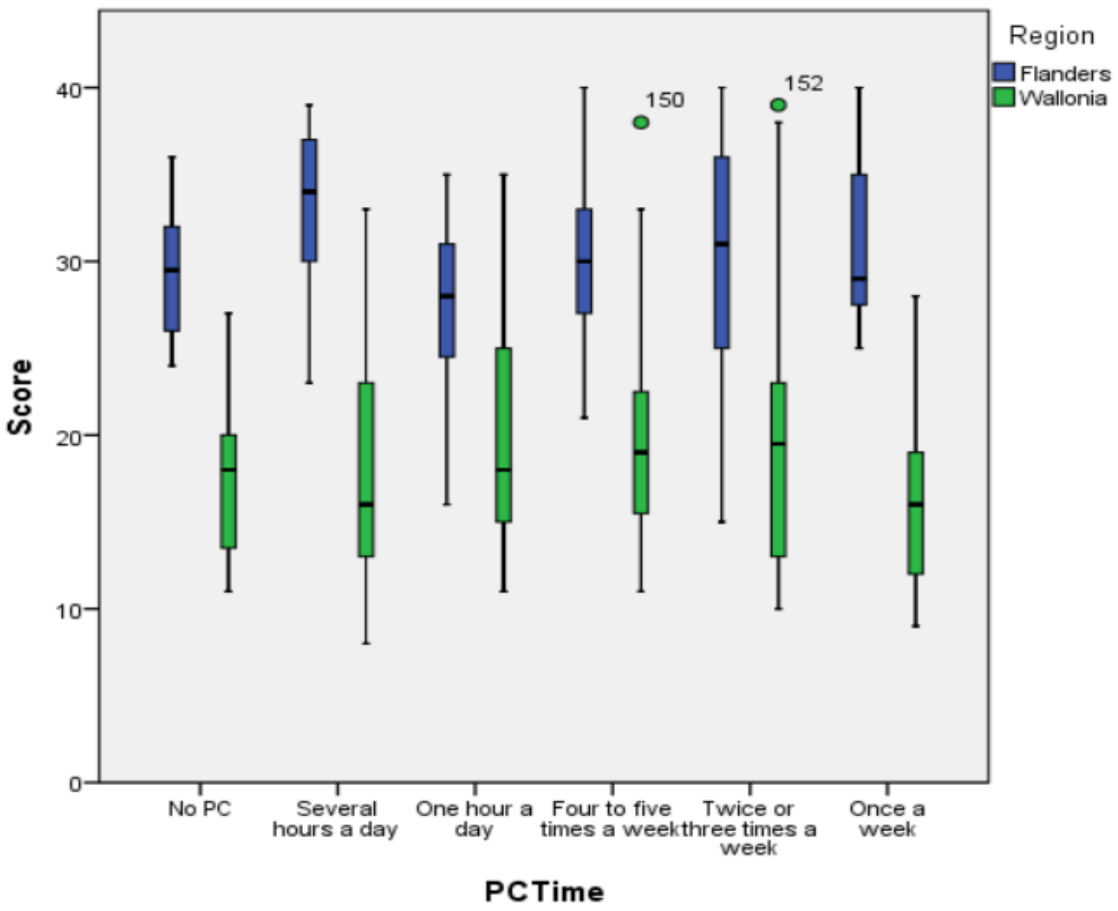


Figure 39 Boxplot representing the average scores versus the time using the computer (Belgium)

6.5.2. Using the computer in English

For the analysis about the use of the computer in English by the Walloon informants, there are four categories depending on the pupils' computer use, i.e. "*nothing*" (N= 73, M= 18, SD= 6.11), "*gaming*" (N= 36, M= 19, SD= 7.19), "*watching videos*" (mainly on YouTube) (N= 10, M= 20.6, SD= 8.28) and "*working or surfing on the internet*" (N= 4, M= 20, SD= 5.66). For clarity's sake, these findings are shown in figure 40. Noteworthy, 59.3% of the Walloon pupils do not use English games or software (i.e. "*nothing*"). 29.3% claim to game in English on the PC (i.e. "*gaming*"). 8.1% indicate that they generally watch English videos on the computer (i.e. "*YouTube*"). The remaining 3.2% claim that they usually surf on English websites for school (i.e. "*Working/Surfing*"). It should also be noted that one pupil (0.8%) claims to often chat on the computer in English. It is thus not surprising that this pupil obtains a very good score (38). He is further not included in a following one-way ANOVA because he is the only one to give that particular answer. The one-way ANOVA does not indicate a main effect of using the computer in English on the average scores ($F_{3,119}$= 0.559, p= 0.643). This is very surprising as it is expected that pupils who usually play or watch English videos on YouTube would have better scores than those who do not.

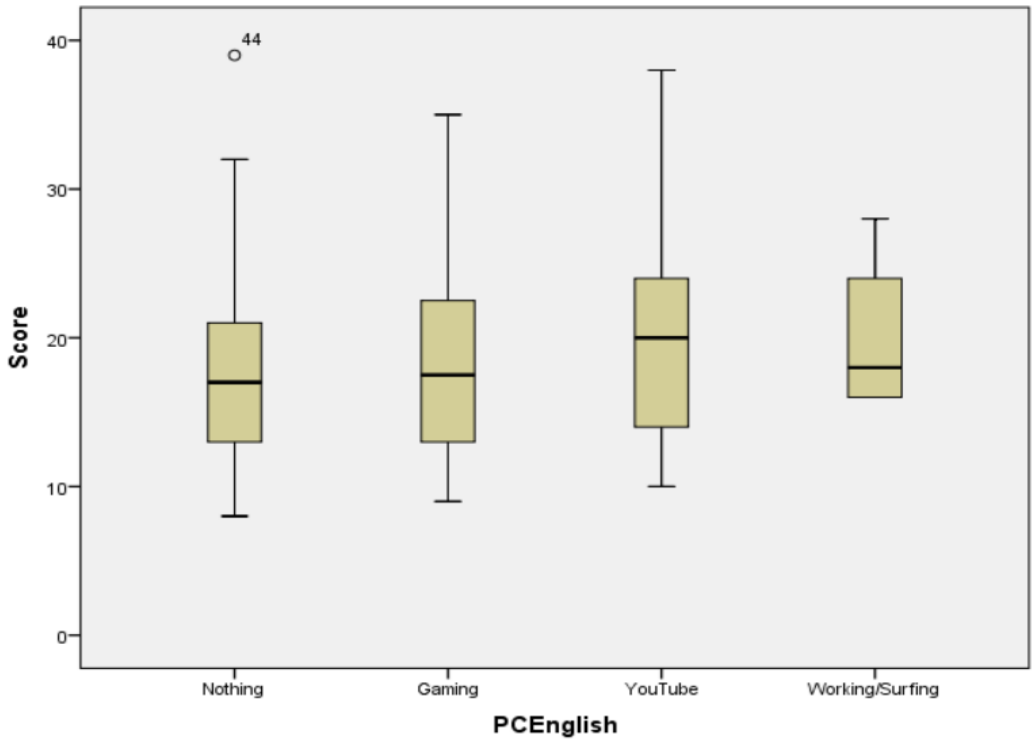


Figure 40 Boxplot representing the average scores versus using the computer in English (Wallonia)

In Flanders, the boxplot (figure 41) suggests that the pupils who usually watch English videos (i.e. "*YouTube*") obtain better scores on the grammar test than the Flemish pupils who do not use English software or games (i.e. "*nothing*). They also seem to score higher than the Flemish

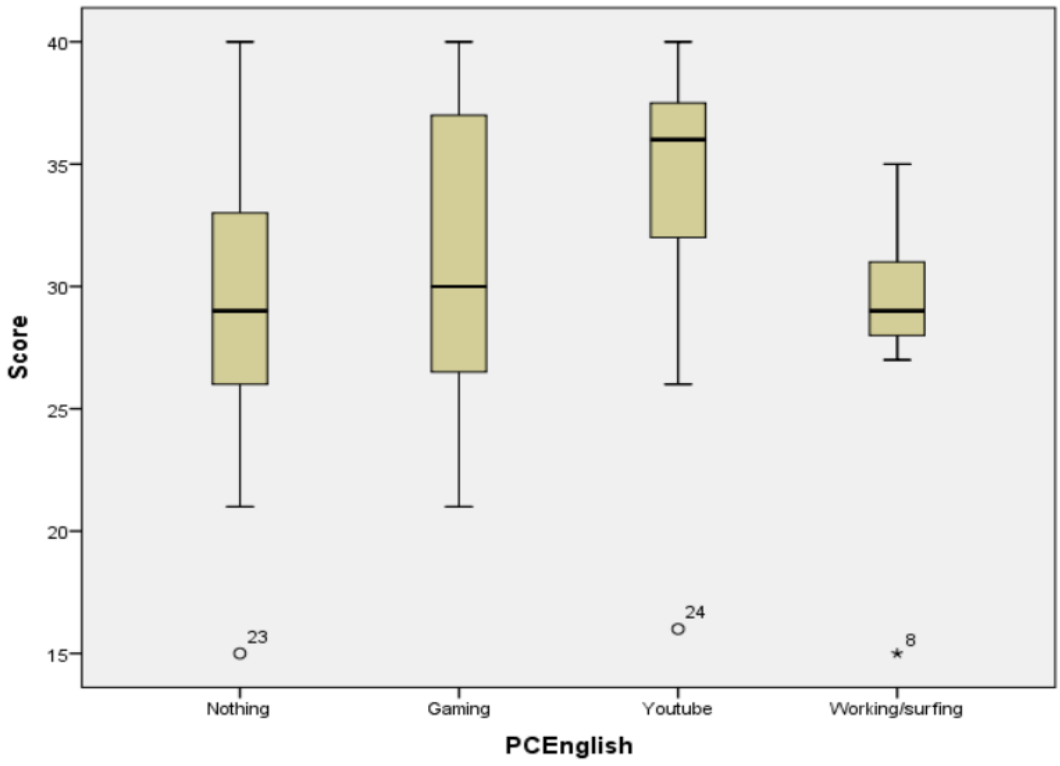


Figure 41 Boxplot representing the average scores versus using the computer in English (Flanders)

pupils who generally game in English (i.e. "*gaming*") and than those who sometimes surf on the internet in English (i.e. *"surfing/working*"). The means amount to 29.1 (*SD*= 5.27) for those who never use the computer in English, to 31.2 (*SD*= 6.08) for those who play in English, to 33.7 (*SD*= 6.17) for those who watch English videos and to 28.4 (*SD*= 5.66) for those who work or surf on the internet in English. The one-way analysis of variance confirms the main effect of using the computer in English on score ($F_{3,104}$= 3.145, *p*= 0.028). Post-hoc analyses indicate that the Flemish pupils who watch English videos on the computer (*M*= 33.7, *SD*= 6.17) score significantly higher than those who do not use the computer in English (*M*= 29.1, *SD*= 5.27), *p*= 0.033. However, no other significant results are found. It still remains surprising that those who often play in English do not score higher than those who never do. Eventually, outlier 8 and 23 are the recurrent French-speaking outliers. Outlier 24 has a very negative attitude towards the English language. In fact, he is the only one to strongly disagree with most of the statements of section 6.2. The only statement he agrees with is the statement about the importance of English for the future.

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	303,094	3	101,031	3,145	,028
Within Groups	3341,425	104	32,129		
Total	3644,519	107			

Table 24 One-way ANOVA of score versus using the computer in English (Flanders)

6.5.3. Online gaming in English

I hypothesise that the participants who usually game in English would score higher than the pupils who prefer to game in their mother tongue. Figure 42 shows the differences in score between Flanders and Wallonia and it also shows the higher scores of the Flemish pupils who generally play online in English. Furthermore, there are three outliers. Informants 150 and 152 are the Flemish-speaking outliers and informant 144 is the informant with an English-speaking stepfather. In other words, their higher scores are not surprising. On the one hand, a first independent samples t-test indicates that the mean scores of the Flemish informants vary

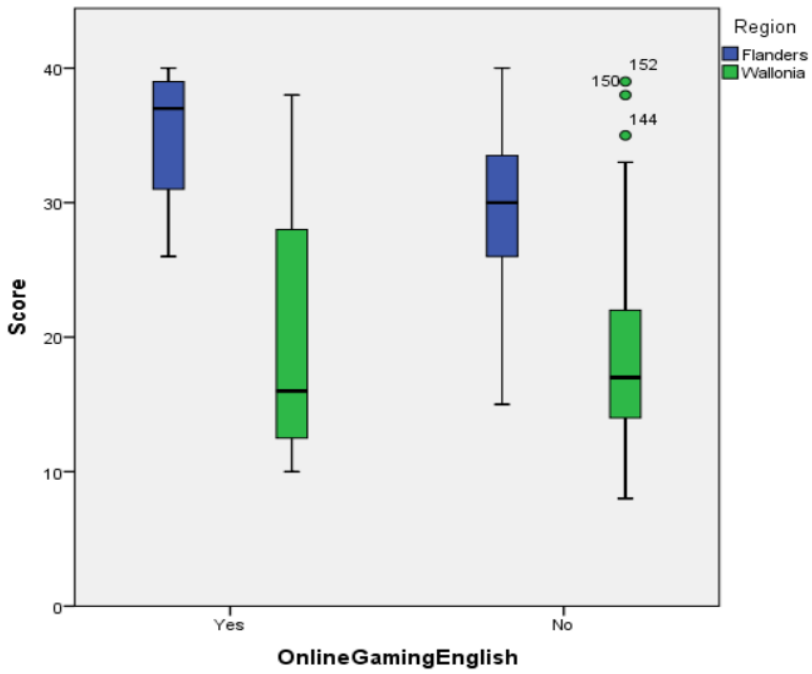


Figure 42 Boxplot representing the average scores versus playing online English games (Belgium)

significantly and that they are higher for the Flemish pupils who generally play online in English (*M*= 34.9, *SD*= 5.07) than for those who do not (*M*= 29.7, *SD*= 5.67), *t*(106)= 3.174, *p*= 0.002. The results are shown in table 27.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Score	Equal variances assumed	,091	,763	3,174	106	,002	5,260	1,657	1,975	8,545
	Equal variances not assumed			3,455	16,386	,003	5,260	1,523	2,038	8,482

Table 25 Independent samples T-test - score versus playing online in English (Flanders)

On the other hand, a second independent samples t-test for the Walloon sample does not indicate significant results as shown in table 28. The means amount to 20.4 (*SD*= 8.95) for those who usually play online in English and 18.5 (*SD*= 6.32) for those who prefer to play in their mother tongue (i.e. French).

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Score	Equal variances assumed	8,949	,003	1,126	122	,262	1,902	1,689	-1,441	5,244
	Equal variances not assumed			,887	21,363	,385	1,902	2,144	-2,553	6,356

Table 26 Independent samples T-test - score versus playing online in English (Wallonia)

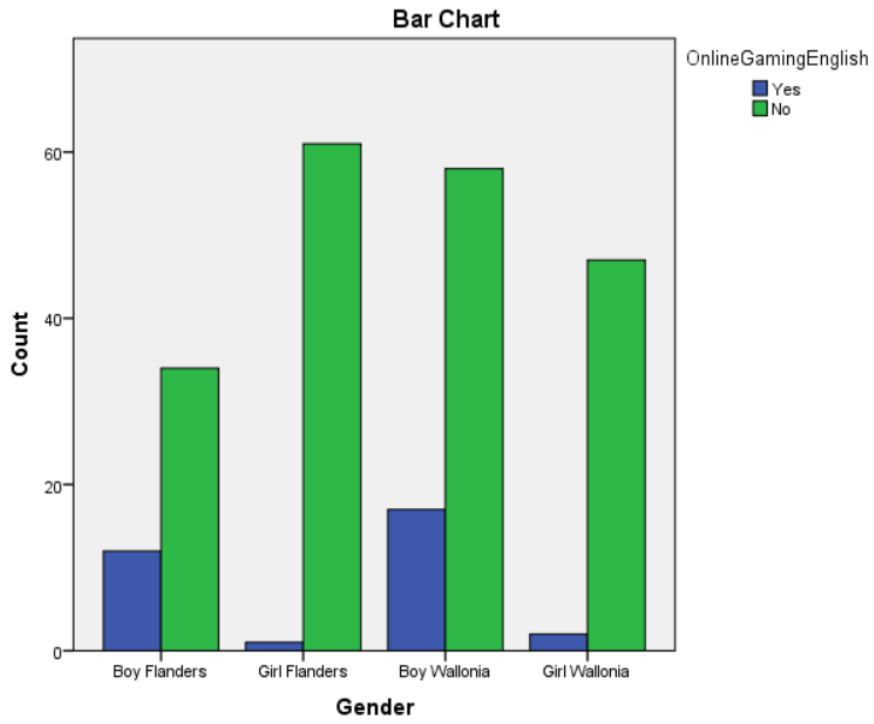


Figure 43 Bar Chart representing online gaming in English versus gender (Chi-square analysis)

It is further interesting to investigate gender differences regarding gaming, as it is expected that boys game more than girls. Figure 43 confirms the hypothesis. In fact, it shows that only a couple of girls play online. In other words, 12 Flemish boys and 17 Walloon boys play online in English, whereas only one Flemish girl and two Walloon girls play online in English.

A following chi-square analysis reveals that there is a significant correlation between gender and online gaming in English. On the basis of this sample, boys,

either Flemish or Walloon, play significantly more online video games in English than girls do. ($\chi 2$= 22.43, df= 3, p< 0.001). This significant difference can partly explain the reason why Flemish boys score higher than Flemish girls on the grammar test. However, the effect is limited as Cramer's V reaches 0.31.

Finally, the games include *Minecraft*, *Grand Theft Auto V*, *Call of Duty Black ops III*, *Roblox*, *Call of Duty, Battlefield 1, Rainbow Six Siege, Wolf Team, Smokin' gun, Farming Simulator 15*, *Overwatch*, *World of Warcraft*, *League of Legends*, *Habbix*, *FIFA 17* and *Forza Horizon 2*.

6.5.4. Time playing online in English

In Flanders, the scatterplot (figure 44) suggests that the pupils who understand what is being said while playing online in English (i.e. "*yes*") have better scores than those who claim that they do not understand the online conversations (i.e. "*no*"). Noteworthy, the scores are still out of 40 (vertical axis) and the time spent online in English is in hours/week (horizontal axis). The graph is further subdivided into two fit lines. On the one hand, the blue fit line suggests that the scores of the Flemish pupils, who understand what is being said in their online gaming sessions, remain constant regardless of the time spent playing online in English. On the other hand, the green fit line suggests that the scores of the Flemish pupils, who do not understand what is

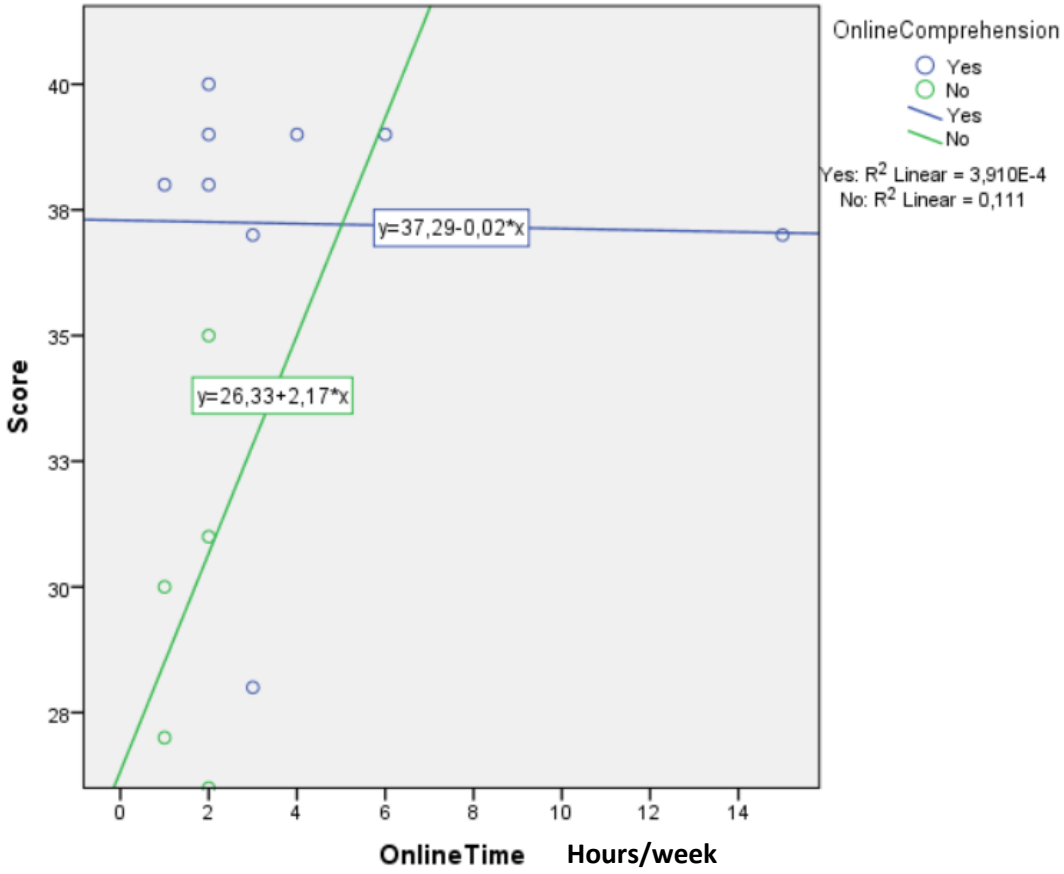


Figure 44 Scatterplot representing the scores versus the time spent online in English (Flanders)

being said in their online gaming sessions, increase steadily when the time spent online increases. In other words, pupils who understand the English online conversations obtain constant high scores (ranging from 37 to 40), hence the low variability; whereas the pupils who

claim that they do not understand the English online conversations improve their English proficiency by playing more. However, the one-way analysis of variance does not indicate a significant effect of the amount of time spent playing online in English on score ($F_{1,12}$= 0.896, p= 0.363).

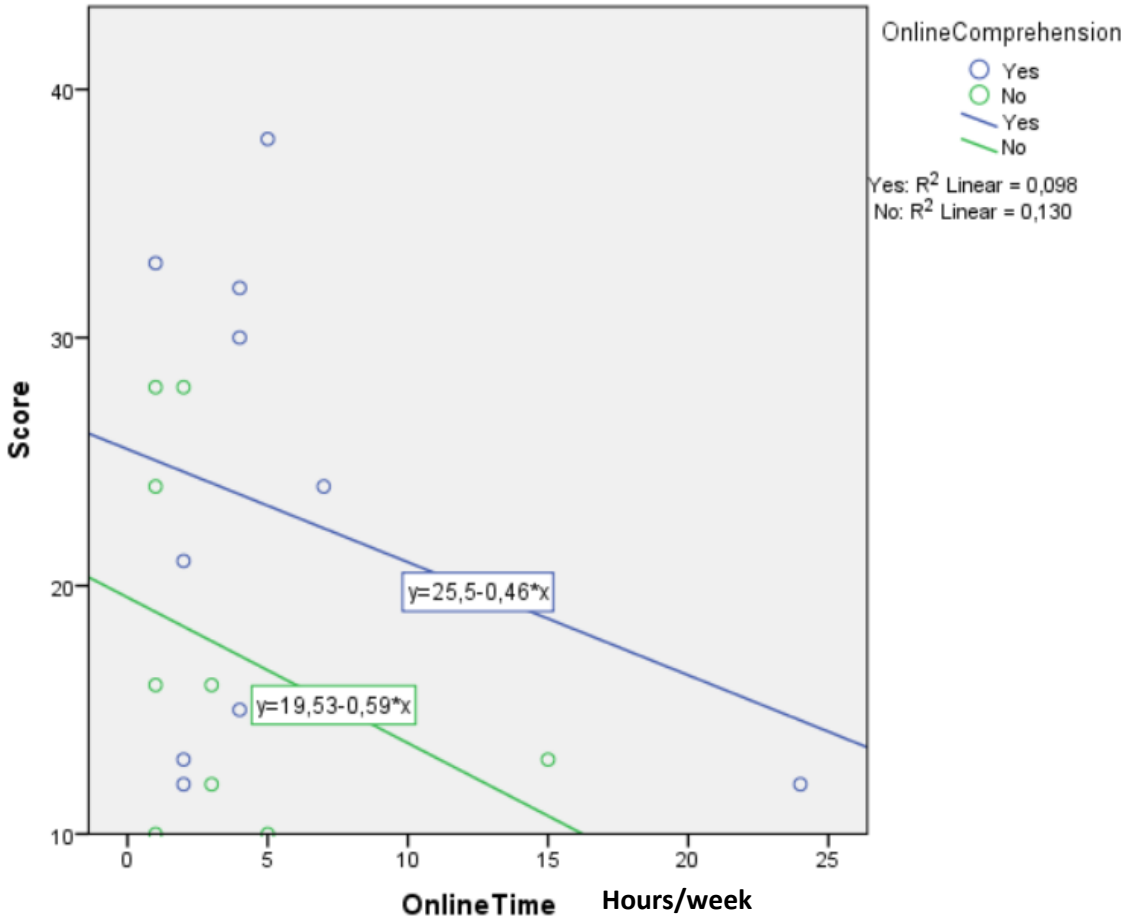


Figure 45 Scatterplot representing the scores versus the time spent online in English (Wallonia)

In comparison, the scores of the Walloon pupils are not positively influenced by the time spent playing online in English (figure 45). On the contrary, the Walloon pupils who play the most (> 10 hours/week) have lower scores compared to the scores of those who play less than five hours a week (i.e. the majority of the Walloon pupils). However, a one-way ANOVA is not significant ($F_{1,17}$= 1.13, p= 0.303), which implies that the scores do not vary significantly depending on the time spent playing online in English.

6.6. Contact with English through music

6.6.1. Language preferences

Interestingly, figures 46 and 47 suggest that the habits of the Flemish and Walloon pupils towards music are slightly different. In fact, Flemish pupils seem to mainly prefer English music (80.4%), as only 15.8% of the Flemish pupils claim to prefer music in their mother tongue. The

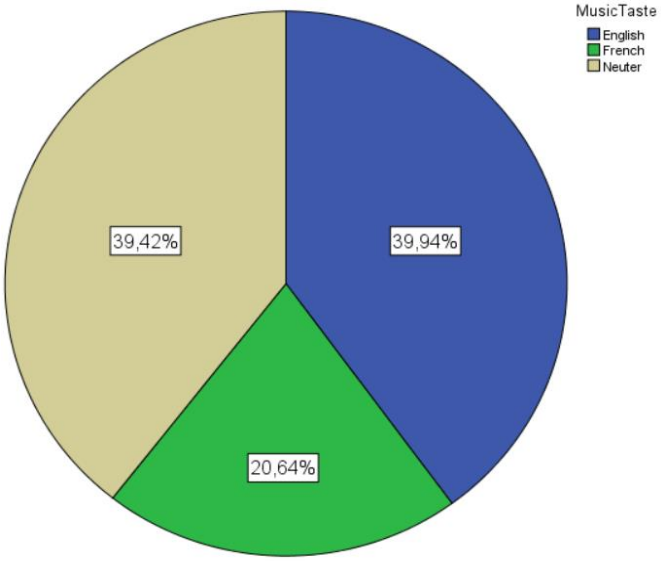


Figure 47 Pie chart representing the percentage of pupils listening to English/French music (Wallonia)

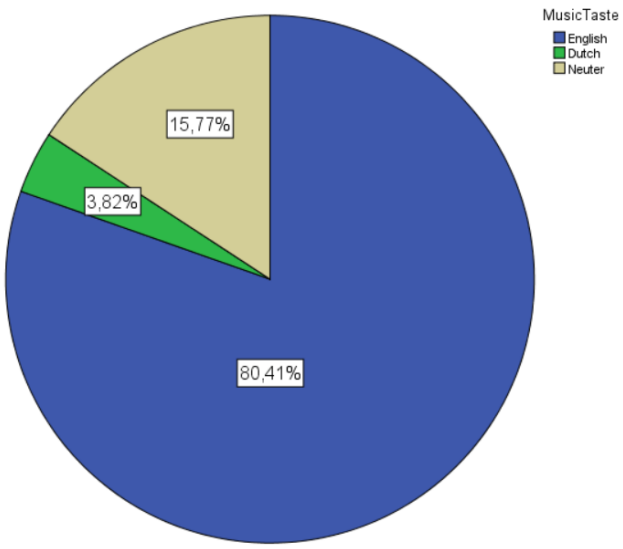


Figure 46 Pie chart representing the percentage of pupils listening to English/Dutch music (Flanders)

remaining pupils (3.8%) indicate that they like English songs and Dutch songs. The Walloon pupils seem to enjoy English music (40%) and French music (i.e. in their mother tongue) (20.6%). The remaining 39.5% claim to like both kinds of music (English and French music). The preference for English music in Flanders confirms the predominant contact with English in Flanders.

Flemish pupils who claim to prefer English music have a mean of 30.7 (*N*= 85, *SD*= 5.66), those who claim to prefer Dutch music have a mean of 31 (*N*= 4, *SD*= 5.6) and those who claim to have no preferences obtain a mean score of 28.4 (*N*= 18, *SD*= 6.71). The results are summarised in figure 48. However, no significant effect of listening to English music on score can be

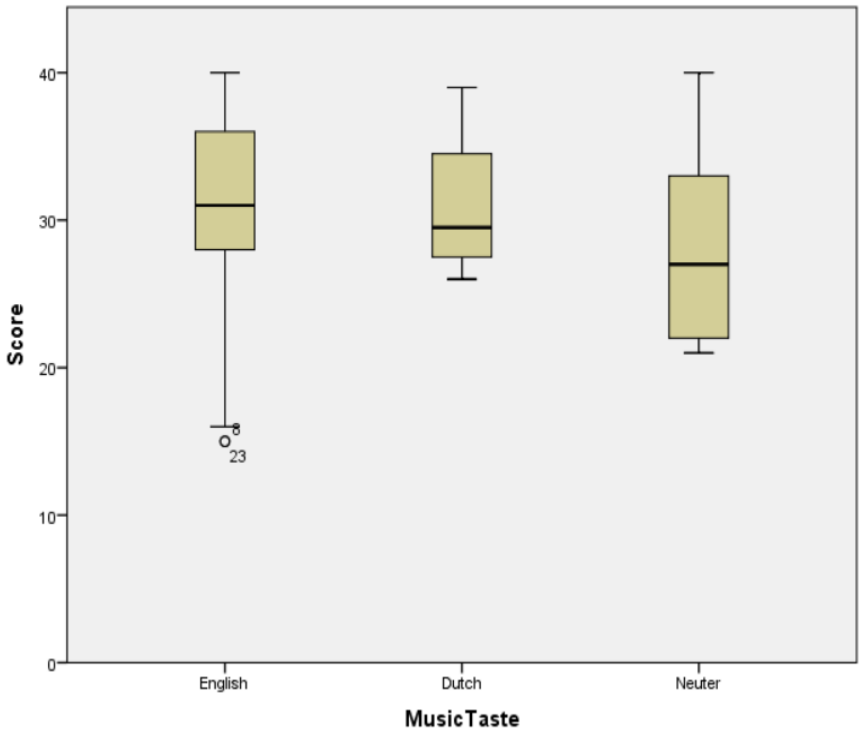


Figure 48 Boxplot representing the scores versus the music taste (Flanders)

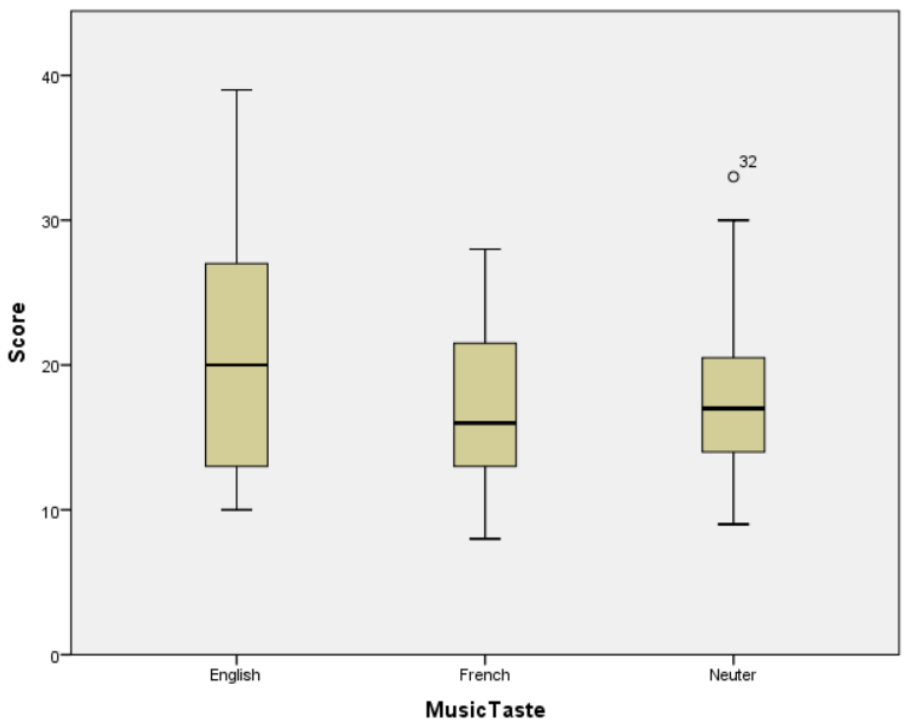


Figure 49 Boxplot representing the scores versus the music taste (Wallonia)

found ($F_{2,104}$= 1.14, p= 0.324).

Regarding Wallonia, the means amount to 20.6 (N= 45, SD= 8.3) for those who claim to prefer English music, to 17.1 (N= 28, SD= 5.95) for those who claim to prefer French music and to 18 (N= 51, SD= 5.3) for those who claim that they have no preferences (figure 49). A one-way analysis of variance showed no main effect of listening to English music on score ($F_{2,121}$= 2.963, p= 0.055).

6.6.2. Understanding English songs

The pupils are also asked whether they understand the lyrics of the English songs. First, 22 Flemish pupils out of 106 claim to understand the English songs they listen to. In other words, 84 Flemish pupils claim not to understand the lyrics of the songs. Figure 50 suggests that the pupils who understand the songs score high on the receptive English grammar test. This finding is confirmed by the following independent samples t-test. It first shows that the mean score of the Flemish pupils who claim to understand the English songs highly differs from the mean score of those who mention that they do not. It then indicates that the scores of the former (M= 35.6, SD= 4.34) is higher than the scores of the latter (M= 28.9, SD= 5.38), $t(104)$= 5.4, p< 0.001.

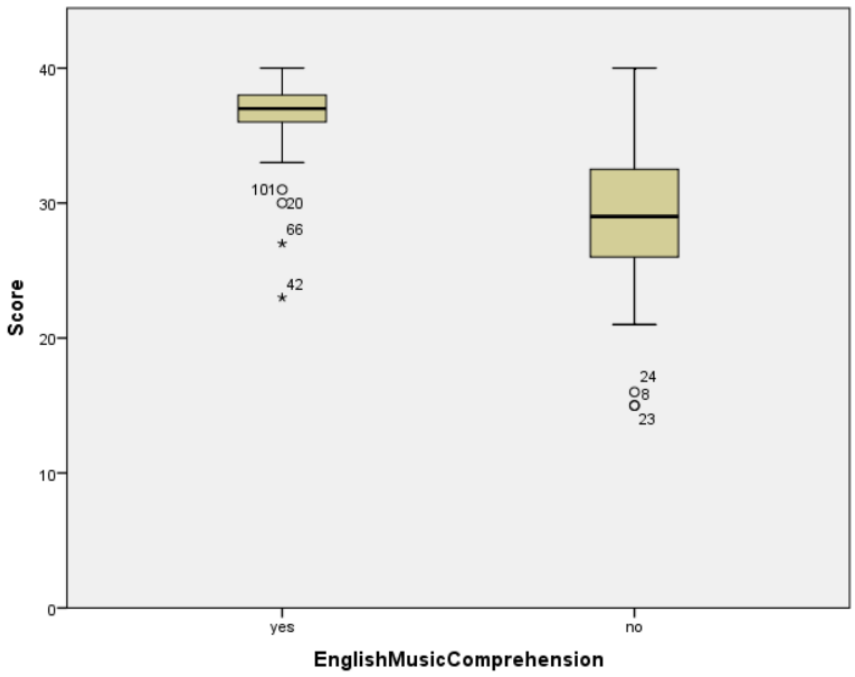


Figure 50 Boxplot representing the scores versus English music comprehension

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	2,179	,143	5,403	104	,000	6,710	1,242
	Equal variances not assumed			6,125	39,677	,000	6,710	1,095

Table 27 Independent samples T-test - score versus understanding English songs (Flanders)

Concerning Wallonia, 25 Walloon pupils out of 123 indicate that they usually understand the English lyrics. In other words, most of the Walloon pupils have troubles to understand English songs. A further independent samples t-test shows that the Walloon informants who mention they understand the English songs have a different mean score (*M*= 22.2, *SD*= 8.35) than those who do not understand the songs (*M*= 17.9, *SD*= 6.1), *t*(121)= 2.894, *p*= 0.005 (table 28). The former group has the highest average score.

In short, the pupils seem to be aware of their English proficiency as both groups who mention they understand the lyrics of the English songs score higher than those who do not.

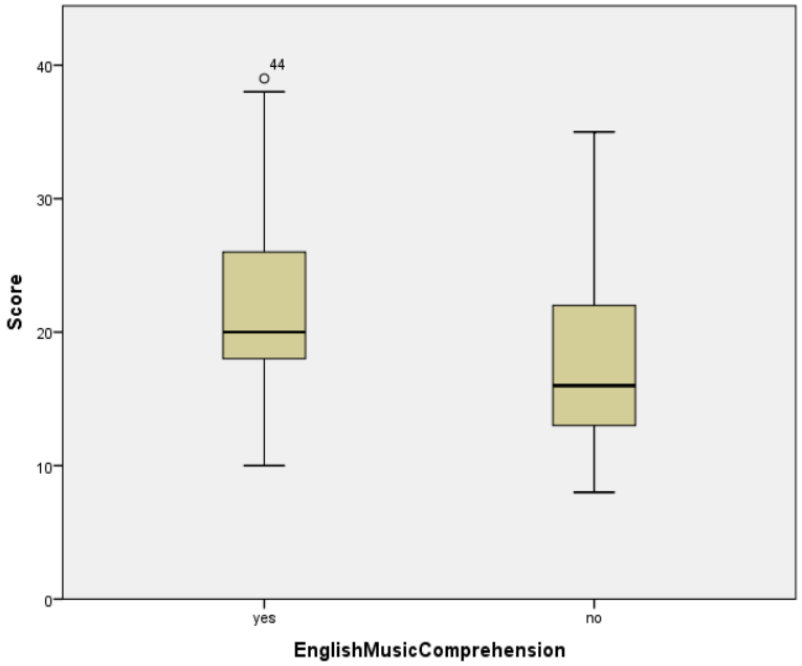


Figure 51 Boxplot representing the scores versus the English music comprehension (Wallonia)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	2,856	,094	2,894	121	,005	4,282	1,479
	Equal variances not assumed			2,406	30,832	,022	4,282	1,779

Table 28 Independent samples T-test - score versus understanding English songs (Wallonia)

6.7. Diaries

A total of 175 diaries were collected (89 diaries in Wallonia and 86 diaries in Flanders). The diaries were always collected the week after the pupils had performed the English grammar test. In other words, the diaries were also collected between November 2016 and February 2017. This dataset is different from the questionnaires because the pupils had one week to complete their English diaries. They were asked to provide information about the activities they had done in English and how many times they had done this activity in one week (appendix 2). For instance, a typical answer is *"Watching an English film twice"*. I shall deal with English contact through communication, TV, music, computer, gaming and reading.

6.7.1. Communicating in English

First, the pupils were asked whether they communicated in English in that specific week, which includes, for instance, having a phone call in English, talking in English to a relative or to a friend. 85 Walloon pupils out of 89 did not communicate in English in that week. As shown in figure 52, their mean score (*M*= 19.2, *SD*= 7.14) is lower than the mean score of the pupils who communicated in English (*M*= 25, *SD*= 7.7). An independent samples t-test (table 29) indicates no main effect of communicating in English on score (*t*(87)= -1.583, *p*= 0.12). In other words, it seems that communicating in English is not usual for the Walloon pupils. Noteworthy, all the outliers are Dutch-speaking at home and all of them go to a school set in Comines. This is not surprising as Comines is a community with facilities for Dutch-speaking people.

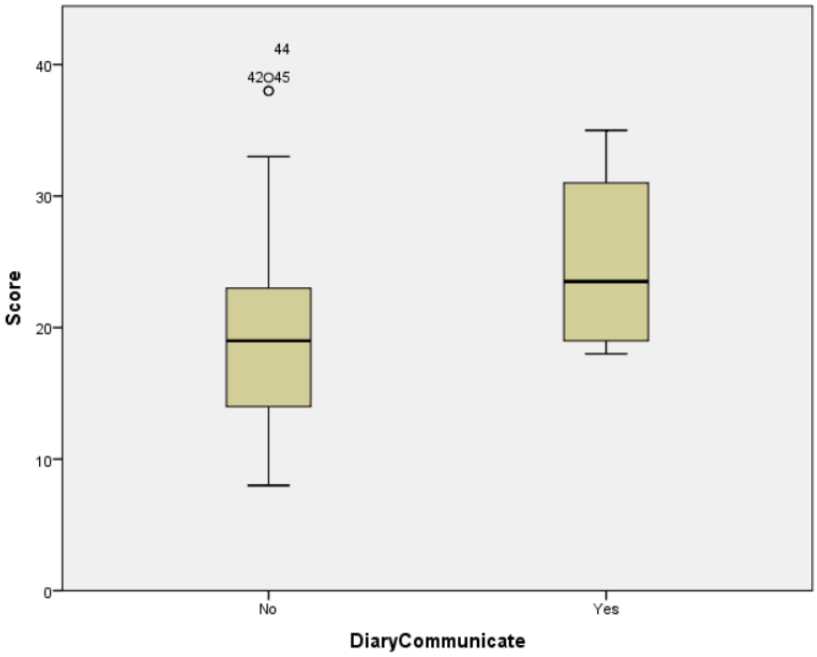


Figure 52 Boxplot representing the scores versus communicating in English (Wallonia)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	,019	,890	-1,583	87	,117	-5,800	3,663
	Equal variances not assumed			-1,476	3,247	,230	-5,800	3,928

Table 29 Independent samples t-test of communicating in English versus score (Wallonia)

Concerning Flanders, the mean of the 78 pupils who did not communicate in English (*M*= 29.4, *SD*= 5.9) and the mean of the seven pupils who communicated in English (*M*= 32, *SD*= 4.34) are similar, as shown in figure 53. Unsurprisingly, the independent samples t-test reveals non-significant results (*t*(84)= -1.205, *p*= 0.231), which confirms that the means of both groups are similar. Eventually, the two outliers are the recurrent French-speaking participants of Wervik.

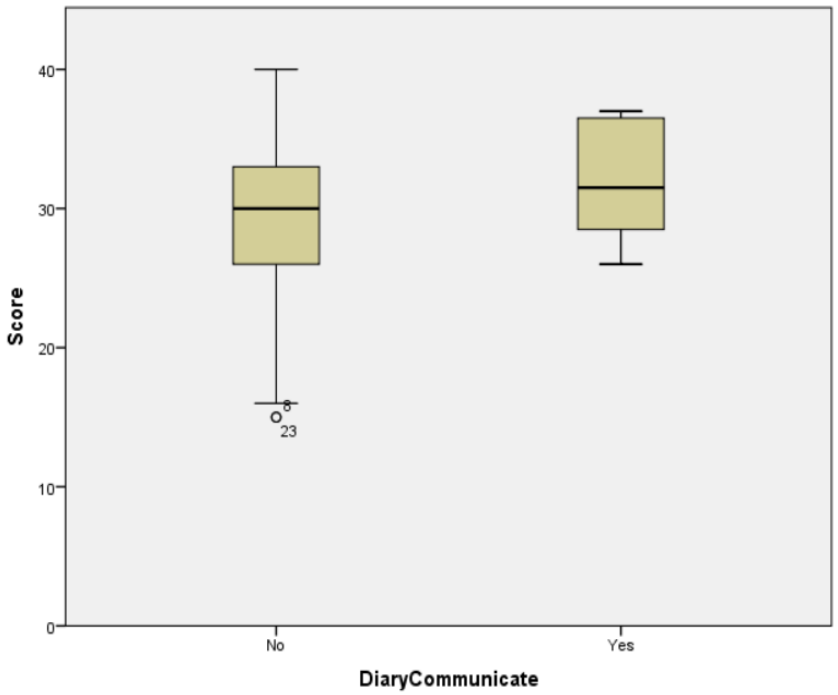


Figure 53 Boxplot representing the scores versus communicating in English (Flanders)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	,901	,345	-1,205	84	,231	-2,590	2,148
	Equal variances not assumed			-1,547	9,870	,153	-2,590	1,674

Table 30 Independent samples t-test of communicating in English versus score (Flanders)

6.7.2. Watching TV in English

Watching TV in English involves watching English films (including a DVD or a Blu-Ray), English series or TV programmes in English. No further distinction is made between watching TV in English with or without subtitling.

Regarding Wallonia, 47 Walloon pupils did not watch any English programme in that week (*M*= 19.6, *SD*= 7.42), 35 informants watched an English programme once or twice in that week (*M*= 18.1, *SD*= 6.3) and only seven Walloon participants watched TV in English three times or more in that week (*M*= 25.7, *SD*= 7.78). Figure 54 further suggests that the Walloon pupils who watched TV in English a lot (i.e. three times or more) obtain a higher score than the two other groups. The two outliers in the category "*no*" are the same Dutch-speaking pupils as in previous section.

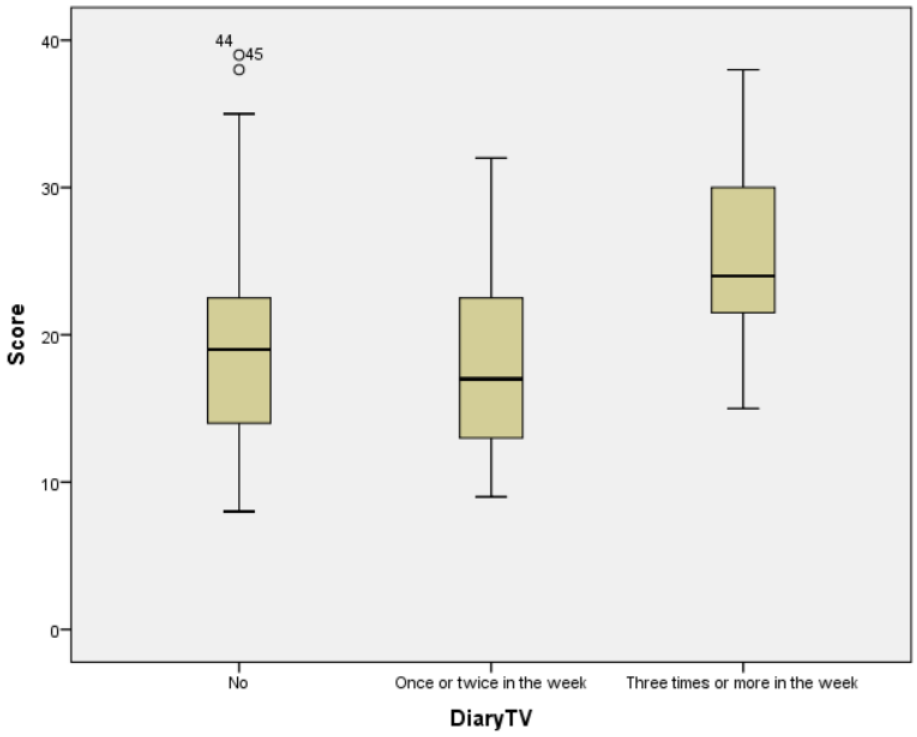


Figure 54 Boxplot representing the average scores versus watching TV in English (Wallonia)

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	343,309	2	171,654	3,478	,035
Within Groups	4244,804	86	49,358		
Total	4588,112	88			

Table 31 One-way ANOVA of score versus watching TV in English (Wallonia)

A one-way analysis of variance shows a main effect of watching TV in English on score in Wallonia ($F_{2,86}$= 1.478, p= 0.035). Further post-hoc analyses using Tukey HSD indicate that there is a significant difference in mean scores between watching TV in English once or twice in that week (M= 18.1) and watching TV in English three times or more in that week (M= 25.7), p= 0.027. In other words, the former obtains a lower average score than the latter. No further significant results are found in Wallonia.

In comparison, 24 Flemish informants out of 85 did not watch an English programme (M= 28.6, SD= 6.86), 27 informants watched TV in English once or twice in that week (M= 30.1, SD= 6.18) and the remaining 35 participants watched TV in English at least three times in that week (M= 30, SD= 4.69). These findings are represented in figure 55. In other words, most of the Flemish pupils watched TV in English at least once in that specific week. This highly contrasts

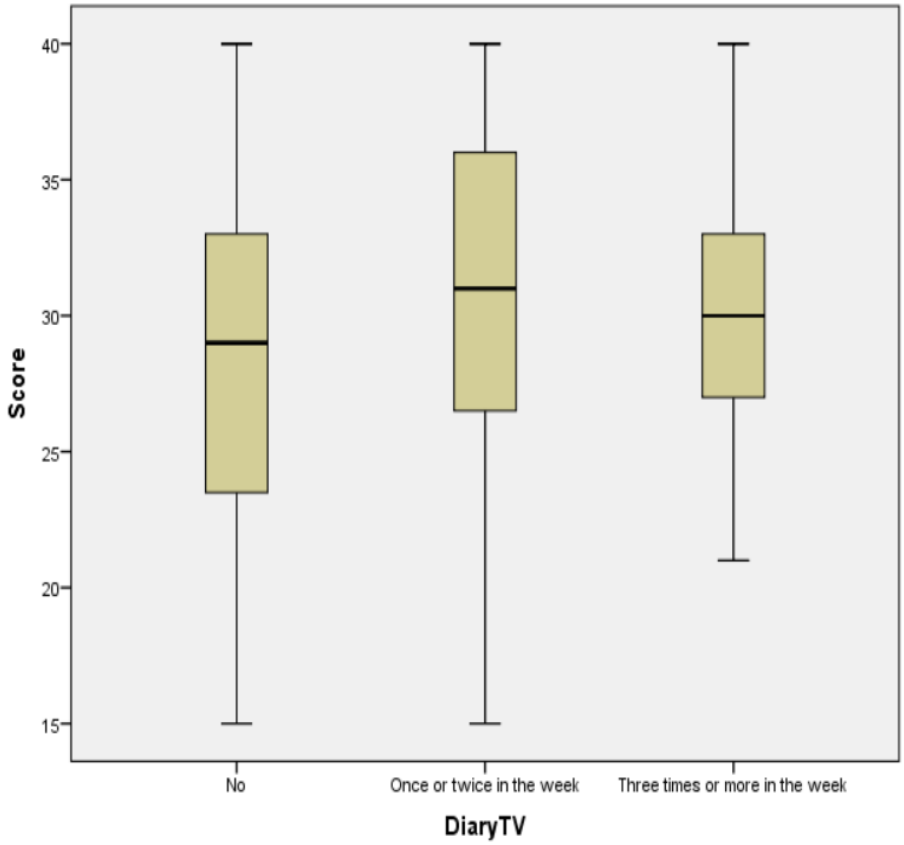


Figure 55 Boxplot representing the average scores versus watching TV in English (Flanders)

with the Walloon pupils. However, a one-way ANOVA for the Flemish pupils does not indicate a significant difference in mean scores depending on the time spent watching TV in English in that week ($F_{2,83}$= 0.559, p= 0.574).

To conclude, the differences in scores between Flanders and Wallonia can be largely explained by the different habits towards TV. In fact, Flemish pupils are much more in contact with English through TV than their Walloon counterparts. 24 Flemish pupils out of 85 did not watch TV in English at least once in that week; whereas 47 Walloon pupils out of 89 did not watch TV in English at least once in that week. In short, the English input through TV enhances the receptive grammar acquisition of the pupils.

ANOVA

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	38,063	2	19,032	,559	,574
Within Groups	2823,471	83	34,018		
Total	2861,535	85			

Table 32 One-way ANOVA of score versus watching TV in English (Wallonia)

6.7.3. Listening to English music

Figure 56 shows that 29.7% of the Walloon informants did not listen to English music in that week, 33.8% listened to English songs once to three times in that week and 36.4% listened to English music at least four times in that week. In other words, the Walloon sample is well distributed. These findings are in line with the previous findings about music, which states that the Walloon pupils like English and French songs (cf. section 6.6.). It is thus not surprising that most of the Walloon pupils listened to English music at least once in that specific week.

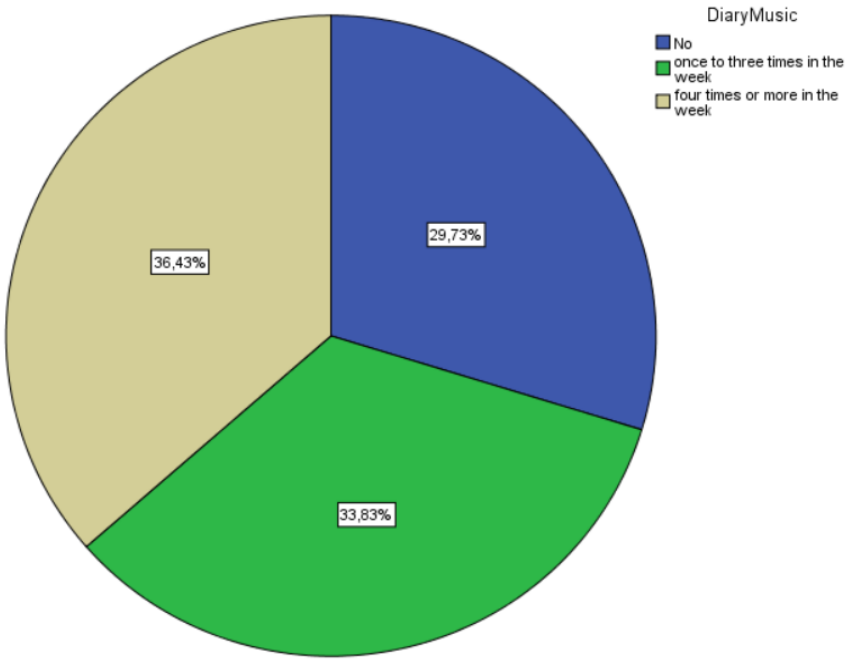


Figure 56 pie chart representing the distribution of the answers provided by the Walloon pupils regarding music

Next, the boxplot (figure 57) shows that the means of the previously mentioned groups are similar. The means amount to 20.6 (*SD*= 9.3) for the Walloon informants who did not listen to English music, to 17.8 (*SD*= 5.49) for the pupils who listened to English music once to three times in the week and to 20.3 (*SD*= 6.82) for those who listened to English songs at least four times in the week. It is thus expected that the mean scores will not vary significantly depending on how many times the Walloon informants listened to English music. A one-way ANOVA confirms the expectations, as non-significant results are obtained in Wallonia ($F_{2,86}$= 1.483, p= 0.233). In other words, the average scores for the different categories are similar. It should be noted that outlier 44 is a recurrent Dutch-speaking outlier.

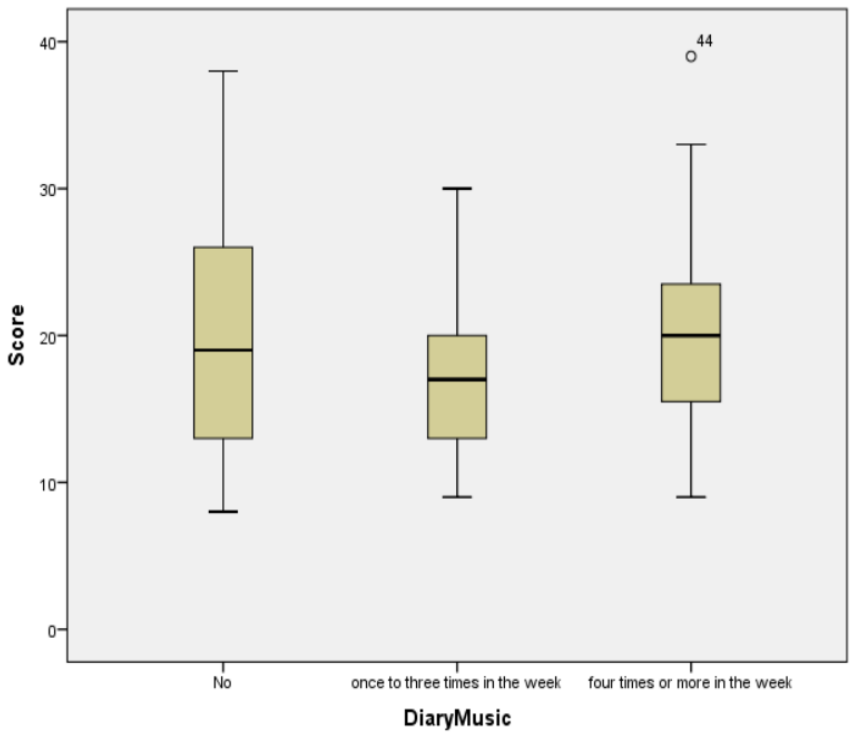


Figure 57 Boxplot representing the scores versus listening to English music (Wallonia)

Concerning Flanders, 22.3% of the participants did not listen to English songs in that week, 38.7% listened to English music once to three times in that week, and the remaining 39% listened to English songs at least four times in that week (figure 58). Interestingly, the informants who did not listen to English songs are less numerous in Flanders (i.e. 22.3%) than in Wallonia (i.e. 29.7%). However, the difference remains marginal. The two other categories are even more similar.

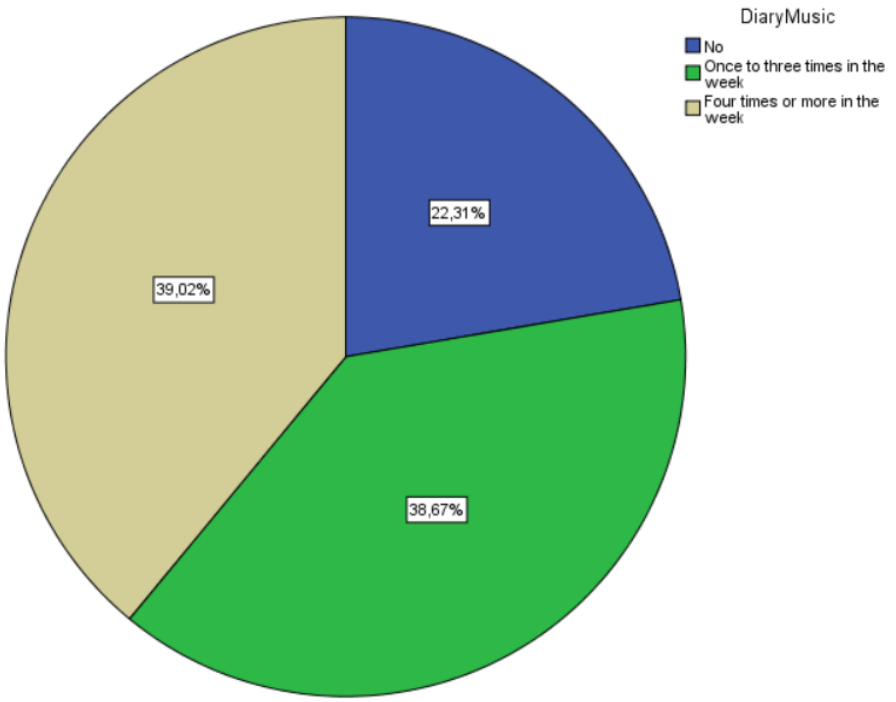


Figure 58 pie chart representing the distribution of the answers provided by the Flemish pupils regarding music

Figure 59 represents the scores of the Flemish pupils in relation to their answers to the English diaries. It shows that the means are very similar for the Flemish pupils who listened to English music once to three times in the week (M= 29, SD= 5.87) and the pupils who listened four times or more to English music in that week (M= 29.3, SD= 5.4). It further suggests that the pupils who did not listen to English music (M= 31.6, SD= 6.31) have a slightly higher average score compared to the two previously mentioned groups. However, a further one-way analysis of variance does not indicate significant differences in means ($F_{2,83}$= 1.327, p= 0.271). Finally, the outlier is again the same French-speaking pupil of the school set in Wervik.

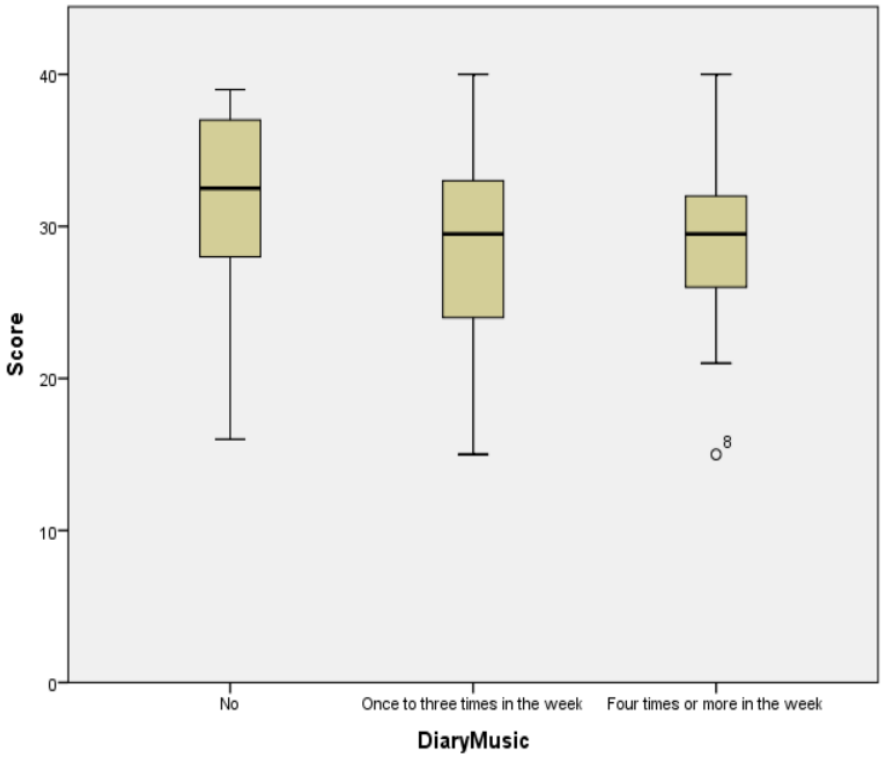


Figure 59 Boxplot representing the scores versus listening to English songs (Flanders)

6.7.4. Using the computer in English

In that particular week, the Walloon pupils seemed to mainly use the computer in their mother tongue. In fact, 70 Walloon pupils out of 89 did not use the computer in English in that week (*M*= 19.4, *SD*= 7.35). For clarity's sake, using the computer in English involves watching English videos on YouTube, surfing on English websites or using English software. As the number of pupils who used the computer in English is restricted, the categories are accordingly limited to "*yes*" (i.e. the pupils used the computer in English) and "*no*" (i.e. the pupils did not use the computer in English). The average scores of the Walloon pupils for both categories are very similar and are shown in figure 60. The average score of the Walloon pupils who did not use the computer in English amounts to 19.4 (*SD*= 7.35) and the informants who used the computer in English have a mean of 19.5 (*SD*= 6.91). An independent samples t-test confirms that the mean scores for both categories are almost identical, *t*(87)= -0.44, *p*= 0.965.

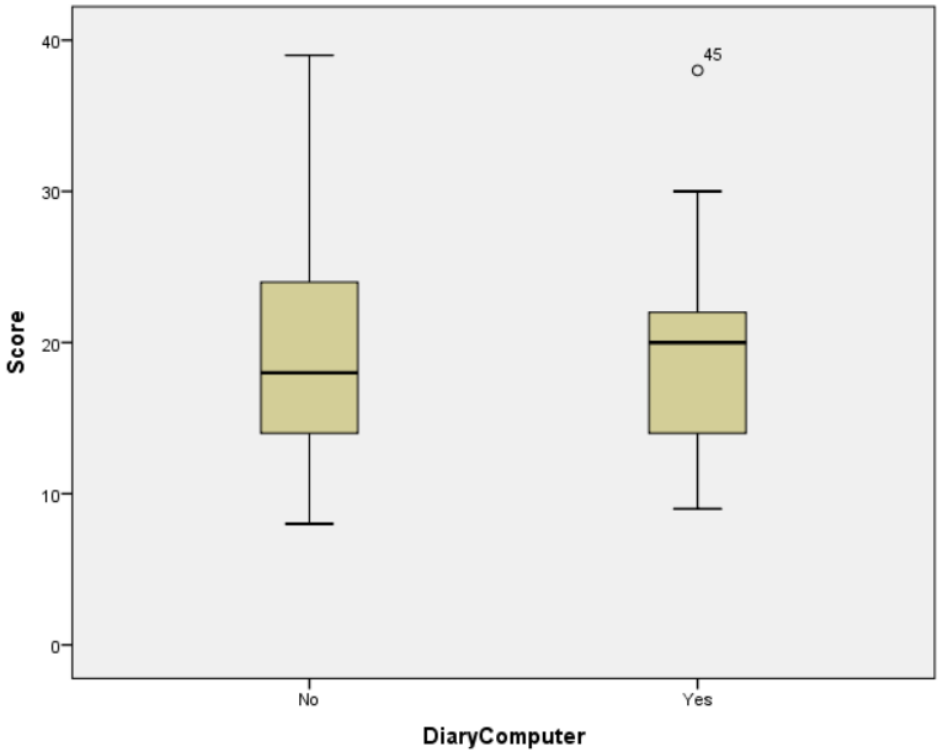


Figure 60 Boxplot representing the scores versus using the computer in English (Wallonia)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	,661	,418	-,044	87	,965	-,083	1,879
	Equal variances not assumed			-,046	29,995	,964	-,083	1,813

Table 33 Independent samples t-test of score versus using the computer in English (Wallonia)

Regarding the Flemish pupils, most of them also use their computer in their mother tongue, as 65 Flemish pupils out of 86 did not use their computer in English. According to figure 61, the mean score of this group reaches 28.7 (*SD*= 5.8) and the mean score of the Flemish pupils who used their computer in English at least once in that week reaches 32.7 (*SD*= 4.76). In other words, the graph suggests a highly significant difference in mean scores between both groups, which is confirmed by a following independent samples t-test, *t*(84)= -0.285, *p*= 0.005 (table

34). It indicates that the 21 Flemish informants who used their computer in English (*M*= 32.7, *SD*= 4.76) have a higher mean score than those who did not use their computer in English in that specific week (*M*= 28.7, *SD*= 5.8).

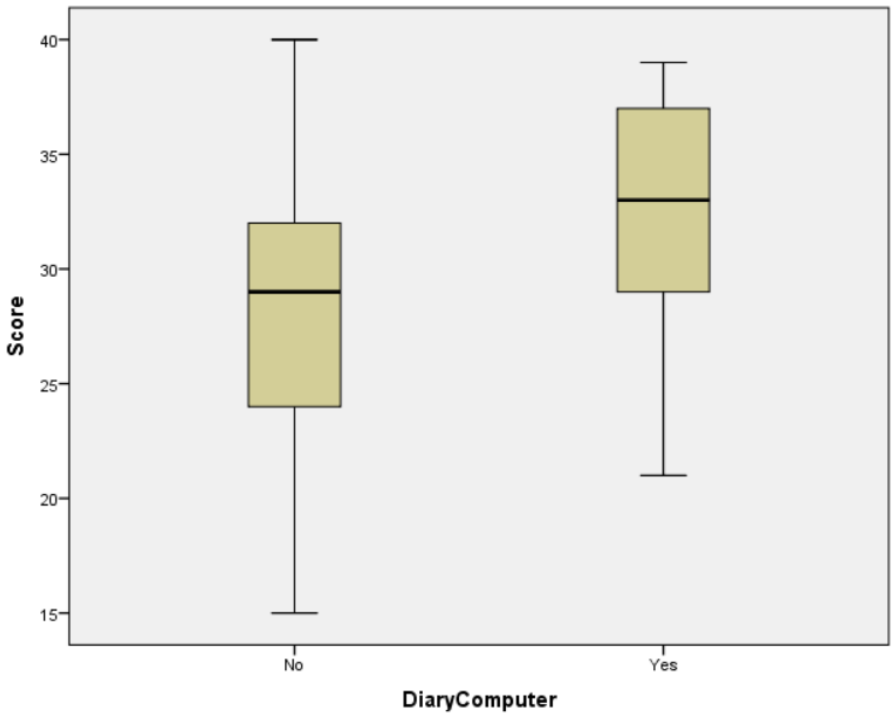


Figure 61 Boxplot representing the scores versus using the computer in English (Flanders)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	,624	,432	-2,852	84	,005	-3,990	1,399
	Equal variances not assumed			-3,158	40,906	,003	-3,990	1,263

Table 34 Independent samples t-test of score versus using the computer in English (Wallonia)

6.7.5. Gaming in English

As shown in figure 62, most of the Walloon pupils played an English game at least once in that specific week. In fact, 38% of the Walloon pupils did not game in English, 42.3% gamed once or twice and 19.7% gamed three times or more in that week. These findings contrast with the previously mentioned findings about gaming which stated that a minority of the Walloon pupils usually game in English (cf. section 6.5). However, the diaries include gaming on a PC and gaming on a console, which is not the

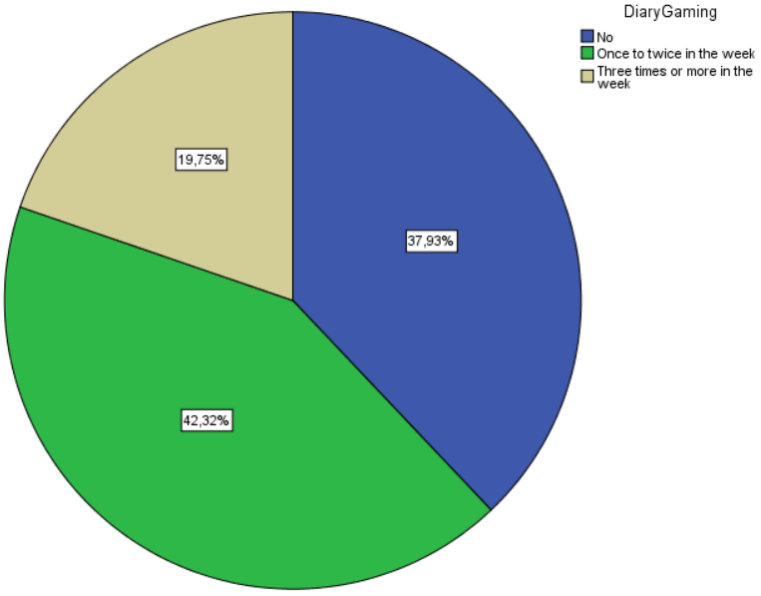


Figure 62 Pie chart representing the distribution of the answers provided by the Walloon pupils regarding gaming

case in the questionnaires. The questionnaires exclusively focus on gaming on the PC, hence the different results between both datasets.

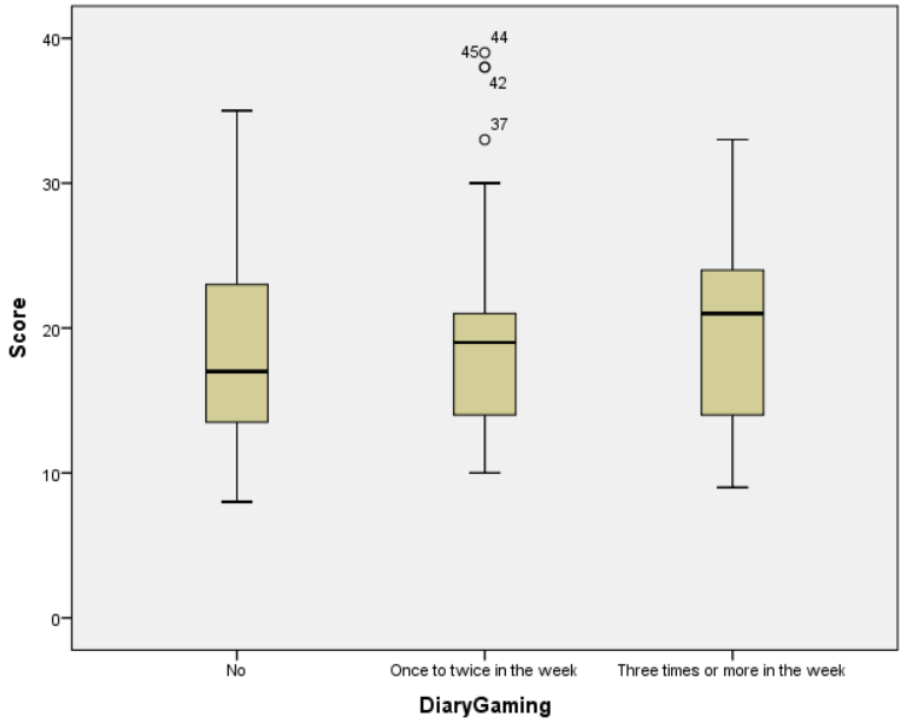


Figure 63 Boxplot representing the average scores versus gaming in English (Wallonia)

The means across the different categories seem to remain constant (cf. figure 63). The mean of the Walloon participants who did not use the computer amounts to 18.8 (*SD*= 6.83) and they obtain the lowest mean score. The informants who gamed once or twice in that week obtain a mean of 19.8 (*SD*= 7.78) and the last group has an average score of 20.1 (*SD*= 7.01). A one-way ANOVA confirms the similarities between the different mean scores, as it indicates non-significant results ($F_{2,86}$= 0.269, *p*= 0.765). No specific explanation can be found for outlier 37, but the remaining three outliers are the recurrent Dutch-speaking outliers.

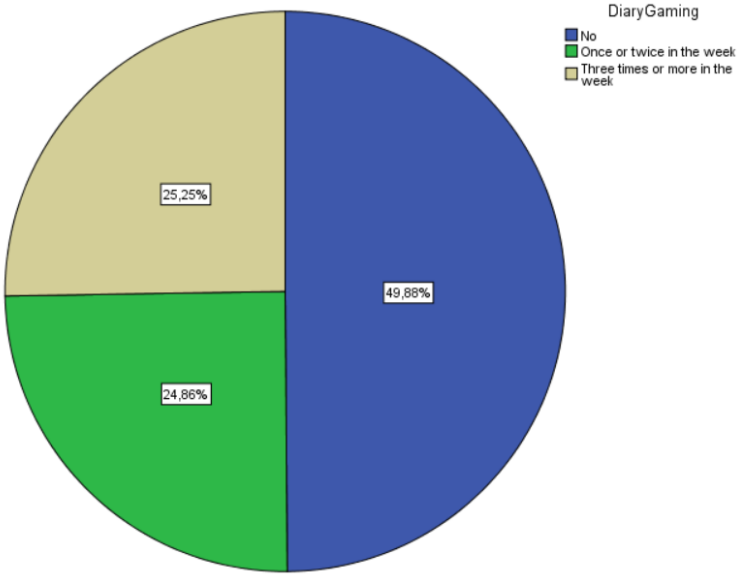


Figure 64 Pie chart representing the distribution of the answers provided by the Flemish pupils regarding gaming

In comparison, half of the Flemish pupils did not play English games in that specific week. Surprisingly, it seems that the Walloon pupils played more English games in that specific week, as only 37% of the Walloon informants did not play an English game in that week. Next, one Flemish informant in four played an English game once or twice in the week and one in four gamed in English at least three times. Interestingly, the average scores of the different categories are constant (figure 65). The Flemish informants who did not play in English obtain a mean of 28.9 (*SD*=

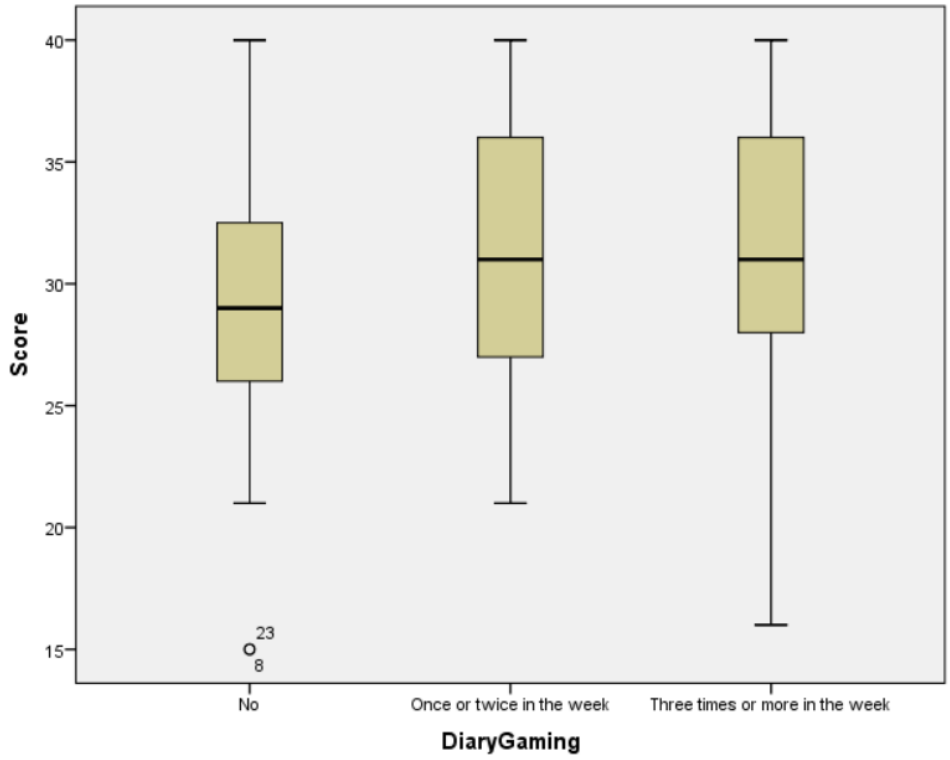


Figure 65 Boxplot representing the scores versus gaming in English (Flanders)

5.56), those who played once or twice have an average score of 27.6 (*SD*= 5.76) and those who played at least three times in that week obtain a mean score of 30.7 (*SD*= 6.38). Unsurprisingly, a one-way ANOVA indicates non-significant results ($F_{2,83}$= 0.768, *p*= 0.467).

In short, the pupils who played in English do not obtain better scores than those who did not game in English in that specific week.

6.7.6. Reading in English

It should first be noted that reading in English includes reading English adverts, English magazines or English books. However, few pupils read in English. Therefore, the discussed categories include "*yes*" (i.e. the pupils read something in English) and "*no*" (i.e. the pupils did not read anything in English). In fact, 70 Walloon pupils out of 89 did not read any English book or magazine. Their mean score amounts to 19.7 (*SD*= 7.37). Interestingly, the mean score of the pupils who read some English books or magazines reaches 18.6 (*SD*= 6.74). In other words, the pupils who read some English magazines or books seem to obtain a lower average score than the majority of the informants who did not read any English book or magazine. However, the difference is not

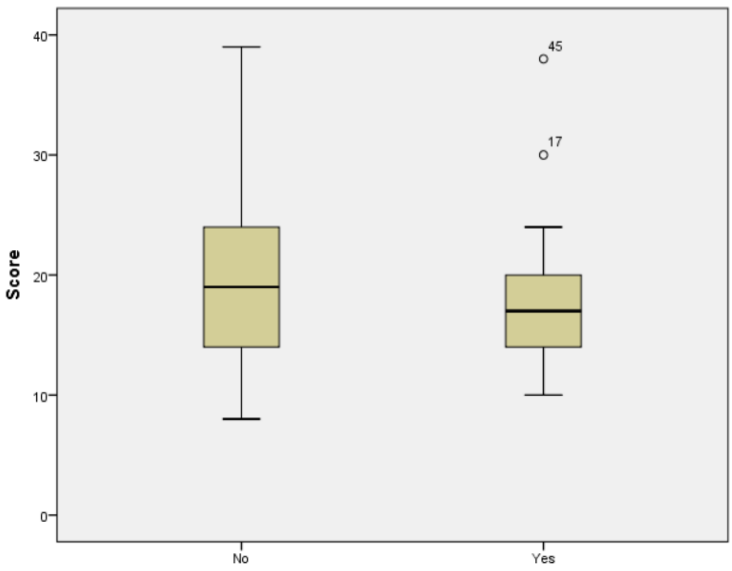


Figure 66 Boxplot representing the average scores versus reading in English (Wallonia)

significant according to an independent samples t-test, $t(87)= 0.598$, $p= 0.551$. Noteworthy, the outlier 45 is a Dutch-speaking pupil and he is the only one to read English magazines every day. Therefore, it remains interesting to further investigate the differences between Wallonia and Flanders.

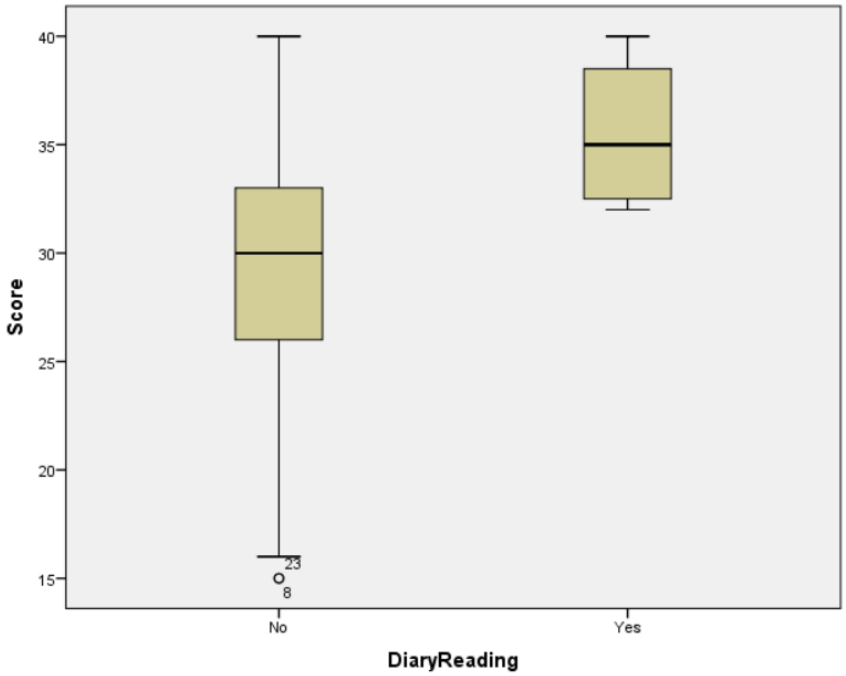


Figure 67 Boxplot representing the score versus reading in English (Flanders)

Out of 86 Flemish informants, only four read some English magazines or books. Yet, the average score of the pupils who read English books or magazines ($M= 29.4$, $SD= 5.75$) is higher than those who did not ($M= 35.5$, $SD= 3.7$). The difference in mean scores is marginally significant, $t(84)= -2.106$, $p= 0.038$). In other words, the Flemish pupils who read some English books or magazines obtain higher scores than the informants who did not read any English book or magazine in that specific week.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score	Equal variances assumed	,825	,366	-2,106	84	,038	-6,134	2,913
	Equal variances not assumed			-3,139	3,748	,038	-6,134	1,954

Table 35 Independent samples t-test of score versus reading in English (Flanders)

6.8. English grammar test

As mentioned in the general findings section, the Flemish pupils score significantly higher than the Walloon pupils on the receptive English grammar test. Therefore, it is now interesting to individually investigate the different items of the grammar test (i.e. SVO, dative clause, passive clause, relative clause, third person singular marker *-s*, regular plural, negation and pronoun object). All the items are out of five points. In fact, each item comprises five tokens, hence the five-point scale. A further comparison between Flanders and Wallonia will be performed for each item in order to shed light on the order of acquisition for each region. I shall first start with the general findings.

6.8.1. General findings

Figure 68 is subdivided into three categories. The first category (i.e. orange) involves the sentence structures, the second one (i.e. blue) includes the morphosyntactic features and the third one (grey) refers to the morphosemantic features. The average scores of each item are calculated out of five.

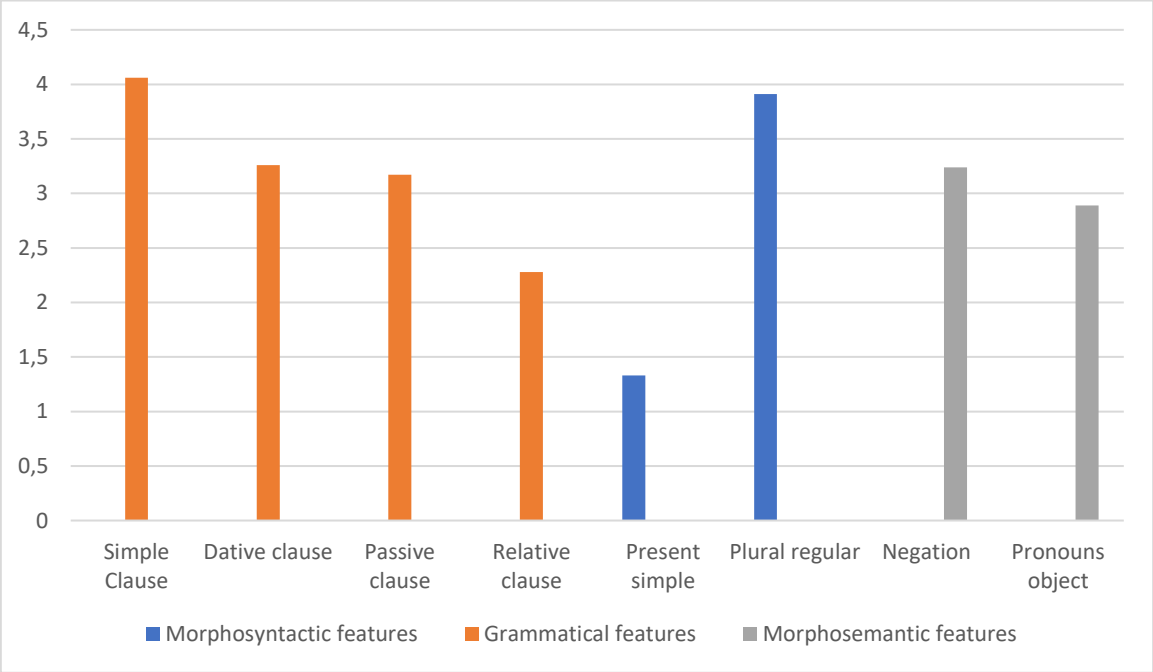


Figure 68 Histogram representing the average scores of the tested items

The sentence structures are further subdivided into *simple, dative, passive* and *relative clauses*. The means amount to 4.1 (*SD*= 1.25) for the simple clauses, to 3.3 (*SD*= 1.69) for the dative clauses, to 3.2 (*SD*= 1.44) for the passive clauses and to 2.3 (*SD*= 1.85) for the relative clauses. In other words, the means suggest that there is a specific order of acquisition for these sentence structures, ranging from the easiest sentence structure to the most difficult one, hence the following order: simple clauses, dative clauses, passive clauses and relative clauses.

Next to that, the morphosyntactic features comprise the third person singular *-s* (i.e. *present simple*) and the regular plurals. The mean score for the present simple item reaches 1.3 (*SD*=

1.56) and the average score for the regular plural item amounts to 3.9 (*SD*= 1.55). In fact, it seems that the third person singular *-s* is not acquired by most of the pupils. Noteworthy, an item is considered to be acquired when the average score is equal or superior to four.

Finally, the morphosemantic features include the negation (*M*= 3.2, *SD*= 1.65) and the pronouns object (*M*= 2.9, *SD*= 1.45). Both mean scores are similar.

6.8.2. sentence structures

6.8.2.1. Subject-verb-object word order

First, it seems that most of the pupils master the unmarked declaratives (SVO word order), as shown in figure 69. However, the graph also suggests that the pupils have some troubles with question 23 (cf. appendix 3). The percentage of correct answers drops fiercely on that specific question. In fact, only 69 % of the pupils have the correct answer on that particular question, whereas the percentage of correct answers on the other questions ranges from 83.1% to 87.9%.

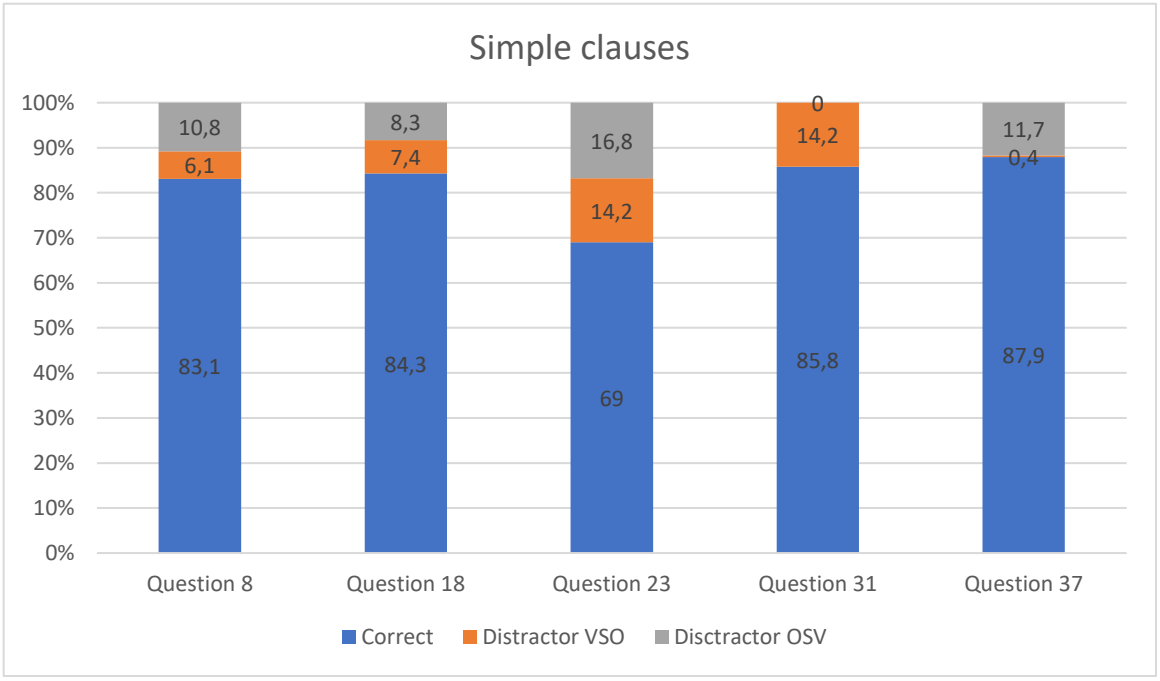


Figure 69 Bar chart representing the answers provided by all the pupils to the questions regarding SVO

Next to that, there are two different distractors in the test, i.e. the VSO word order and the OSV word order. Regarding questions 8, 18 and 23, the percentage of wrong answers are similar for both distractors. The percentage of incorrect answers varies from 6.1% to 14.2% for the distractor VSO and from 8.3% to 16.8% for the distractor OSV. In contrast, not a single informant is misled by the OSV distractor on question 31 and 14.2% are misled by the distractor VSO. Concerning question 37, only one informant is led astray by the VSO distractor and 11.7% are misled by the OSV distractor.

Interestingly, the next boxplot (figure 70) shows that there are no outliers in Wallonia, but the number of correct answers varies between zero and five. In comparison, there are eight outliers in Flanders and their scores vary between three and four. Outliers 44, 51, 94, 95, 97 and 106 have a low overall score, as they obtain 21 and 22 out of 40. In the questionnaires, they mention

that, on a daily basis, they are not a lot in contact with English which probably explains their lower scores. For instance, they claim that they never watch TV in English and that they hardly ever listen to English music. In other words, these pupils lack some input to perform well on the receptive grammar test and on this item. Those six outliers suggest that scoring lowly on the SVO item predicts a low overall score. However, outliers 71 and 101 do not confirm this hypothesis as they obtain a score of 30 and 33 on the English grammar test.

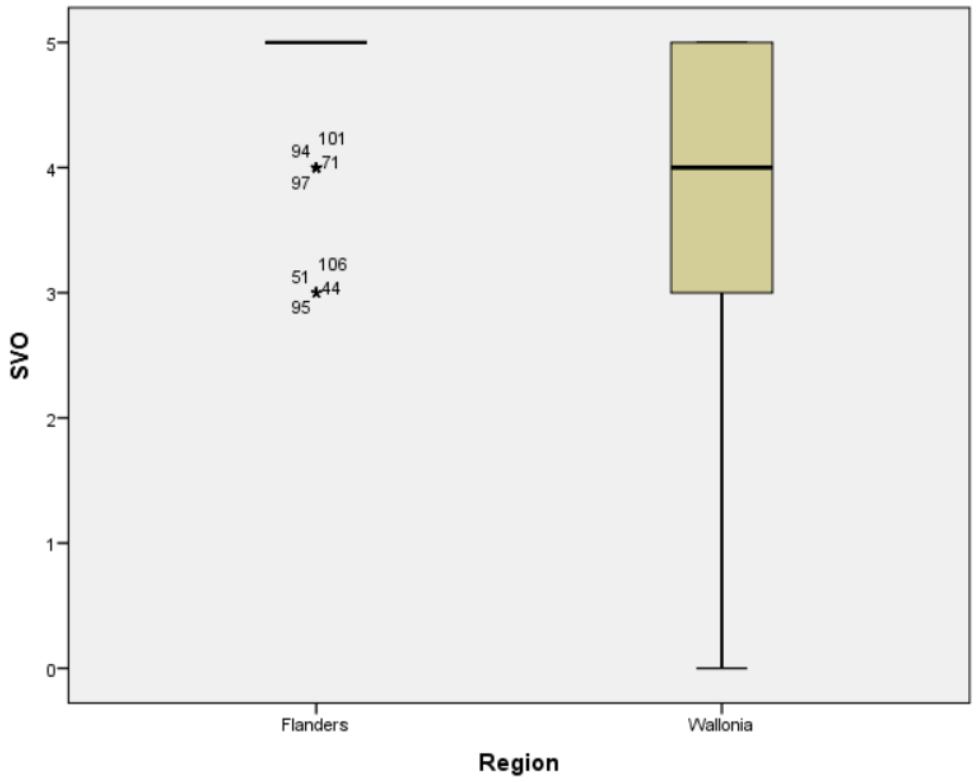


Figure 70 Boxplot representing the mean scores of the SVO item (out of 5) versus the region

Figure 70 further confirms that the SVO word order is generally easily acquired. However, some Walloon informants still struggle with this SVO item. In fact, three Walloon pupils obtain a score of zero, 11 have a score of one and 16 obtain a score of two out of five. Interestingly, those pupils also have a very low overall score. Furthermore, all of them except three obtain less than 15 out of 40, which is below the Walloon average score (i.e. 18.7, cf. general findings). In other words, this finding confirms the hypothesis which states that pupils who score poorly on the SVO item also score poorly on the whole test.

From a generativist perspective, it is assumed that the unmarked declaratives are easily acquired as Dutch, French and English generally show the same word order, that is, SVO. However, it is sometimes argued that Dutch has a verb second (i.e. V2) word order, but the unmarked declaratives (SVO) exist in Dutch, which means that the SVO word order is activated in the pupils' brains.

Finally, an independent samples t-test indicates that the average scores on the SVO item are highly different in Flanders and in Wallonia. The mean is higher for the Flemish pupils (M= 4.76, SD= 0.54) than for the Walloon pupils (M= 3.44, SD= 1.36), $t(166)$= 9.88, p< 0.0001. Levene's test indicates unequal variances (F= 92.33, p< 0.0001), so degrees of freedom are adjusted from 230 to 166.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SVO	Equal variances assumed	92,328	,000	9,396	230	,000	1,316	,140
	Equal variances not assumed			9,880	165,810	,000	1,316	,133

Table 36 Independent samples t-test of SVO score (out of 5) versus region

6.8.2.2. Dative sentences

I shall now deal with the dative clauses. Interestingly, the percentage of correct answers is similar for the five questions ranging from 60.4% to 69.8% (figure 71). In other words, it seems that the majority of the informants could understand the English dative construction. The informants are mainly misled by the distractor S+V+Obj2+Obj1. For instance, 18.1% of the informants think that **The nurse gives to mommy the baby* is the correct answer to question 3,

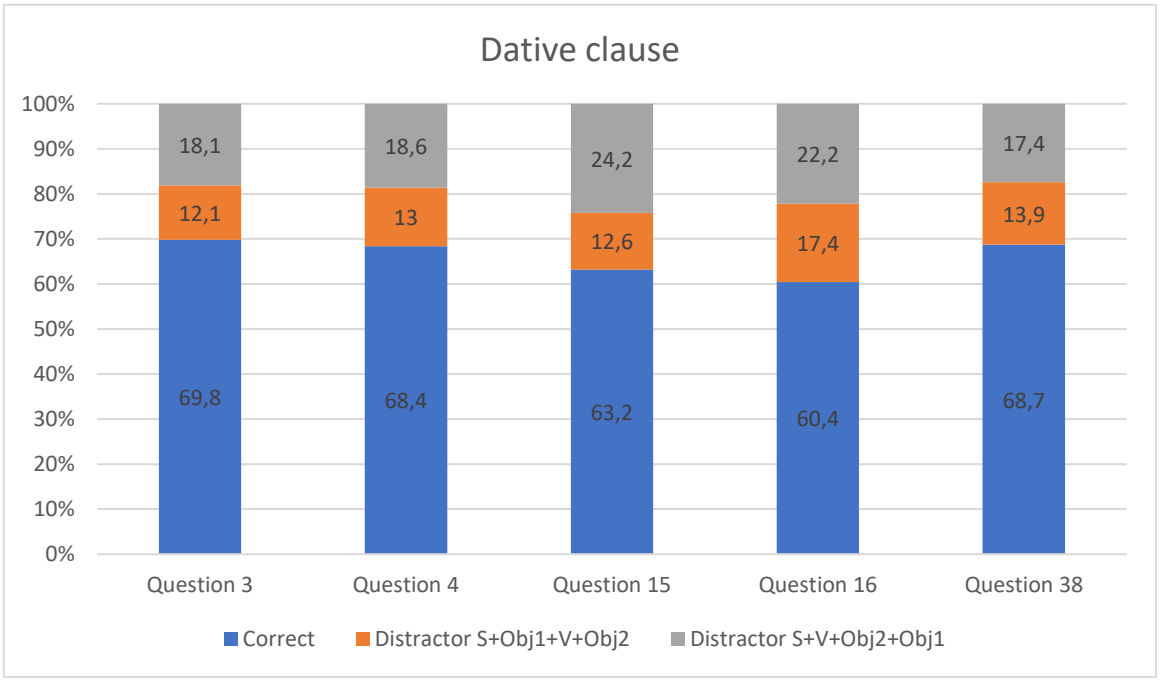


Figure 71 Bar chart representing the answers provided by all the pupils to the questions regarding the dative clauses

whereas 12.1% think that the correct answer is **The nurse the baby gives to mommy* (cf. appendix 3 for the other questions). 69.8% have the correct answer **The nurse gives the baby to mommy*. In other words, the first distractor (i.e. S+V+Obj2+Obj1) involves an inversion of the recipient (or beneficiary) and the theme, while the second distractor (i.e. S+Obj1+V+Obj2) includes an inversion of the verb and the theme. The same distractors are used for the five questions. 68.4% of the informants answer correctly to question 4. 18.6% are misled by the first distractor and 13% are led astray by the second distractor. 63.2% of the informants have the right answer to question 15. 12.6% indicate that the distractor S+Obj1+V+Obj2 is the correct answer and 24.2% think that the distractor S+V+Obj2+Obj1 is the right answer. Regarding question 16, 60.4% have the correct answer, 17.4% are misled by the distractor

S+Obj1+V+Obj2 and the remaining 22.2% are misled by the last distractor. Concerning question 38, 68.7% of the informants are right, 13.9% are misled by the distractor S+Obj1+V+Obj2 and 17.4% are led astray by the distractor S+V+Obj2+Obj1.

According to figure 72, it seems that the Flemish pupils can easily answer to the questions about the dative construction, as 92 Flemish pupils out of 108 have four or more on this item. This is not surprising as Dutch and English share the same dative construction. For instance, Dutch and English both accept the ditransitive construction (e.g. *I give Mary the book*/ *Ik geef Marie het boek*), but French does not (e.g. **Je donne Marie le livre*). However, no double object sentences are used in order to avoid the language differences, but it still seems that the Dutch informants have some facilities compared to their Walloon counterparts. Furthermore, outliers 14 and 23 are French-speaking at home, which further suggests that negative L1 transfer between French and English can take place. The three remaining outliers have lower scores than the average Flemish pupil (< 30.3). However, informant 24 scores very poorly (i.e. 16) compared to the average Flemish pupil.

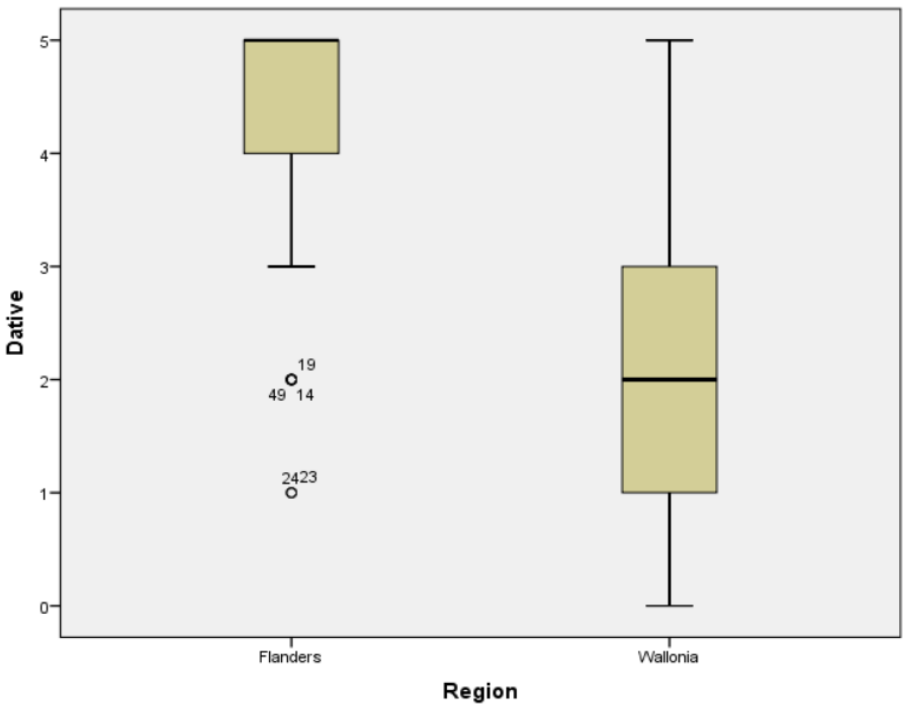


Figure 72 Boxplot representing the mean scores of the dative item (out of 5) versus the region

Next to that, 81 out of 124 Walloon pupils score between zero and two on the dative tokens. This sharply contrasts with the SVO word order item and further confirms the difficulties for the Walloon pupils to correctly acquire the English dative construction.

Therefore, it is not surprising that an independent samples t-test indicates a highly significant difference in mean scores on the dative item. In other words, the average score for the Flemish

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Dative	Equal variances assumed	28,407	,000	11,904	230	,000	2,089	,176
	Equal variances not assumed			12,281	208,070	,000	2,089	,170

Table 37 Independent samples t-test of dative score (out of 5) versus region

pupils (*M*= 4.4, *SD*= 0.97) is higher than the average score for the Walloon ones (*M*= 2.3, *SD*= 1.58) on the dative item, *t*(208)= 12.281, *p*< 0.0001. Again, Levene's test indicates unequal

variances (F= 28.41, p< 0.0001). Consequently, degrees of freedom are adjusted from 230 to 208.

In short, the Flemish informants have already acquired the English dative construction, whereas the Walloon informants are still acquiring it. As mentioned previously, an item is considered to be acquired when the average score on that specific item is equal or superior to four.

6.8.2.3. Passive sentences

The answers provided on the passive clause item are highly variable, as the percentage of correct answers varies from 56.7% (question 10) to 71% (question 34). The distractors involve a misplacement of the undergoer, either before the auxiliary or between the auxiliary and the past participle. For example, 64.8% of the informants answer correctly to question 6 (i.e. *The ball is thrown by the boy*). 20% claim that distractor S+PPby+Aux+V (i.e. **The ball by the boy is thrown*) is the correct answer and 15.2% think that distractor S+Aux+PPby+V (i.e. **The ball is by the boy thrown*).

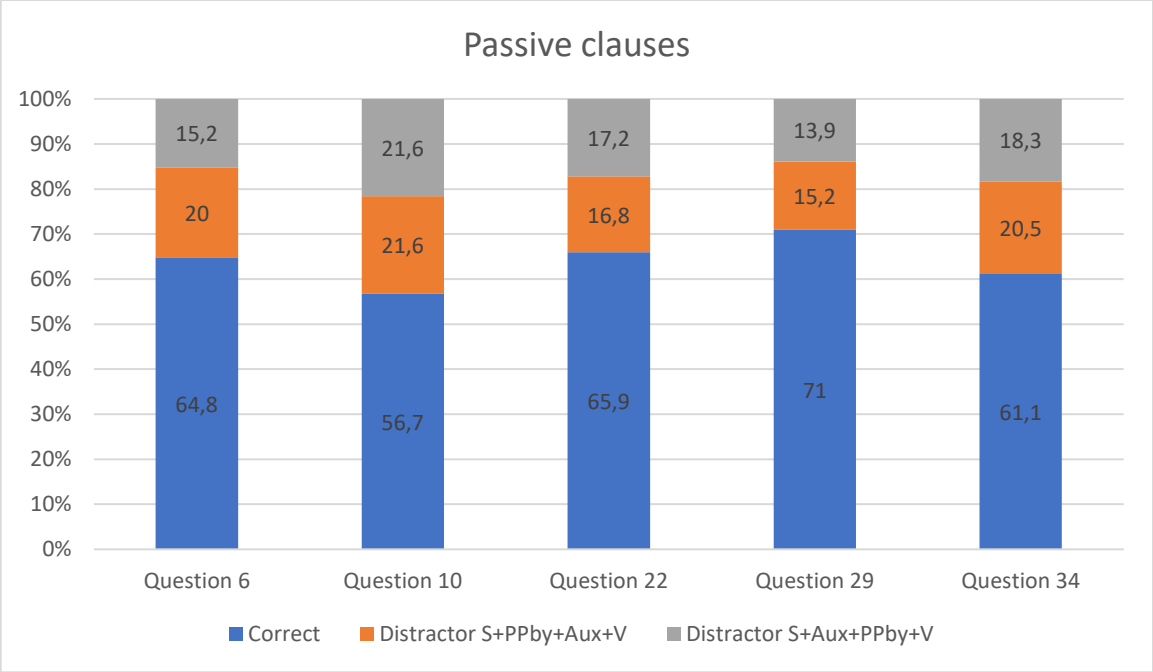


Figure 73 Bar chart representing the answers provided by all the pupils to the questions regarding the passive clauses

Only 56.7% of the informants have the right answer to question 10, 21.6% indicate that the distractor S+PPby+Aux+V is the right answer and 21.6% claim that the distractor S+Aux+PPby+V is the right answer. The percentage of correct answers to question 22 reaches 65.9%, 16.8% of the pupils are misled by the distractor S+PPby+Aux+V and the remaining 17.2% think that the distractor S+Aux+PPby+V is the right answer. Question 29 is the question with the highest number of correct answers (i.e. 71%), 15.2% claim that the distractor S+PPby+Aux+V is the right answer and 13.9% are led astray by the distractor S+Aux+PPby+V. 61.1% of the informants have the correct answer to question 34, 20.5% think that distractor S+PPby+Aux+V is right and 18.3% claim that the last distractor is the correct answer.

The distractors are designed to lead the pupils astray. In fact, the passive construction in Dutch and the passive construction in English differ greatly, whereas they are similar in English and French. I shall consider the following sentence of the grammar test (i.e. sentence 10) to

demonstrate the differences between the languages. The correct answer is *"The car is washed by the father"*.

(1) [$_{NP}$La voiture [$_{VP}$est lavée [$_{PP}$par le papa]]].
(2) [$_{NP}$De wagen [$_{VP}$is [$_{PP}$door de vader [$_{VP}$gewassen]]]].

In English, Dutch and French, the passive sentence is the result of raising the object NP to the subject position. However, in Dutch, the auxiliary and the past participle are divided into two different entities, which is not the case in French and English, hence the distractor S+Aux+PPby+V. It is thus not surprising that a couple of Flemish pupils are misled by these wrong English sentences, in which the auxiliaries and the past participles are separated (e.g. "*The car is by the father washed*").

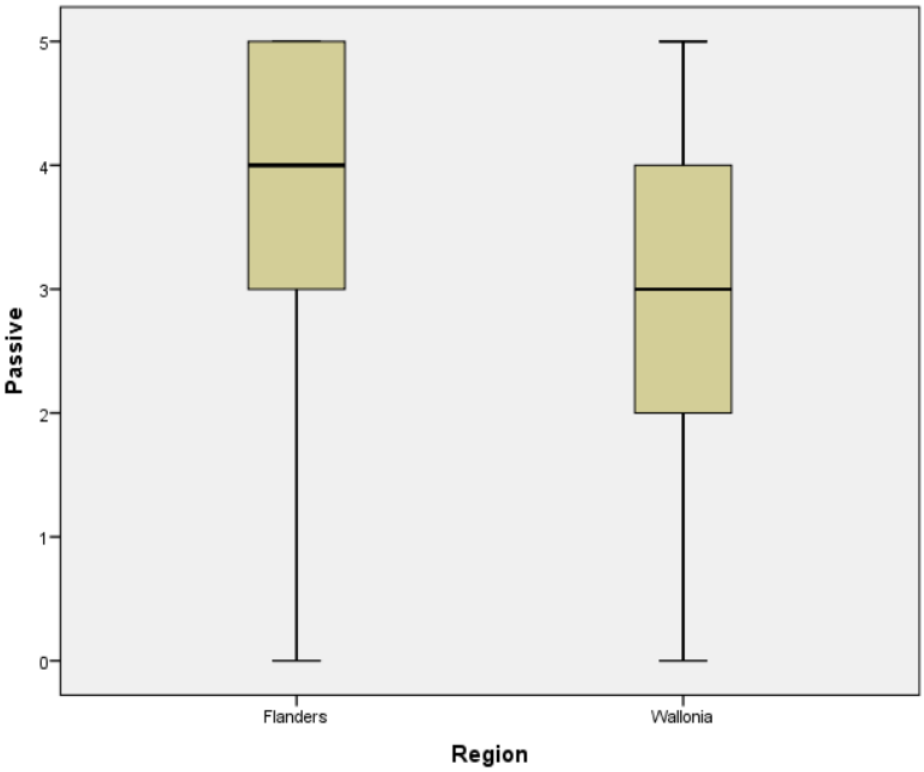


Figure 74 Boxplot representing the mean scores of the passive item (out of 5) versus the region

As represented in figure 74, the sample is well-distributed without outliers. On this particular item, it should be noted that only 47.2% of the Flemish informants obtain three or less than three out of five, while 64.5% of the Walloon informants obtain three or less than three out of five. In other words, the majority of the Flemish pupils has a score of four or five, while a minority of the Walloon pupils obtains these scores. On the basis of figure 74, it is hypothesised that the Flemish pupils would score higher than their Walloon counterparts on the passive clause item.

Indeed, a following independent samples t-test indicates that scores on the passive clause item are different for both regions. It further indicates that they are higher in Flanders (M= 3.5, SD= 1.42) than in Wallonia (M= 2.9, SD= 1.4), t(230), p= 0.001. However, the difference in means

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Passive	Equal variances assumed	,321	,572	3,302	230	,001	,613	,186
	Equal variances not assumed			3,298	224,451	,001	,613	,186

Table 38 Independent samples t-test of passive score (out of 5) versus region

is a bit reduced compared to the previously discussed sentence structures, but the difference still remains highly significant.

6.8.2.4. Relative clause

For the questions about the relative clauses, the pupils had to choose the right relative pronoun (e.g. who, that, which, etc.). Figure 75 shows the percentage of correct and wrong answers to the relative clause item. However, this bar chart is different from the previous ones, as there are only two categories (i.e. *correct* and *wrong relative pronoun*).

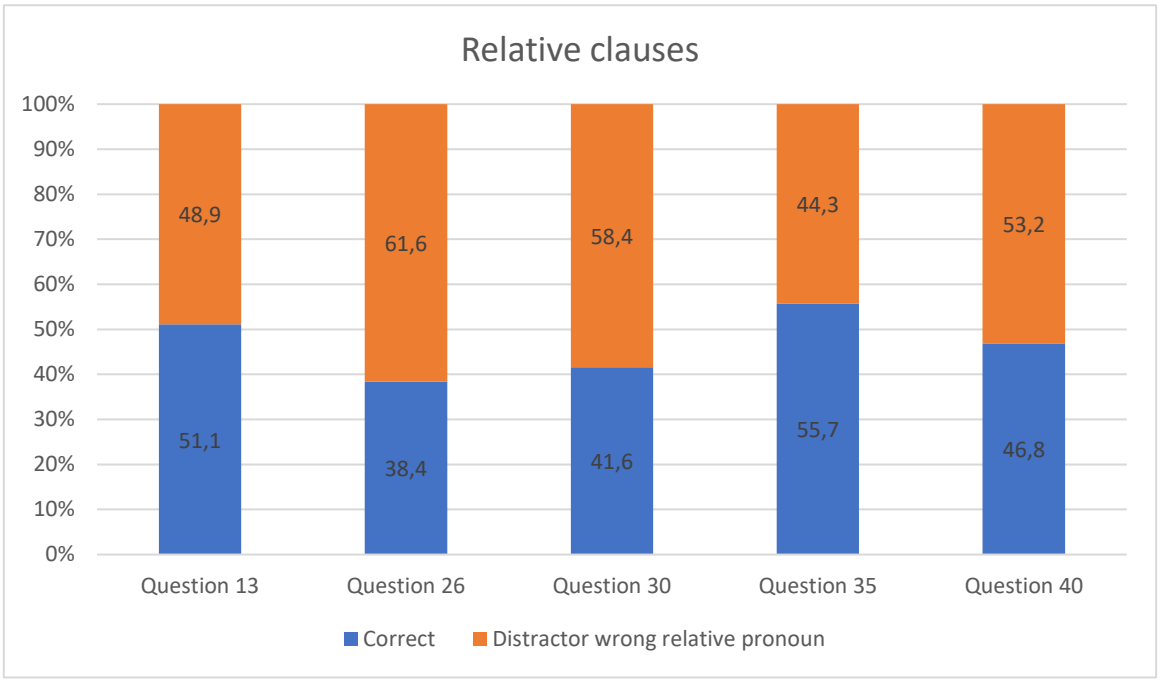


Figure 75 Bar chart representing the answers provided by all the pupils to the questions regarding the relative clauses

The figure suggests that the percentage of wrong answers increases a lot compared to the three other sentence structures. In fact, 51.1% of the pupils have the right answer to question 13 and 48.9% are led astray by a wrong relative pronoun. Only 38.4% of the informants answer correctly to question 26 and 61.6% have an incorrect answer. 41.6% have the correct answer to question 30 and 58.4% are misled by a wrong relative pronoun. Question 35 seems to be the easiest question, as 55.7% of the pupils ticked the right answer and 44.3% ticked an incorrect clause. 46.8% have the right answer to question 40 and 53.2% are led astray by the distractors.

Noteworthy, the scores on the relative clause item are the lowest of the sentence structures. This finding is expected as relative clauses are complex to understand and to use in a second language. Next to that, the boxplot (figure76) shows that 88.7% of the Walloon informants obtain three or less to these questions, while 72.2% of the Flemish informants have a score equivalent or inferior to three. These findings strongly suggest that this particular item is not acquired at all by the pupils.

Eventually, an independent samples t-test confirms the previous findings and also indicates that the mean score of the Flemish informants highly differs from the mean score of the Walloon informants regarding the relative clause item. The former group (M= 2.7, *SD*= 1.46) scores higher than the latter (*M*= 2, *SD*= 1.18) on the relative clause item, $t(205)= 3.966$, $p< 0.001$.

Levene's test indicates unequal variances (F= 8.146, p= 0.005), so the degrees of freedom are adjusted from 230 to 205 (cf. table 39).

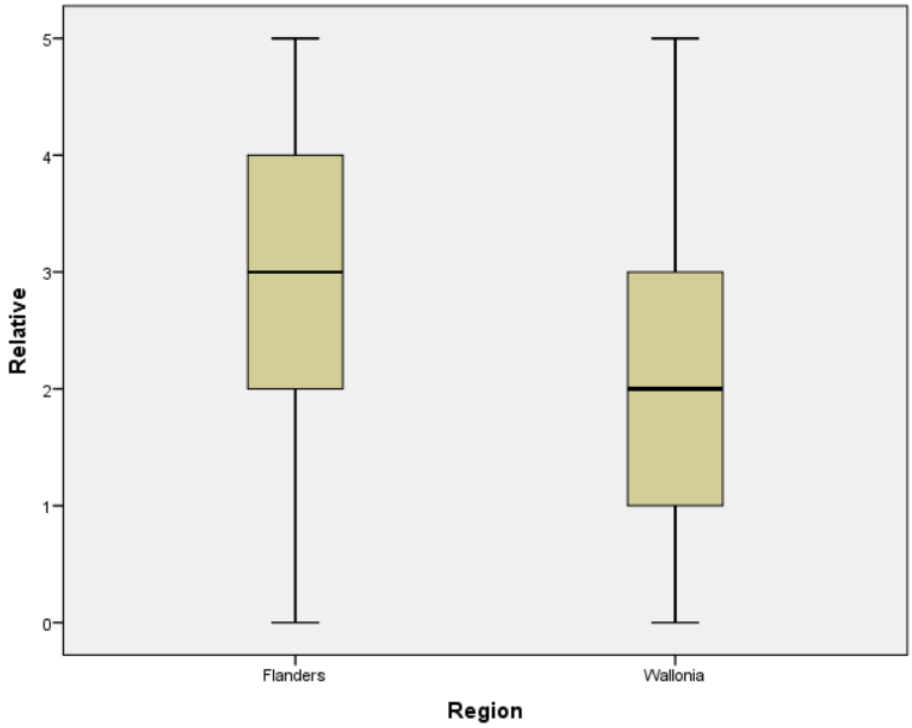


Figure 76 Boxplot representing the mean scores of the relative clause item (out of 5) versus the region

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Relative	Equal variances assumed	8,146	,005	4,024	230	,000	,698	,173
	Equal variances not assumed			3,966	205,294	,000	,698	,176

Table 39 Independent samples t-test of passive score (out of 5) versus region

6.8.3. Morphosyntactic features

6.8.3.1. Third person singular (present simple)

According to figure 77, the pupils experience some difficulties to deal with the third person singular *-s* item. Most of the informants are misled by the distractor / (i.e. finite verb without the third person singular marker *-s*). The distractor *+t* (i.e. finite verb + *t*) seems to be less misleading. Concerning question 1, 33.6% of the informants have the right answer, 5.2% are led astray by the distractor *+t* and 61.2% are misled by the distractor /. 29% answer correctly to question 9, 28.6% seem to be misled by the distractor *+t* and 42.4% think that the distractor / is the correct answer. 23.6% of the informants have the correct answer to question 17, 17.9% are led astray by the distractor *+t* and 58.5% claim that the distractor / is correct. Only 22.1% of the pupils have the right answer to question 32, 10.4% claim that distractor *+t* is the correct answer and 67.5% think that the correct answer is distractor /. Finally, 25.1% answer correctly to question 39, 12.1% mention that distractor *+t* is correct and 62.8% claim that distractor / is the right answer.

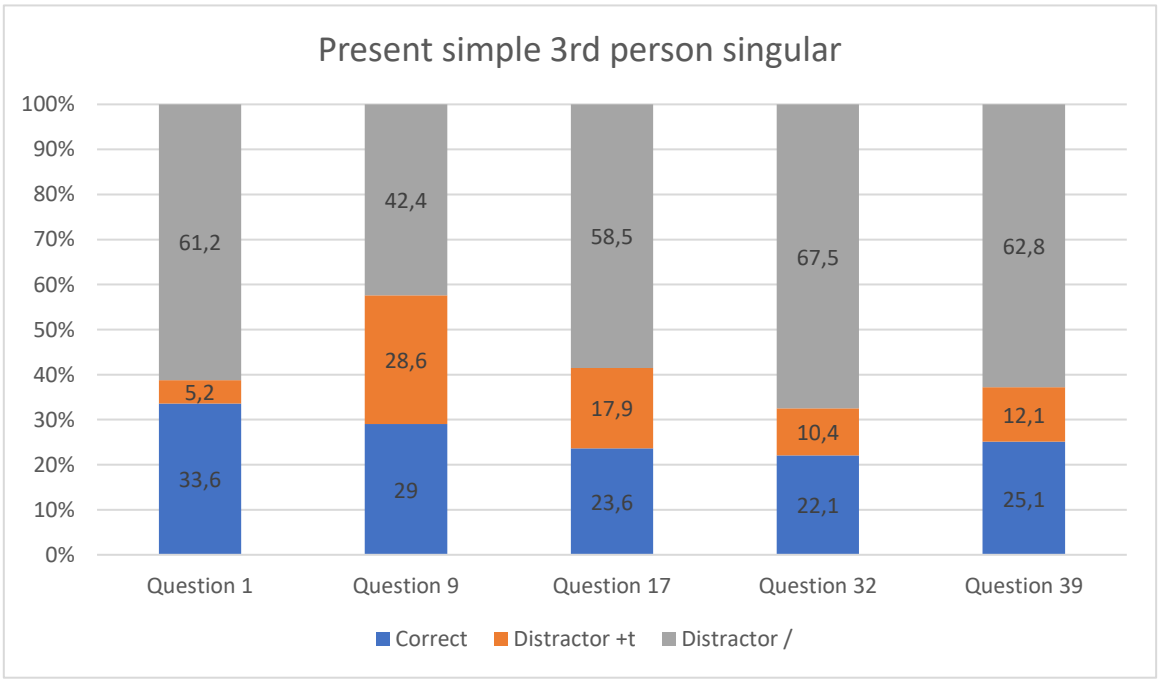


Figure 77 Bar chart representing the answers provided by all the pupils to the questions regarding the third person singular marker -s

These findings are not surprising, as the simple present is usually constructed without *-s*. The third person is the only person that adds an *-s* to the finite verb in English. Most of the pupils do not master that language specificity. In fact, most of them are not aware of the *-s* addition.

Strikingly, the average scores for this item are lower than for all the items about the semantic structures which suggests that morphosyntactic features are more difficult to acquire and acquired later in the developmental stage. On the one hand, figure 68 shows that there are no outliers in Flanders but there is a high variation (*v*= 3.4), which implies that the scores vary a lot among the Flemish pupils. On the other hand, there are six outliers in Wallonia. Informants 145 and 148 obtain good overall marks (i.e. 33 and 27) in comparison to the other Walloon informants. Outlier 160 reaches the average score for a Walloon pupil (i.e. 20). The three remaining outliers are all Dutch-speaking at home and obtain very high overall scores (i.e. 32, 38 and 39). Noteworthy, one of these outliers filled his diary in English in, in which he mentions that he regularly reads English books or magazines. According to the diaries, the three of them are regularly in contact with English (at least once a day). Their sources of English contact usually vary across TV, music, computer or reading.

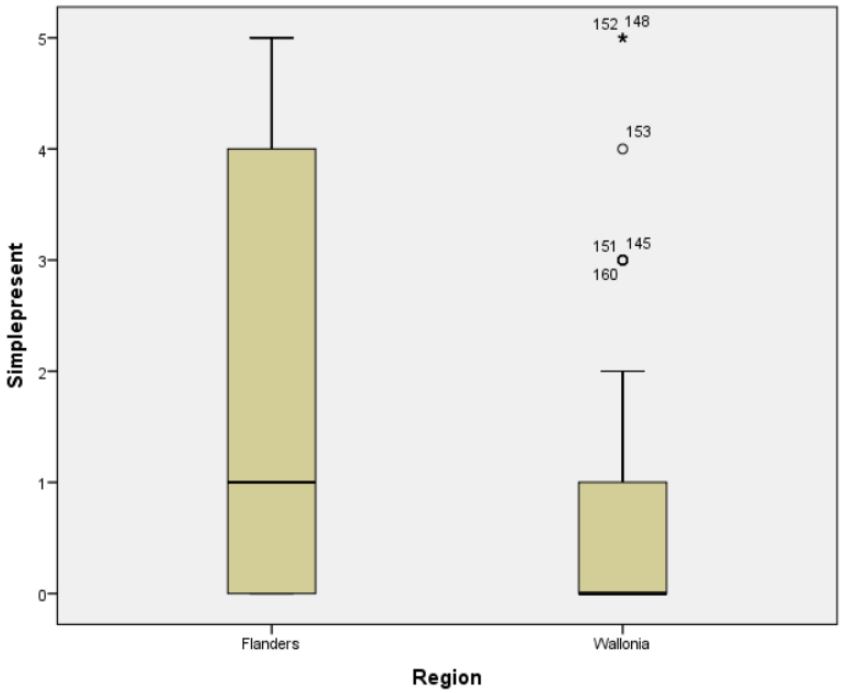


Figure 78 Boxplot representing the mean scores of the third person singular item (out of 5) versus the region

Finally, an independent samples t-test shows that Flemish pupils and Walloon pupils have different mean scores on the present simple item. Again, the Flemish pupils (*M*= 1.9, *SD*= 1.77) score higher than the Walloon pupils (*M*= 0.8, *SD*= 1.1), *t*(174)= 5.9, *p*< 0.0001. Levene's test also indicates unequal variances (*F*= 44.41, *p*< 0.001). Therefore, degrees of freedom are adjusted from 230 to 174.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Simplepresent	Equal variances assumed	44,415	,000	6,136	230	,000	1,171	,191
	Equal variances not assumed			5,951	174,156	,000	1,171	,197

Table 40 Independent samples t-test of third person singular score (out of 5) versus region

6.8.3.2. Regular plural

As for the previous item, the regular plural questions comprise two distractors, as shown in figure 79. The first one is plural without *-s* (i.e. distractor /) and the second one is plural *+en* (i.e. distractor *+en*). However, it seems that the pupils are marginally misled by these two distractors.

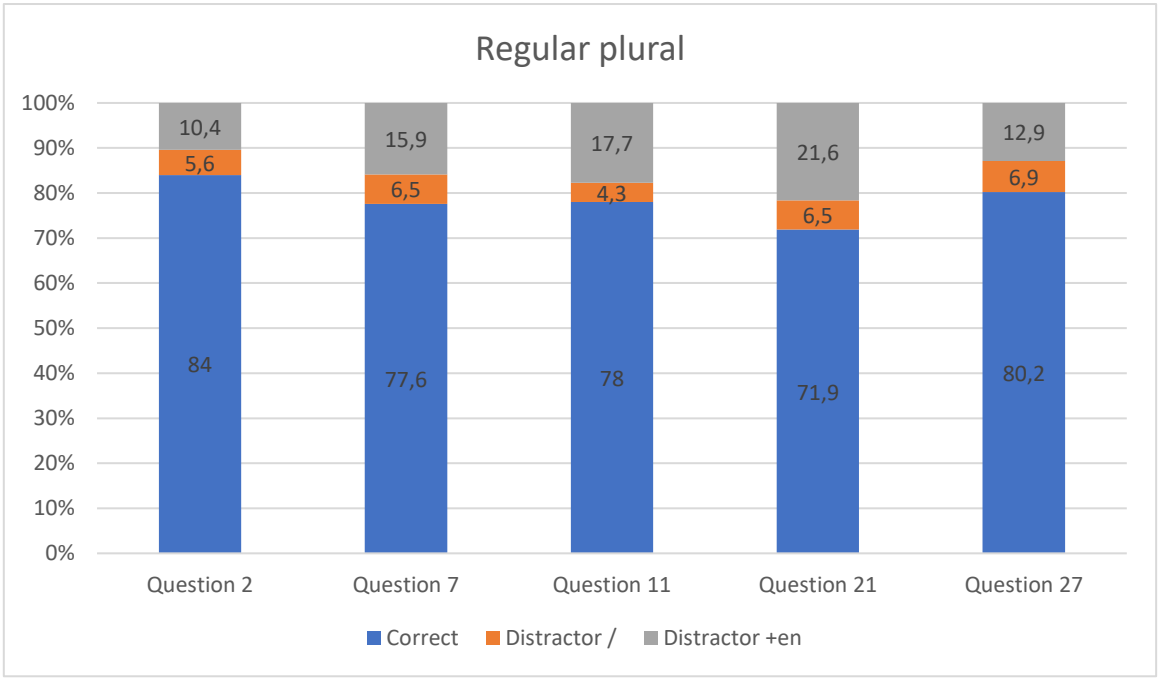


Figure 79 Bar chart representing the answers provided by all the pupils to the questions regarding the regular plural

The graph shows that 84% of the informants indicate the correct answer to question 2, that 5.6% are misled by the distractor / and that 10.4% are led astray by distractor *+en*. Concerning question 7, 77.6% have the correct answer, 6.5% claim that distractor / is correct and 15.9% indicate that distractor *+en* is right. 78% have the right answer to question 11, 4.3% are misled by distractor / and 17.7% think that distractor *+en* is correct. Question 21 seems to be the most difficult one, as only 71.9% of the pupils have the correct answer, 6.5% think that distractor / is correct and 21.6% indicate that distractor *+en* is right. Eventually, question 27 is correct for 80.2% of the informants, 6.9% are misled by distractor / and the remaining 12.9% are led astray by the distractor *+en*.

Figure 80 shows that the median is five out of five in Flanders and three out of five in Wallonia. In other words, it seems that the regular plural is acquired by the Flemish pupils. Surprisingly, the Walloon pupils have some troubles to deal with this item. It is expected that the Walloon pupils would score better than the Flemish pupils, as the plural construction is the same in French and English. Moreover, the core rule is to add an *-s* in both languages, while the core rule in Dutch is to add *-en*. However, the plurals with an *-s* also exist in Dutch (e.g. *wagens*) and are becoming more and more common.[6]

[6] For clarity's sake, an item is considered to be acquired when the average score is equal or superior to four.

Next to that, there are seven outliers in the Flemish sample. Informants 12, who obtains 28 on the receptive grammar test, and informant 50, who has a score of 21, are French-speaking at home, which means that they are influenced by the French/Walloon popular culture (i.e. watching dubbed TV, listening to French music, etc.). Informant 24 obtains a very low overall score (i.e. 16). The remaining outliers share a common feature, that is, they do not have a lot of contact with English media or culture. Their scores amount to 23 for informant 42, to 21 for informant 51, to 26 for informant 96 and to 22 for informant 97.

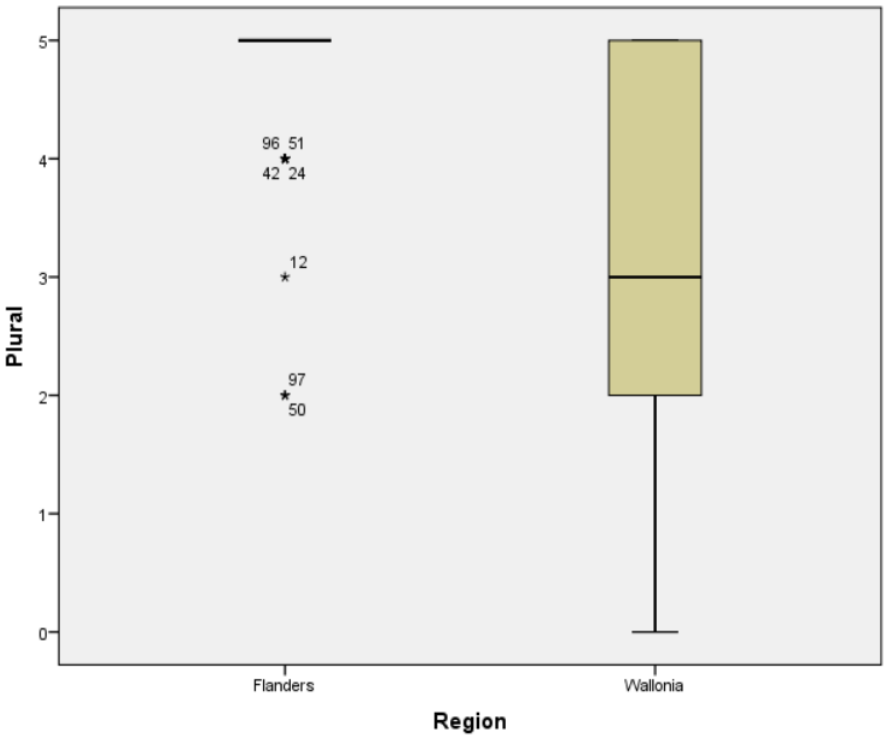


Figure 80 Boxplot representing the mean scores of the regular plural item (out of 5) versus the region

An independent samples t-test indicates that the average score of the Flemish sample highly differs from the average score of the Walloon sample. In other words, the Flemish informants (*M*= 4.86, *SD*= 0.5) score higher than the Walloon informants (*M*= 3.1, *SD*= 1.67) on the regular plural item, *t*(148)= 11.27, *p*< 0.0001. Levene's test indicates unequal variances (*F*= 175,015, *p*< 0.001), so degrees of freedom are adjusted from 230 to 148.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Plural	Equal variances assumed	175,015	,000	10,635	230	,000	1,780	,167
	Equal variances not assumed			11,269	147,820	,000	1,780	,158

Table 41 Independent samples t-test of regular plural score (out of 5) versus region

In short, it seems that the regular plural needs a daily contact with English in order to be acquired, but it is still easily acquired as suggested by the Flemish pupils. This is also suggested by the Walloon pupils, as the mean (*M*= 3.1) is high in comparison to the other grammatical features (third person marker, sentence structures, etc.).

6.8.4. Morphosemantic features

6.8.4.1. Negation

The negation item comprises a preverbal distractor (i.e. neg+V) and a post-verbal distractor (i.e. V+Neg). The answers provided by the pupils are shown in figure 81.

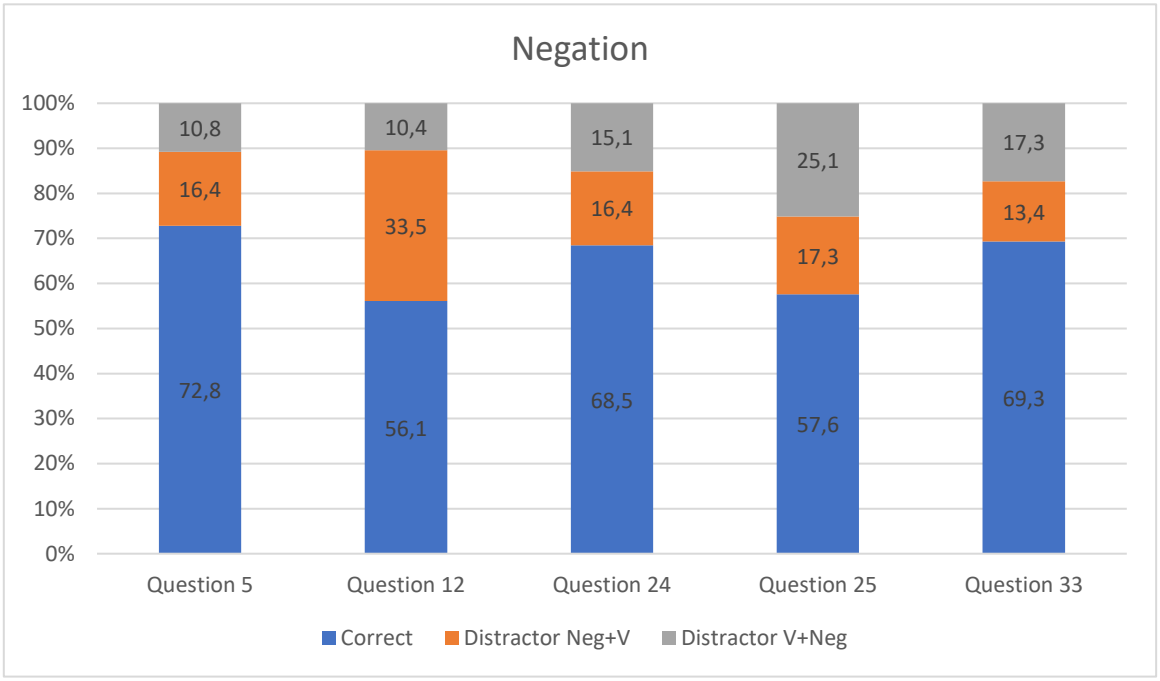


Figure 81 Bar chart representing the answers provided by all the pupils to the questions regarding the negation

72.8% of the informants answer correctly to question 5, 16.4% are led astray by the distractor neg+V and 10.8% are misled by the distractor V+neg. The percentage of correct answers drops to 56.1% on question 12. In fact, a lot of informants (33.5%) claim that distractor neg+V is the correct answer and a couple of pupils (10.4%) think that distractor V+neg is the right answer. 68.5% of the pupils have the correct answer to question 24, 16.4% are led astray by the distractor neg+V and 15.1% by the distractor V+neg. Only 57.6% of the pupils have the right answer to question 25, 17.3% think that distractor neg+V is correct and 25.1% claim that distractor V+neg is the right answer. The percentage of correct answers rises to 69.3% on question 33, 13.4% of the informants indicate that distractor neg+V is correct and 17.3% think that distractor V+neg is the right answer. In other words, most of the pupils could find the correct answers. However, the pupils, who have troubles with the negatives, are equally misled by both distractors, except for question 12. On that particular question, the pupils are mainly led astray by the preverbal distractor, which is not surprising, as the preverbal negation (e.g. **The man not has caught the fish*) usually precedes the post-basic negation (e.g. *The man has not caught the fish*).

Interestingly, it seems that the negation item is more difficult to acquire for the Walloon pupils than for the Flemish informants, as shown in figure 82. The Walloon sample has a mean score of 2.2 on that item, whereas the mean score of the Flemish pupils reaches 4.4. In fact, further analyses of the Flemish outliers confirm the difficulties for the Walloon pupils to acquire the negation. The outliers 8, 23 and 24, who are French-speaking at home, obtain low scores on the negation item (i.e. two or less of two out of five). In other words, they seem to be aware of the meaning of the negation, but they cannot use it correctly. The other outliers typically choose the pre-verbal negation (e.g. **The girl not is ill*) and their overall scores vary between 20 and 21, hence their low scores on this item.

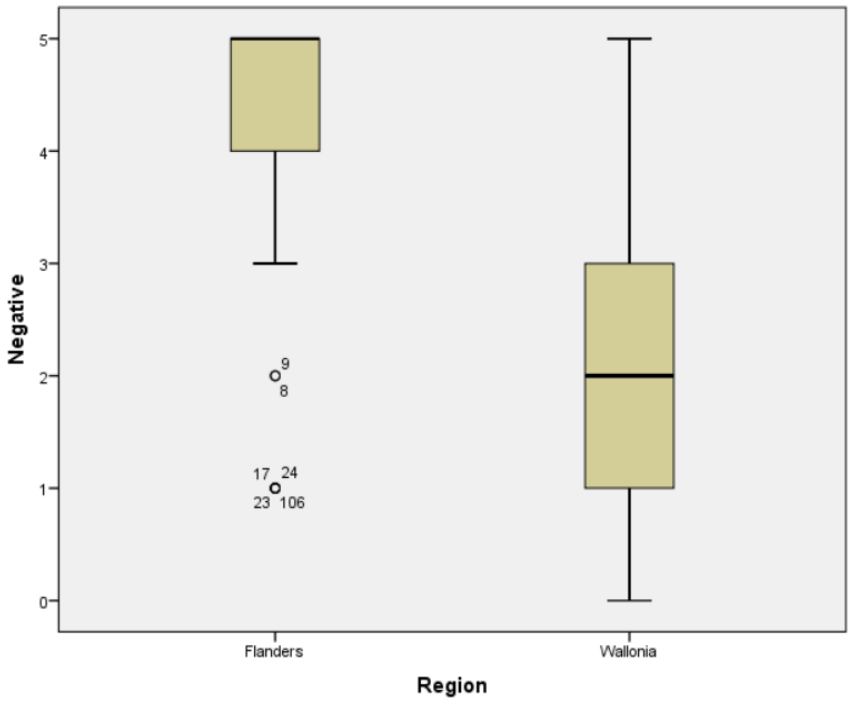


Figure 82 Boxplot representing mean scores of the negation item (out of 5) versus the region

Unsurprisingly, an independent samples t-test indicates that the average scores of both groups are highly different on the negation item. In other words, the Flemish pupils (M= 4.4, SD= 0.97) score higher than their Walloon counterparts (M= 2.2, SD= 1.46), $t(216)$= 13.258, p< 0.001. Again, Levene's test indicates unequal variances (F= 22.901, p< 0.001), so degrees of freedom are adjusted from 230 to 216, as shown in table 43.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Negative	Equal variances assumed	22,901	,000	12,907	230	,000	2,138	,166
	Equal variances not assumed			13,256	215,858	,000	2,138	,161

Table 42 Independent samples t-test of negation score (out of 5) versus region

Finally, most of the Flemish pupils, who are more in contact with English than their Walloon counterparts, could incidentally acquire the negation in English, as the mean is close to five.

6.8.4.2. Pronoun object

The pronouns object seem to be more difficult to acquire than the negatives. As represented in figure 83, the percentage of correct answers are lower on the pronoun object item as for the previously mentioned negation item.

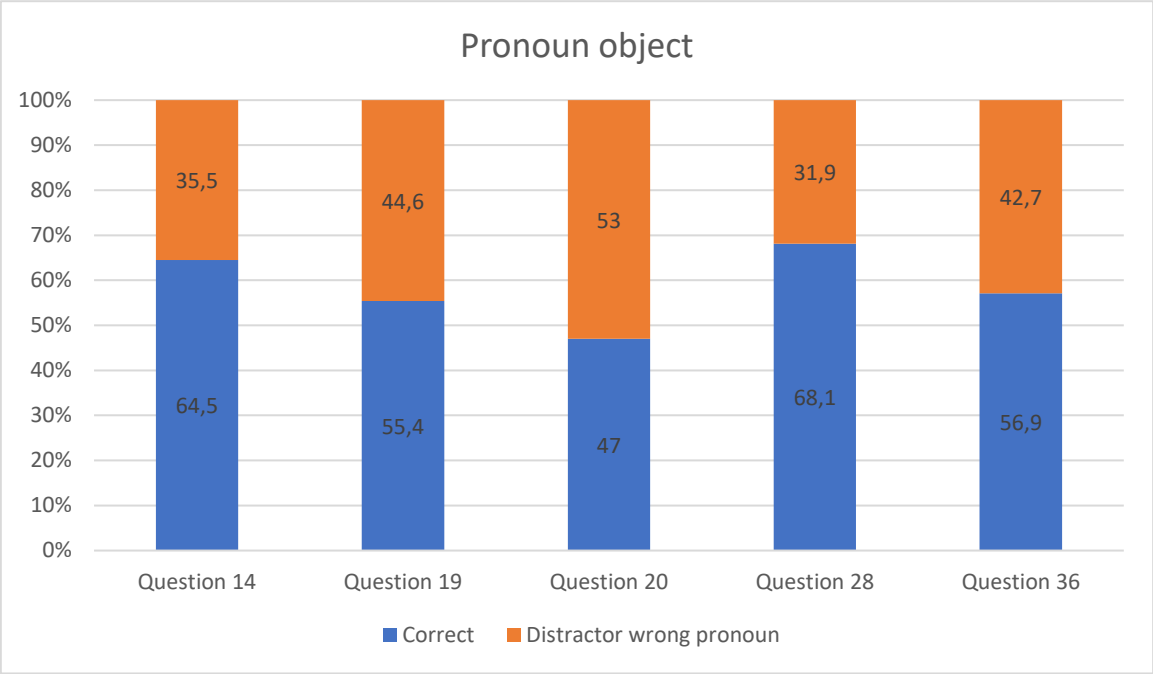


Figure 83 Bar chart representing the answers provided by all the pupils to the questions regarding the pronoun object

Regarding question 14, 64.5% of the informants have the correct answer and 35.5% are misled by an incorrect pronoun. 55.4% of the pupils answer correctly to question 19 and 44.6% are led astray by a wrong pronoun. The percentage of correct answers drops to 47% on question 20 and 53% are misled by an incorrect pronoun. 68.1% have the right answer to question 28 and 31.9% are led astray by a wrong answer. Eventually, 56.9% of the informants answer correctly to question 36 and 42.7% are misled by an incorrect pronoun. In short, it seems that the informants experience some difficulties with that item, especially with question 19 and 20 (cf. appendix 3).

Figure 84 further shows that there are no outliers. By being a lot in contact with English, the Flemish pupils could also develop some receptive knowledge for the pronouns. Noteworthy, the boxplot shows that only 36.1% of the Flemish pupils have three or less than three out of five; while 87.9% of the Walloon pupils obtain three or less than three on the pronoun object item. This striking difference confirms the general hypothesis, which states that the Flemish pupils have a better English grammar proficiency than the Walloon pupils. The difference further shows that being regularly in contact with a language enhances the receptive grammar knowledge of that language.

As a result, an independent samples t-test indicates that the mean scores on the pronoun object item highly differ between both regions. The mean score is higher for the Flemish pupils (M= 3.81, SD= 1.1) than for their Walloon counterparts (M= 2.1, SD= 1.22), $t(230) = 11.286$, $p < 0.0001$.

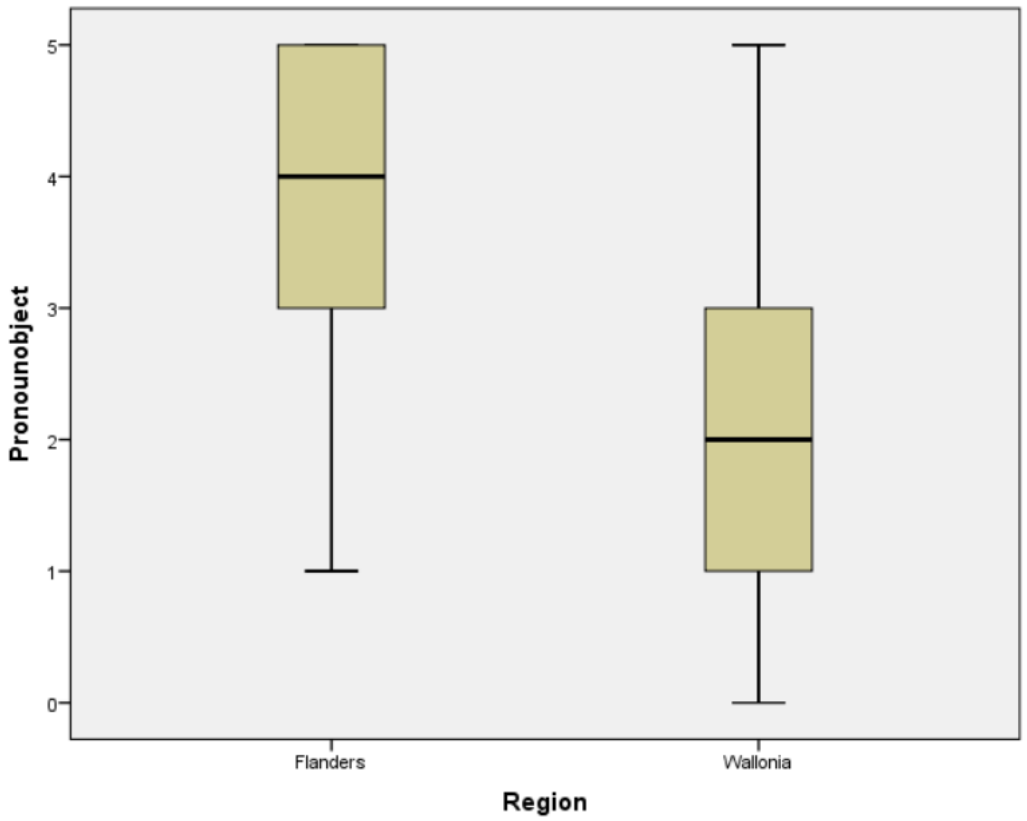


Figure 84 Boxplot representing the pronoun object score (out of 5) versus the region

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Pronounobject	Equal variances assumed	,001	,981	11,286	230	,000	1,734	,154
	Equal variances not assumed			11,364	229,667	,000	1,734	,153

Table 43 Independent samples t-test of pronoun object score (out of 5) versus region

6.8.5. A natural order hypothesis

As described in the previous sections, the Flemish pupils always score higher than their Walloon counterparts. Therefore, it is interesting to compare both samples in order to establish an acquisition hierarchy for both regions. Consequently, it is also relevant to study whether there are differences or similarities between both regions.

First, it should be noted that the term acquisition is used to refer to the emergence of an L2, which involves that the informants are still developing the L2. In other words, the term acquisition refers to the first occurrence or the onset of the tested grammar features.

		N	Mean	Std. Deviation
SVO	Flanders	108	4,76	,545
	Wallonia	124	3,44	1,363
	Total	232	4,06	1,249
Simplepresent	Flanders	108	1,95	1,769
	Wallonia	124	,78	1,101
	Total	232	1,33	1,561
Plural	Flanders	108	4,86	,502
	Wallonia	124	3,08	1,675
	Total	232	3,91	1,550
Dative	Flanders	108	4,38	,974
	Wallonia	124	2,29	1,581
	Total	232	3,26	1,692
Negative	Flanders	108	4,38	,974
	Wallonia	124	2,24	1,462
	Total	232	3,24	1,649
Passive	Flanders	108	3,50	1,424
	Wallonia	124	2,89	1,398
	Total	232	3,17	1,440
Relative	Flanders	108	2,66	1,461
	Wallonia	124	1,96	1,178
	Total	232	2,28	1,360
Pronounobject	Flanders	108	3,81	1,104
	Wallonia	124	2,08	1,220
	Total	232	2,89	1,452

Table 44 Summary of the English grammar test

Table 45 summarises all the results of the English grammar test. Based on the mean scores for each grammatical item, the following acquisition hierarchy is established for the Flemish informants:

1) Regular plural (*M*= 4.86)
2) SVO word order (*M*= 4.76)
3) Dative (*M*= 4.38)
4) Negative (*M*= 4.38)
5) Pronoun object (*M*= 3.81)
6) Passive (*M*= 3.5)
7) Relative clause (*M*= 2.66)
8) Third person -*s* (*M*= 1.95)

The Flemish pupils acquire the sentence structures as follows: SVO word order, dative, passive and relative clauses. This hierarchy further suggests that there is a continuum of complexity from easy sentences to complex ones.

Concerning the morphosyntactic features, the Flemish pupils acquire the regular plural easily; whereas the third person singular -*s* is not acquired at all as the mean for this item are the lowest in Flanders. Furthermore, an item is considered to be acquired when the average score is equal or superior to four.

Concerning the morphosemantic features, negatives and pronouns seem to be acquired at the same time as the means are similar.

Noteworthy, it seems difficult to establish whether the regular plural or the SVO word order comes first, as both means are very close to one another. In other words, the ceiling effect prevents from drawing any conclusion on these particular items. Therefore, it is interesting to

investigate whether the Walloon pupils who score lower on these items show the same natural order.

Markedly, the Walloon pupils show a similar order of acquisition except for the passive construction. They further suggest that the SVO word order emerges before the regular plural.

1) SVO word order (*M*= 3.44)
2) Regular plural (*M*= 3.08)
3) Passive (*M*= 2.89)
4) Dative (*M*= 2.29)
5) Negative (*M*= 2.24)
6) Pronoun object (*M*= 2.08)
7) Relative clause (*M*= 1.96)
8) Third person -*s* (*M*= 0.78)

As discussed in the previous sections, all the means of the different items are lower for the Walloon pupils. However, the passive construction for the Walloon pupils is ranked higher than for the Flemish ones. In fact, French and English share the same passive construction, which means that the Walloon informants positively transfer the core rule to the L2 (cf. section 5.8.1.3.). Consequently, the Walloon pupils first acquire the SVO word order, then the passive, the dative and the relative clauses. In short, compared to the Flemish pupils, passive and dative are inverted.

In other words, despite the different L1's (i.e. French and Dutch), the order of acquisition is still very similar. However, the Flemish and Walloon pupils are not all at the same level of proficiency, as their English input and their English contact vary a lot. So, the amount of contact with a foreign language does not impact on the order of acquisition but it rather influences the grammar accuracy.

7. Discussion

The results addressed a well investigated field, i.e. SLA, but in which many gaps remain. In fact, there are many studies on naturalistic SLA and on instructed SLA, but few studies focused on media-induced SLA (Simon & Van Herreweghe, 2017). Therefore, the aim of this study was to investigate the receptive acquisition of English grammar by Belgian pupils through media exposure, hence the two research questions. First, how do Flemish and Walloon pupils get in contact with English grammar and consequently what are the major sources of English contact in both regions (RQ 1)? Second, is there a specific grammar order of acquisition for teenagers who incidentally acquire English as a foreign language and does this order vary according to the L1 (RQ 2)? To answer these two questions, three kinds of data were collected, i.e. questionnaires, diaries and English grammar tests.

First of all, all the pupils were 12 or 13 years old, which is basically the sensitive period for L1 acquisition (Lenneberg, 1967; DeKeyser, 2012). The sensitive period also affects the L2 acquisition, but L2 grammar seems not to be constrained before the mid-teens (Granena and Long, 2012). So, it was assumed that age was not a constraint in this study. The second factor, that was not preponderant in this study, was gender. In fact, there were no significant differences between Walloon boys and Walloon girls, but there were marginal differences between Flemish boys and Flemish girls. The Flemish girls seemed to score marginally lower than their male counterparts (p= 0.09). The marginal differences between boys and girls were attributed to gaming in this dissertation, as boys seemed to play more than girls. This finding contrasted with the literature about SLA and gender, as it is usually accepted among scholars that girls perform better in linguistic domains (Piechurska-Kuciel, 2011). Interestingly, Piechurska-Kuciel (2011) found that girls experienced more anxiety than boys in the first years of grammar school. In other words, the girls experienced a lot of anxiety because teachers expected girls to be better than boys at language learning. She found that this higher anxiety had negative repercussions on the learning process. Applied to this dissertaion, Piechurska-Kuciel's findings can suggest that the girls experienced more anxiety than the boys while completing the receptive grammar test. This finding was also in line with Horwitz, Horwitz and Cope (1986) who found that test anxiety usually has a negative impact on the marks of a test.

7.1. Sources of English contact

According to the questionnaires, all the pupils had one or two home languages (i.e. French, Dutch, Arabic, Polish, Russian, Italian or Portuguese). The pupils who spoke Dutch at home outperformed the pupils who spoke French at home. Interestingly, the bilingual pupils (national language and another language) did not score higher than the monolingual Dutch-speaking pupils. De Bot & Evers (2007) found that there were more students with the national language and another language in Wallonia than in Flanders. In this master's dissertation, there was no difference between Flanders and Wallonia, as the Flemish pupils who spoke Dutch and another language were equally numerous as the Walloon pupils who spoke French and another language. Next, it seemed that the Dutch-speaking pupils had some facilities to incidentally acquire English. In fact, the tests clearly suggested that the Flemish pupils had a higher English grammar proficiency than the Walloon pupils. This finding was in line with some former master's dissertations that already indicated that Flemish pupils scored better on an English vocabulary test than their Walloon counterparts (cf. Houthuys, 2011; Duyck, 2013). The

findings were also in line with De Bot & Evers (2007) who found that the Belgian French-speaking pupils had lower scores than their Flemish counterparts on an English vocabulary test. Next to that, the scores were remarkably consistent in Flanders. In fact, all the Flemish schools had similar means. In comparison, there was some variability in Wallonia. The schools set in Comines scored, on average, higher on the receptive grammar test than the other Walloon schools. This differences in means were linked to the fact that Comines is a community with facilities for the Dutch-speaking community. In a previous exploration study (Decourcelle, 2017), it was suggested that Dutch was regaining some importance in Comines. Therefore, it was not surprising to find some Dutch-speaking children in the Comines sample. These pupils positively influenced the mean score of the Comines sample.

The differences in scores were linked to the different habits towards English in Flanders and Wallonia. First of all, the questionnaires indicated that the Flemish pupils, who regularly watch English-spoken TV programmes, scored significantly higher than all the other pupils. These pupils were a majority in Flanders. Moreover, Flemish pupils, who either watch films in the original language with or without subtitling, also scored significantly higher than all the other pupils. This further confirmed the preponderant place of English in Flanders, which positively influenced the English proficiency of the Flemish children. In contrast, the Walloon informants mainly preferred French TV broadcasters (e.g. TF1, Gulli…) or Walloon TV broadcasters (e.g. RTBF, RTL-TVI...), as a minority of them watched TV in English, hence their lower scores on the grammar test. In fact, several studies already pointed out the differences between Flanders and Wallonia with respect to TV watching (Koolstra & Beentjes, 1999; Gilquin and Granger, 2011). In those studies, it was argued that all the Belgian children got to hear English through television, but that Flemish children got to hear more English on TV than their Walloon counterparts.

Further analyses about the language preferences at the cinema indicated significant results for both regions, which contrasted with the habits towards film or TV watching. In fact, Walloon pupils who claimed to prefer an original version (i.e. in English) of a film with or without subtitles scored significantly higher than those who watch a dubbed version of a film. In other words, if a Walloon pupil watched films in English, he was also capable of acquiring some grammar like the Flemish pupils. Analyses of the Flemish questionnaires also provided significant results regarding cinema. In fact, the Flemish pupils who exclusively watch dubbed films at the cinema scored significantly lower than the pupils who watch the films in the original version with or without subtitling. It further seemed that watching a film with subtitling at the cinema enhances the receptive English grammar acquisition. I hypothesised that, being able to read the translation in the mother tongue while listening to English probably facilitates the emergence of an L2 grammar. Accordingly, Lertola (2015; 262) argues that subtitles are a useful tool in L2 learning because they enhance the "learners' L2 listening comprehension and mnemonic retention". In other words, watching a film with subtitling might improve the receptive skills and consequently the results of a test. She (op. cit.) further argues that subtitles should be used in instructed SLA because it also enhances the translation abilities of a learner.

In contrast, the analysis of the diaries did not result in significant findings with respect to film language preferences. However, it confirmed the different habits towards TV watching. In fact, the English diaries showed that most of the Flemish pupils watched TV in English at least once in that week. In comparison, most of the Walloon informants did not watch TV in English. Only a couple of Walloon informants watched English-spoken TV programmes once or twice in that

week. In other words, the English contact through TV was much more limited in Wallonia than in Flanders. This finding was different from De Bot & Evers (2007) who found that most of their Walloon sample watched English TV programs (77% claimed so). They also found that the opportunities for English contact through TV were less important in Wallonia than in Flanders. However, the pupils in De Bot & Evers (2007) were two or three years older than the pupils in this dissertation. It is possible that the habits of the Walloon pupils change over time.

In general, Walloon broadcasters such as RTL-TVI, RTBF or AB3/4 broadcast dubbed films rather than subtitled versions; whereas Flemish broadcasters such as Canvas, Vier or VTM usually broadcast films in the original version with subtitling. Interestingly, Comines seemed to have a special status when it comes to English input through television. In fact, the English input in Comines was more important, than in the rest of Wallonia. This is probably the consequence of the proximity with Flanders. Moreover, the population of Comines is very heterogenous and comprises Walloon, Flemish and French people. Therefore, the Comines population has access to French, Dutch and Walloon TV programmes. In fact, they have access to most of the previously mentioned television broadcasters. In line with that, it has already been argued that Flemish media regularly broadcast English-spoken TV programmes. Consequently, many different studies showed that media-induced SLA occurred when children were regularly exposed to L2 input (De Bot & Evers, 2007; Van Herreweghe, 2015; Simon & Van Herreweghe, 2017). Media-induced SLA was a term coined by Van Herreweghe (2015), which refers to the acquisition of an L2 through different media, including digital media, newspapers and the radio. It should also be noted that the Flemish-speaking pupils living in Wallonia were also more in contact with English than the regular Walloon pupils, hence their better scores on the English grammar test. In fact, the Flemish-pupils living in Wallonia seemed to keep their habits with respect to television watching, as they continued to watch TV in English while being in a Walloon boarding school.

The habits did not only differ about TV watching, but also about music taste. The Flemish pupils liked English music more than their Walloon counterparts. In fact, the Walloon pupils liked listening to English music and to French music (i.e. in their mother tongue). This was in line with De Bot & Evers (2007) who found the same results. Simon & Van Herreweghe (2017) also found that Flemish pupils preferred English songs over Dutch songs. In their study, Flemish pupils claimed that English music was "cool" and that Dutch music was "for young children and old people" (op. cit.). The same results were found in this study, as only a minority of the Flemish pupils liked music in their mother tongue. However, it was not surprising that pupils of both regions listened to English music, as English is a world language and is used in many different media (Crystal, 2003). The diaries further confirmed that the pupils of both regions listened to English songs. They also indicated that Flemish pupils listened more to English songs than their Walloon counterparts. Further analyses of the questionnaires indicated that pupils, either Walloon or Flemish, who claimed to understand the English songs, scored higher than the pupils who did not. In other words, the pupils who were aware of their English knowledge, were able to perform better on a receptive English grammar test. In line with that, Van Parijs (2007) found that the Flemish people (aged 15 to 24) seemed to be conscious of their good English proficiency. He further found that 50% of the Flemish people (aged 15 to 24) think that they master the English language better than their grandparents. In contrast, this percentage only reached 20% in Wallonia.

It should further be mentioned that most of the pupils, either in Flanders or in Wallonia, claimed that English songs were very difficult to understand. According to the questionnaires, the main reason was that the singer sings too rapidly. However, most of the pupils acknowledged that they listened to English music. This finding was similar to De Bot & Evers findings (2007). They concluded that most of the Belgian informants usually listen to English songs and that the amount of English input through music was considerable. In fact, they considered English songs as being the main source of English input for Belgians. In this study, English music was also the predominant English input for both samples.

The habits further differed about computer use. The Flemish pupils tended to use the computer in English more than their Walloon counterparts. As a consequence, there was not a significant difference in average scores between Walloon pupils who claimed to use the computer in English and those who do not; whereas Flemish pupils who claimed to watch English videos on YouTube scored higher than those who do not use the computer in English. Interestingly, these findings were in line with Duyck (2013) who found that Walloon pupils were not influenced positively nor negatively by using the computer in English. This dissertation and hers suggest that both, grammar and vocabulary, can be difficult to acquire through computer. Next to that, the Flemish boys who usually game online in English scored higher than all the other pupils. Sundqvist (2016) investigated the differences between boys and girls with respect to gaming and she also found that Swedish boys (aged 10) tended to play more online games than Swedish girls. The diaries further revealed that a minority of Walloon and Flemish pupils generally use their PC in English. This finding was surprising, as the digital world is mainly governed by the English language. Therefore, several researchers (De Bot & Evers, 2007; Sundqvist, 2016) argue that English input through computer is one of the major sources of English contact alongside with music. Sundqvist (2016) further argues that the main sources of extramural English contact are gaming for boys and music for girls. Therefore, she concluded her recent study by claiming that extramural English "had a greater effect on the boys' results than it had on the girls'" (2016, 15).

Next to that, pupils who claimed to buy English books or magazines were exceptions either in Flanders or in Wallonia. However, the Flemish pupils who stated to sometimes buy English books or magazines tended to score higher than those who never do. In Wallonia, similar results were found, as the pupils who buy English books also scored higher than those who do not. A former study by Sparks (2012, 316) already found that "individual differences in print exposure may be related to differences in L2 learning". Next to that, Sparks further argues that a person who reads a lot in his L1 will enhance his L2 vocabulary acquisition. In fact, he argues that both correlate in a positive way. However, it remains debatable whether the same correlation holds true for the emergence of L2 grammar. The diaries further suggested that the pupils who scored the highest were the only ones to read in English. This finding was perfectly understandable as it makes no sense to read a book for a pupil if s/he is not able to understand it. Both samples showed similar behaviours towards English reading. However, it is important to mention that only the pupils who scored the highest often read in English. The English diaries confirmed these findings, as only a very limited number of pupils read English books or magazines and only the informants who scored the highest (i.e. at least 38 out of 40) read English magazines every day. Previous studies (De Bot & Evers, 2007; Sundqvist, 2016) also suggested that English input through reading was very limited in different European countries (e.g. Sweden, The Netherlands, Germany…). For instance, Sundqvist (2016) found that only 1% of the Swedish informants in her study read English books.

Concerning travelling to English countries, it remains surprising that not a single pupil had travelled to an outer circle country (cf. Kachru, 1993). The Flemish pupils who claimed to regularly travel to inner circle countries scored higher than those who had never been to such a country. In contrast, the results in Wallonia were not significant. However, it seemed that the pupils who stayed in inner circle countries for a long time (i.e. more than three non-consecutive weeks) also obtained very good scores on the grammar test. This marginal correlation suggested that a stay in an English-speaking country might enhance the incidental grammar acquisition only if the duration of stay is long (i.e. more than three weeks). De Bot & Evers (2007) found that it was part of the habits of the Belgians to use English in their holidays (about 65% claimed so) and that most of the Belgians had already been to an English-speaking country (about 80% claimed so). This contrasted with this dissertation, as only a minority of the pupils had already been to English-speaking countries. However, the pupils in this dissertation were younger (aged 12) than in their study (aged 15-16).

Next to that, having an English acquaintance did not enhance the incidental acquisition of English. The pupils of both regions showed highly similar behaviours, as most of them admitted that they did not speak English with that acquaintance. In other words, several Flemish or Walloon pupils knew English-speaking family or English-speaking friends, but they hardly ever spoke English with those people. To some extent, these findings were in line with De Bot and Evers (2007). In fact, they found that the Flemish and Walloon students were hardly ever in contact with English through their parents, friends or siblings. In other words, both studies suggest that if a Belgian pupil knows an English relative, there is little chance for them to use English as a lingua franca.

Interestingly, the English diaries did not deliver many significant results regarding English contact through popular culture. However, they confirmed the general hypothesis, which stated that Flemish pupils are more in contact with English than their Walloon counterparts. They further confirmed that the main sources of English contact were songs and films, which was in line with several other studies (Ginsburgh & Weber, 2006; Koolstra & Beentjes, 1999; Gilquin and Granger, 2011). All these studies agree with the fact that Flemish children get to hear more English than their Walloon counterparts. De Bot & Evers (2007) also argue that the main opportunity for English contact in Belgium is music.

Regarding motivation, two kinds of motivation were investigated, that is, integrative motivation and instrumental motivation (Gardner and Lambert, 1972). First, the Flemish pupils who mentioned that English is an exciting language scored significantly higher than those who did not find English exciting. The scores increased when agreement with the statement increased. In contrast, the scores of the Walloon pupils were not positively nor negatively influenced by finding English exciting. In fact, their scores remained constant. Secondly, the Flemish pupils who stated that English is a beautiful language also scored higher than those who disagreed with the statement. There was a significant correlation between score and finding English beautiful for the Flemish pupils. However, the Walloon pupils did not show the same tendency, as their means did not vary significantly. Thirdly, thinking that English is a world language did neither influence the scores of the Flemish pupils nor the scores of the Walloon pupils. Interestingly, integrative motivation was a source of motivation for Flemish pupils and Walloon pupils, as most of them agreed with the statements. In line with these findings, it has already been argued that Belgian children had a very positive perception of the English language (De Bot & Evers, 2007). Furthermore, most of them acknowledged that they liked the English

tongue. In fact, they (op. cit.) found that the likeability of English varied from "*rather like it*" to "*like it very much*". However, integrative motivation only influenced the scores of the Flemish pupils. When integrative motivation augmented the scores steadily increased as well, which was not the case in Wallonia. This finding was opposed to Duyck's (2013) findings, who found that Walloon pupils who considered English to be neither exciting nor beautiful scored significantly lower on an English vocabulary test than those who did. Cook (2013) also found that Belgians were mainly integratively motivated, which was also the case in this dissertation. Cook (2013) found that 70% of the Belgians wanted to be able to communicate in English with English native speakers. However, integrative motivation did not seem to enhance the receptive L2 grammar acquisition.

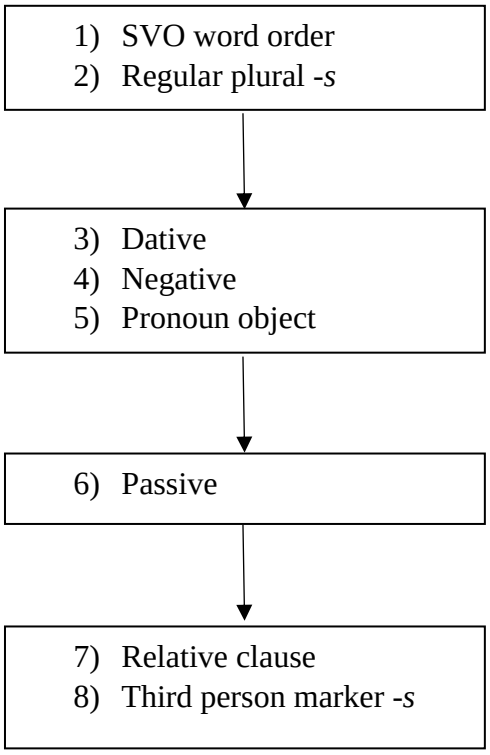
Concerning instrumental motivation, the Flemish and Walloon pupils agreed upon the importance of the English language for the future, but it did not influence their scores in any way. Again, this finding contrasted with Duyck's findings (2013). She argued that "the more important the participants think English is for their future, the higher the median is" (2013; 60). In short, it seemed that both kinds of motivation were important for both regions, but with a limited impact on the English grammar proficiency. However, it seems that the European people are a majority to think that knowing several foreign languages is essential (72% according to the European commission, 1997). The European commission further found that 93% of parents think that their teenagers should learn other European languages. De Bot & Evers (2007) also found that Belgian children had a highly positive perception of the importance of the English language.

Regarding attitude, marginal correlations could be found for both regions. When the degree of agreement on the statement "*English is easy to learn*" increased, the scores of the Walloon and the Flemish pupils increased steadily. In other words, the pupils who think that English is difficult to learn scored lower than those who think that English is easy to learn. However, the Walloon pupils who strongly agreed with the statement had a lower mean than the other Walloon informants, hence the limited correlation. A couple of Walloon pupils who claimed to strongly agree with the statement, probably overestimated their English knowledge and English proficiency. Next, similar results were found for the statement "*English is easy to understand*" except that there was no drop for the category *strongly agree*. However, the difference between Flanders and Wallonia was sharper. In fact, there was a higher positive correlation between the degree of agreement with the statement and scores in Flanders than in Wallonia. This finding was in line with Van Parijs (2007) who argues that the Flemish teenagers are aware of their better English proficiency (i.e. 50% claimed to be better at English than their grandparents). The last statement, i.e. *"English is easy to produce"* delivered different results in Flanders and Wallonia. In fact, there was a positive correlation between degree of agreement with the statement and scores in Flanders, but not in Wallonia. Duyck (2013) found comparable results in Wallonia, except for the statement *"English is easy to produce"*. For this particular statement, she found significant differences in mean scores on the English vocabulary test. However, the general tendency remained that when the degree of agreement with the different statement increased, the scores increased steadily as well. These findings were similar to Simon & Van Herreweghe's findings (2017). In fact, they found that Flemish children generally feel that English is easy to understand (67% claimed so) and they also found that Flemish children usually think that English is easy to produce (54% claimed so).

As shown in the preceding paragraphs, most of the informants had a positive attitude towards English. However, some informants had a negative attitude towards the English language, but they still obtained good scores (superior to 27 out of 40). According to Krashen's affective filter hypothesis (1982), such a finding would not be possible because the filter (i.e. negative attitude) would prevent those informants from acquiring English grammar. Yet, it seemed that the input was prevalent to the filter in this dissertation, which highly contrasted with Krashen's hypothesis (1982).

7.2. Natural order hypothesis

I shall now turn to the English grammar tests. It was not surprising to find that the Flemish pupils scored higher than the Walloon pupils on all the grammar items. Despite the significant differences in scores on each item, both samples showed a remarkable consistent order of acquisition. Based on the mean scores for each item, the following order of acquisition was established for all the pupils:



The established natural order corresponds to Krashen's natural order in communication tasks (1982). He also found that grammatical structures seemed to be acquired in a predictable order. Interestingly, both natural orders showed strong similarities with respect to unmarked declaratives, regular plurals and the third person marker *-s*. Moreover, the basic word order (i.e. SVO) and the regular plural marker *-s* were the first grammar items to emerge in both models. Secondly, the pupils from both regions seemed to acquire the dative construction, the negation and the pronoun object. Thirdly, they seemed to acquire the passive construction. Finally, the relative clauses and the third person singular marker *-s* were the last items to emerge in both

models. As mentioned by several researchers (Wode, 1984; De Swart, 2009; Ellis, 2015), it seemed that strong universals such as word order SVO are easily acquired regardless of the L1. The Flemish pupils further suggested that the basic word order should be acquired before being able to acquire the next grammatical items. In fact, the pupils who obtained low scores on the basic word order item also scored low on the whole test. Next to that, the regular plural marker was also easily acquired by both the informants of both regions despite the L1 differences. In fact, the core rule for the plural construction in Dutch is to add *-en*; whereas the same core rule holds true for French and English, i.e. to add *-s*. [7] Krashen (1982) also argues that the plural marker is easily acquired in communication tasks. In contrast, Gass (2013) argues that the morphemes are not acquired in a fixed order. She rather argues that the L1 of the learner plays a major role in morpheme acquisition. In fact, she hypothesises that the order of morpheme acquisition varies in relation to a learner's L1. In short, she argues for a high variability in L2 morpheme acquisition.

The natural order was further subdivided into four boxes because it followed the acquisition order of L1 sentence structures. Mayberry and Lock (2003) argue that L1 speakers of English first acquire the basic sentences (i.e. SVO), then the dative, then the conjoined, then the passive and finally, the relative clauses. Interestingly, the acquisition order of the Flemish pupils is remarkably consistent with the acquisition order of L1 speakers. In other words, it seems that the Flemish pupils by having a lot of contact with English through popular culture acquired the English sentence structures in the same way as L1 speakers. In other words, media-induced SLA is somewhere in between naturalistic SLA and instructed SLA (Simon & Van Herreweghe, 2017). There might be a continuum between naturalistic SLA, media-induced SLA and instructed SLA. In comparison, the Walloon pupils did not enter in contact with the English language as often as their Flemish counterparts. Therefore, the Walloon pupils showed some variability. For instance, their mean score for the passive construction was higher than their mean score for the dative construction. This inversion can be the result of L1 transfer (cf. Ellis, 2015). In fact, the passive construction in French and English show strong similarities, hence the positive L1 linguistic transfer. French and English passive sentences do not separate the auxiliary from the past participle; whereas the auxiliary and the past participle are separated in the Dutch passive construction. So, the dative construction in French and English differ, as French does not accept the ditransitive construction. This is in line with Ellis (2015) who argues that L1 transfer, either positive or negative, can occur in any L2 developmental stage. Finally, the pupils of both regions struggled with the relative clauses, which implied that these are the most difficult to acquire. In fact, relatives are also difficult to master in L1 acquisition (Dąbrowska, 2012). For instance, Dąbrowska (2012) found that low-educated people (i.e. high-school level), either native-speakers or non-native speakers of English, had troubles comprehending complex relative clauses.

The second step included the acquisition of the dative sentences, the negative and the pronouns (object). When it came to the acquisition of negatives, it seemed that the Walloon pupils encountered some difficulties, while the Flemish pupils could still perform very well on this item. In fact, the pupils who had low scores on the negative item either chose the preverbal negation or the post-verbal negation. However, most of the pupils were mainly misled by the preverbal negation, which suggests that the negatives might be acquired in a specific order, in

[7] However, plurals in *-s* are becoming more and more common in Dutch. Both plurals (*-en* or *-s*) are possible for new words that enter the Dutch language.

which preverbal negation should come before the post-verbal negation. Several researchers (Wode, 1984; Ellis, 1985; Ellis, 2015; De Swart, 2009) found that the negatives are acquired in a well determined order. Those researchers argue that the holophrastic order is the first to appear (e.g. *No, eat*), which is followed by the pre-basic variety (e.g. *Me no drawing in here*). Then comes the basic variety (e.g. *Don't look my card*) and finally comes the post-basic negation (e.g. *He doesn't know anything*). Interestingly, the order usually remains constant regardless of the L1 (Ellis, 2015). Concerning the acquisition of pronouns (object), it seemed that the Flemish pupils were able to acquire those easily as well; while the Walloon pupils showed a higher variability in their answers.

The third box only comprised the passive structure, which seemed to be problematic for the pupils. The passive construction was not considered to be acquired by the informants, as the mean on this item was inferior to four. In line with that, Dąbrowska (2012) focused on the acquisition of passive structures by native speakers and non-native speakers of English. Her research included low-educated people (i.e. high-school education) and highly-educated people (i.e. attaining PhD degrees). It seemed that the low-educated non-native speakers of English experienced a lot of difficulties with the passive construction, as only 36% of them could detect the implausible passives (Dąbrowska, 2012). In other words, she found that adults also experienced some troubles with the passive construction. Despite the language similarities between French and English, the Walloon pupils could not reach the level of English passive proficiency of their Flemish counterparts. In fact, the mean score of the Walloon informants was still lower than the mean score of their Flemish counterparts. In other words, it seemed that being in contact through different media with a language was still more beneficial than L1 transfer.

The last box included the relative clauses and the third person *-s* marker. As mentioned earlier, relative clauses were also acquired late by L1 speakers (Mayberry and Lock, 2003). It was thus not surprising that second language learners also struggled with this sentence structure. Concerning the third person *-s* maker, several studies (Krashen, 1982; Dulay and Burt, 1974; Decourcelle, 2016) showed that this marker is acquired late in the developmental stage. Therefore, the pupils of both regions had troubles to find the correct answers to this item.

Finally, I would like to make a link with the Early Language and Intercultural Acquisition Studies (ELIAS project) that covered the grammar acquisition by L2 learners in immersion programmes. The research project involved three European countries (i.e. Belgium, Germany and Sweden). Interestingly, there was a remarkable consistency between their findings and the ones in this dissertation. Firstly, they also found that the L2 contact duration positively influenced the L2 acquisition of preschool children (aged 3 to 6). In fact, they found that L2 contact duration in a preschool context had a positive effect on the ELIAS Grammar TEST (Kersten *et al.*, 2010). In this dissertation, the Flemish pupils also scored better than their Walloon counterparts because of a regular contact with English (i.e. media-induced English contact). Secondly, they found that the L2 input intensity positively influenced the results of the grammar test (op. cit.). In other words, it seemed that preschool pupils needed a coherent and intense input in order to develop the L2. Thirdly, they could not find any differences between boys and girls. Therefore, they assumed that, under optimal conditions, the gender factor did not affect the acquisition order of preschool children. It could also be the case in this master's dissertation, as there were only marginal differences between boys and girls. Finally, they found that the pupils did not acquire all the grammatical items "equally well" (Kersten *et*

al., 2010). For instance, they found that the SVO word order and the negatives were better identified than subject-verb agreement. This was also in line with this dissertation, as the unmarked declaratives were easily acquired by the Flemish and Walloon informants.

8. Further research

In a further study, it might first be interesting to focus on whether attitude and motivation positively correlate with better scores on a grammar test. In this dissertation, the pupils who had a negative attitude towards the English language were a minority. This group should deserve more attention in a further study. It has already been argued that pupils with a negative attitude would not be able to acquire a foreign language even if there is sufficient input (cf. Krashen's affective filter hypothesis, 1982). However, this dissertation seemed to suggest that it was still possible as the pupils who had a negative attitude towards English still obtained good marks.

Secondly, the results about second language acquisition through reading were not conclusive. In fact, it seemed that pupils who read a lot in a foreign language had better scores than those who never did, but again, this group was a minority in this dissertation. It might be interesting to perform a longitudinal study focusing on L2 grammar acquisition through reading. Some studies (for instance, Sparks, 2012) found that extensive L1 or L2 print exposure enhances the vocabulary acquisition, but few research has been done about the grammar aspect.

Finally, this dissertation only concerned receptive skills. So, it would also be interesting to further investigate the productive L2 acquisition of the different grammar items. On a receptive test, the pupils seemed to have acquired certain English proficiency, but in this dissertation, nothing can be argued about the productive skills.

9. Conclusion

This master's dissertation covered the acquisition of English grammar by Flemish and Walloon pupils in the first year of secondary school. All the pupils, that is, 108 Flemish informants and 124 Walloon informants, acquired English incidentally. The study involved a grammar test, a questionnaire and a diary. First, the questionnaire covered the pupils' sociolinguistic backgrounds as well as their contacts with English through popular culture. Second, the diaries were designed to study the English contacts through different media (i.e. the television, the radio and the computer). Finally, the English grammar test aimed to test the emergence of an English grammar knowledge by Belgian pupils.

I can conclude that the Flemish pupils scored higher than the Walloon pupils on the English grammar test. They also scored higher on each grammatical item. The better scores of the Flemish pupils were linked to their daily contact with English. In fact, the Flemish and Walloon pupils showed different habits with respect to English popular culture. The former preferred English popular culture while the latter liked both, that is, French and English popular culture. In other words, the Flemish pupils preferred films or songs in English while the Walloon pupils had no preferences. For instance, the Walloon pupils usually watched dubbed films rather than subtitled films. This was largely due to the fact that Walloon broadcasters broadcast dubbed

versions rather than original versions of a film. However, it further seemed that all the pupils regardless of the region had a positive attitude towards English. So, it seemed that the intensive media English input was prevalent to attitudinal or motivational factors.

The English grammar tests also suggested that all the pupils acquired English incidentally in a consistent way. In fact, the pupils of both regions showed a similar natural order of acquisition. The only exception included the inversion of the dative construction and the passive construction. It seemed that L1 transfer positively influenced the dative construction of the Flemish pupils; whereas L1 transfer positively influenced the passive construction of the Walloon pupils. When it comes to the place of the auxiliary and of the past participle, Dutch passives differ from English and French passives. In other words, the differences between the languages could explain the inversion. The English grammar test finally showed that all the grammatical phenomena were not equally well acquired, but they were consistent with previous studies (Kirsten *et al*., 2010; Krashen, 1982; Dulay and Burt, 1974). This finally suggested that a natural order can exist with respect to media-induced SLA.

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11. Appendices

11.1. Questionnaire (in Dutch)

Engelse Grammatica: Test

Naam: _____

Voornaam: _____

Klas: _____

Geboortedatum: _____

1. Algemene vragen

a) Welke taal/talen spreek je thuis?

_____

b) Heb je al in een Engelstalig gebied gereisd? (Bijvoorbeeld, de Verenigde Staten, het Verenigde Koninkrijk, Australië,…) JA / NEE

➔ Zo JA:

1) Waar? : _____
2) Hoelang? : _____
3) Heb je tijdens de reis Engels gesproken? Leg uit?

_____

_____

c) Heb je al lessen Engels gehad? JA / NEE

➔ Zo JA:

1) Wanneer? _____
2) In welke context? _____

d) Ken je mensen die als moedertaal Engels spreken? JA / NEE

➔ Zo JA:

1) Wie is die persoon? (Vader, moeder, broer, zus, vriend,…)

   _____

   _____

2) Spreek je Engels met die persoon? JA / NEE

e) Waar kom je het meest in contact met het Engels? Je mag meerdere antwoorden aanduiden.

- ☐ In liedjes
- ☐ Op televisie
- ☐ In videospelletjes
- ☐ Tijdens sportactiviteiten
- ☐ In boeken
- ☐ Op internet
- ☐ Ergens anders. Leg uit: _____

f) Vind je de Engelse taal gezellig? JA / NEE

➔ Waarom?

_____

_____

g) Duid aan wat voor jou van toepassing is (1 = niet akkoord/ 5 = helemaal akkoord).

	1	2	3	4	5
Engels is een boeiende taal.					
Engels is belangrijk voor de toekomst.					
Engels is een mooie taal.					
Engels is overal aanwezig.					
Engels leren is gemakkelijk.					
Engels begrijpen is gemakkelijk.					
Engels uitspreken is gemakkelijk.					

2. Televisie

a) Kijk je naar TV? JA / NEE

➔ Zo JA:

1) Hoelang (per dag)? _____
2) Welke TV zender heeft jouw voorkeur? _____
3) Zendt dit TV station Engelse programma's uit? JA / NEE
4) Wat zijn je lievelingsprogramma's? Wordt er Engels gesproken?

_____

_____

b) Kijk je naar films? JA / NEE

➔ Zo JA:

1) Hoelang (per week)? _____
2) Kijk je naar films:

- ☐ waarin er Engels gesproken wordt en die niet ondertiteld is.
- ☐ Waarin er Engels gesproken wordt en die in het Nederlands ondertiteld is.

□ waarin er Nederlands gesproken wordt.

Leg uit:

_____

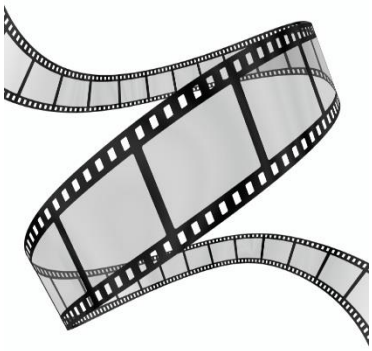
_____

c) Ga je soms naar de bioscoop? JA / NEE

➔ Zo JA:

1) Hoeveel keer per jaar? _____

2) Kijk je naar films:



□ waarin er Engels gesproken wordt en die niet ondertiteld is.

□ Waarin er Engels gesproken wordt en die in het Nederlands ondertiteld is.

□ waarin er Nederlands gesproken wordt.

Leg Uit:

_____

_____

d) Heb je al Engels geleerd dankzij de TV of de bioscoop? Leg kort uit.

_____

_____

3. Literatuur

a) Gebruik je soms een Engelstalige gebruiksaanwijzing (voor je GSM, TV,…)? Zet een kruisje bij het antwoord dat voor jou van toepassing is.

□ Nooit

□ Zelden

□ Vaak

□ Altijd

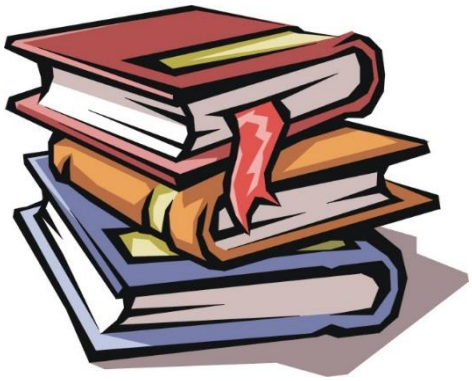
b) Koop je boeken, kranten,… in het Engels? Zet een kruisje bij het antwoord dat voor jou van toepassing is.

□ Nooit

□ Zelden

□ Vaak

□ Altijd



4. Computer

a) Heb je een computer? JA / NEE

➔ Zo JA:

1) Hoe vaak gebruik je je computer?

- ☐ Meerdere uren per dag
- ☐ Een uur per dag
- ☐ Vier of vijf keer per week
- ☐ Twee of drie keer per week
- ☐ Een keer per week

2) Gebruik je Engelstalige computerspelletjes of Engelstalige computerprogramma's? Zo ja, welke? Zo nee, Leg uit wat je op de computer doet.

_____

_____

b) Speel je online met vrienden die Engelstalig zijn? JA / NEE

➔ Zo JA:

1) Hoeveel uur per week? _____
2) Met welke computerspelletjes? _____
3) Begrijp je alles wat er gezegd wordt? JA / NEE
4) Wat heb je tijdens je gaming in het Engels geleerd? Geef een of twee voorbeelden.

_____

_____

_____

5. Muziek

a) Heb je een voorkeur voor Nederlandstalige of Engelstalige muziek? Leg uit.

_____

_____

b) Begrijp je alles wat er in de liedjes gezegd wordt? JA / NEE

➔ Zo JA:

1) Geef een voorbeeld van een Engelstalige zanger en/of Engelstalige titel.

_____

2) Geef een voorbeeld van wat je begrijpt.

_____

_____

➔ Zo NEE:

1) Leg uit wat je moeilijk vindt in Engelstalige liedjes.

_____

_____

6. Extra

a) Geef een aantal voorbeelden van Engelse zinnen die je kent.

_____

_____

_____

_____

_____

_____

Naam en voornaam:

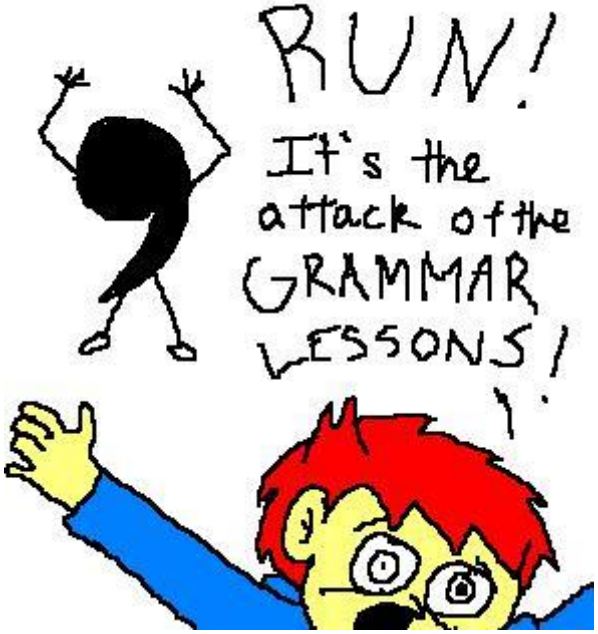
Agenda Engels

Vul elke dag die agenda in. Schrijf op wat je in het Engels gedaan hebt (tv kijken, naar muziek luisteren, met videospelletjes spelen, een boek lezen,... in het Engels).

Dag van de week (datum)	Wat heb ik vandaag in het Engels gedaan en hoelang?
Dag 1 : ...../...../.....	....
Dag 2 : ...../...../.....	....
Dag 3 : ...../...../.....	....
Dag 4 : ...../...../.....	....
Dag 5 : ...../...../.....	....
Dag 6 : ...../...../.....	....
Dag 7 : ...../...../.....	....

11.3. English grammar test

Grammatica



Naam: _____

Voornaam: _____

Klas: _____

Geboortedatum: _____

1) A) Peter loves Mary. ☐

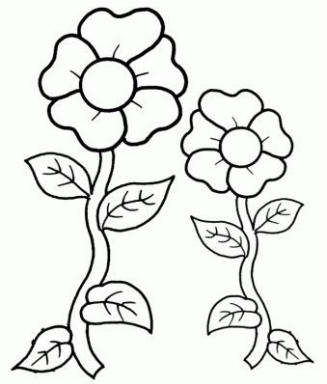
B) Peter lovet Mary. ☐

C) Peter love Mary. ☐

2) A) Mary receives two flower. ☐

B) Mary receives two flowers. ☐

C) Mary receives two floweren. ☐



3) A) The nurse the baby gives to mommy. ☐

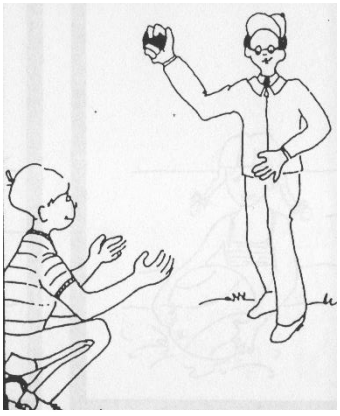
B) The nurse gives to mommy the baby. ☐

C) The nurse gives the baby to mommy. ☐

4) A) The man throws the ball to the boy. ☐

B) The man the ball throws to the boy. ☐

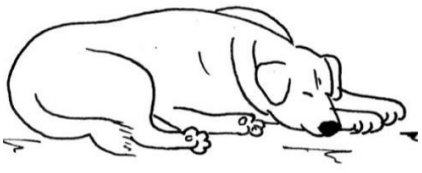
C) The man throws to the boy the ball. ☐



5) A) The dog not is running. ☐

B) The dog running is not. ☐

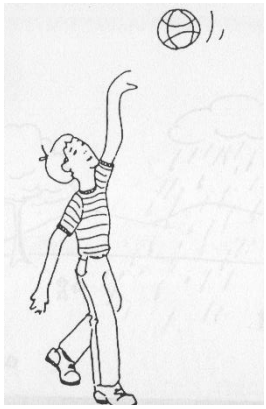
C) The dog is not running. ☐



6) A) The ball by the boy is thrown. ☐

B) The ball is thrown by the boy. ☐

C) The ball is by the boy thrown. ☐



7) A) The boy and the girl want two ball. ☐

B) The boy and the girl want two balls. ☐

C) The boy and the girl want two ballen. ☐

8) A) Washes the mother the child. ☐

B) The child the mother washes. ☐

C) The mother washes the child. ☐

9) A) Mary singt well. ☐

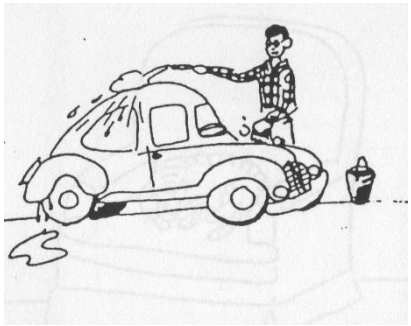
B) Mary sing well. ☐

C) Mary sings well. ☐

10) A) The car is by the father washed. ☐

B) The car by the father is washed. ☐

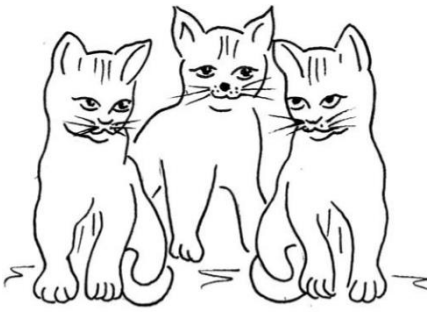
C) The car is washed by the father. ☐



11) A) The boy has three cat. ☐

B) The boy has three catten. ☐

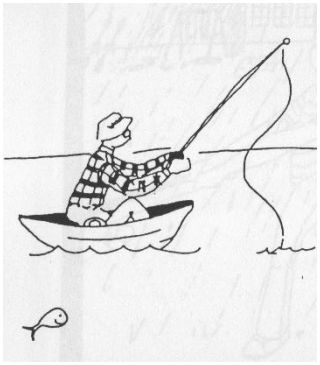
C) The boy has three cats. ☐



12) A) The man has caught the fish not. ☐

B) The man not has caught the fish. ☐

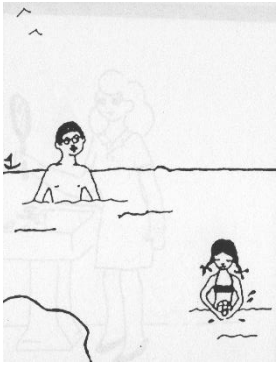
C) The man has not caught the fish. ☐



13) A) The man is looking at the girl of which is playing in the water. ☐

B) The man is looking at the girl who is playing in the water. ☐

C) The man is looking at the girl which is playing in the water. ☐



14) A) The girl is kissing his. ☐

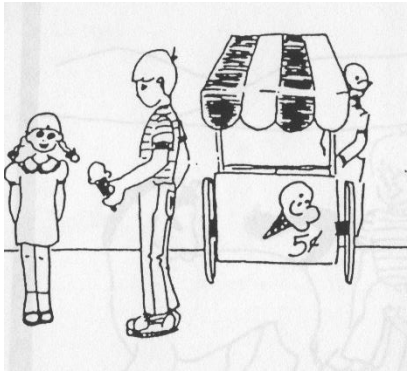
B) The girl is kissing him. ☐

C) The girl is kissing he. ☐

15) A) The boy an ice-cream gives to the girl. ☐

B) The boy gives an ice-cream to the girl. ☐

C) The boy gives to the girl an ice-cream. ☐



16) A) The teacher gives a book to the girl. ☐

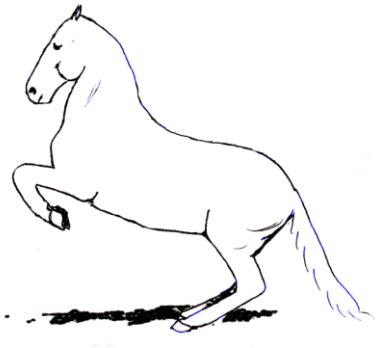
B) The teacher a book gives to the girl. ☐

C) The teacher gives to the girl a book. ☐

17) A) The horse jumps well. ☐

B) The horse jump well. ☐

C) The horse jumpt well. ☐



18) A) The man the girl chases. ☐

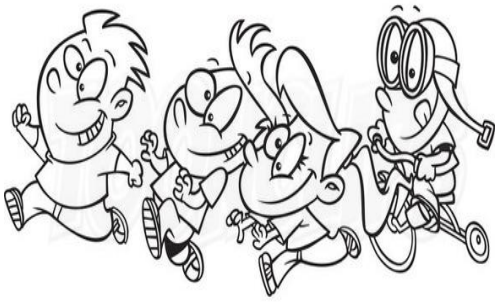
B) The man chases the girl. ☐

C) Chases the girl the man. ☐

19) A) The boy is chasing we. ☐

B) The boy is chasing us. ☐

C) The boy is chasing our. ☐



20) A) The mother is kissing their. ☐

B) The mother is kissing they. ☐

C) The mother is kissing them. ☐

21) A) The mother buys three pennen. ☐

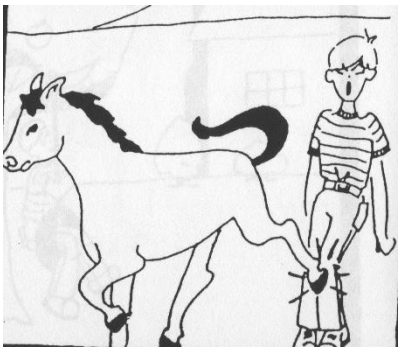
B) The mother buys three pens. ☐

C) The mother buys three pen. ☐

22) A) The boy by the horse is kicked. ☐

B) The boy is by the horse kicked. ☐

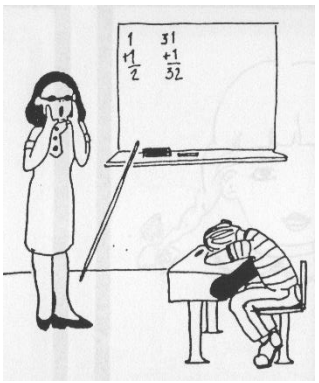
C) The boy is kicked by the horse. ☐



23) A) The boy the teacher calls. ☐

B) Calls the teacher the boy. ☐

C) The teacher calls the boy. ☐



24) A) The boy is not playing. ☐

B) The boy not is playing. ☐

C) The boy is playing not. ☐

25) A) The girl ill is not. ☐

B) The girl not is ill. ☐

C) The girl is not ill. ☐

26) A) The woman, who is holding the baby, wears a hat. ☐

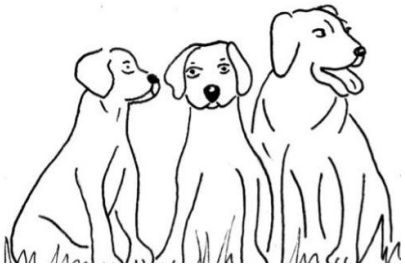
B) The woman, which is holding the baby, wears a hat. ☐

C) The woman, of which is holding the baby, wears a hat. ☐

27) A) The girl has three dogs. ☐

B) The girl has three dog. ☐

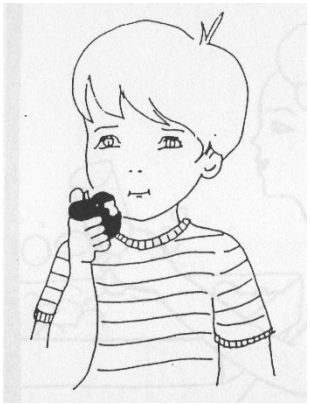
C) The girl has three doggen. ☐



28) A) The boy eats it. ☐

B) The boy eats its. ☐

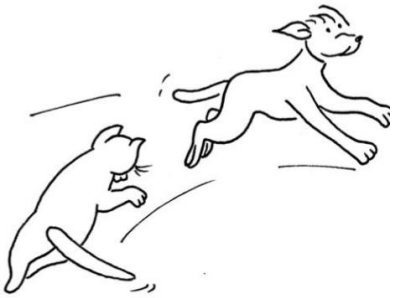
C) The boy eats he. ☐



29) A) The dog by the cat is chased. ☐

B) The dog is chased by the cat. ☐

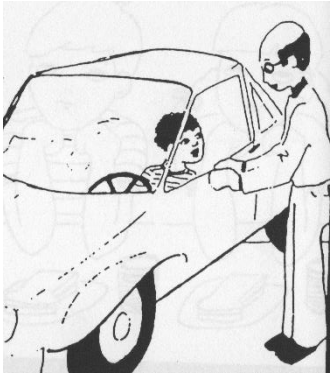
C) The dog is by the cat chased. ☐



30) A) The boy, which is talking to the man, sits in the car. ☐

B) The boy, of which is talking to the man, sits in the car. ☐

C) The boy, who is talking to the man, sits in the car. ☐



31) A) Mommy kisses daddy. ☐

B) Mommy Daddy kisses. ☐

C) Daddy Mommy kisses. ☐

32) A) John dance well. ☐

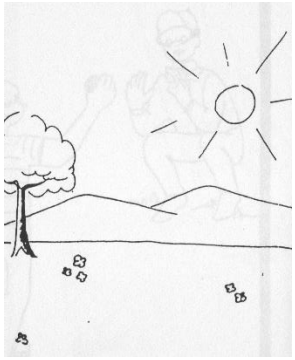
B) John dancet well. ☐

C) John dances well. ☐

33) A) It not is raining. ☐

B) It is not raining. ☐

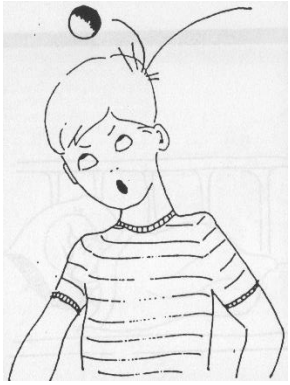
C) It is raining not. ☐



34) A) The boy is hit by the ball. ☐

B) The boy by the ball is hit. ☐

C) The boy is by the ball hit. ☐



35) A) The car, who the man is buying, is old. ☐

B) The car, that the man is buying, is old. ☐

C) The car, of which the man is buying, is old. ☐

36) A) The father is chasing her. ☐

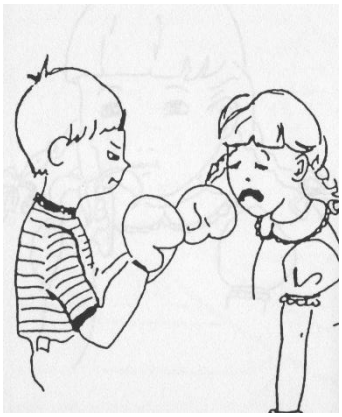
B) The father is chasing hers. ☐

C) The father is chasing she. ☐

37) A) The boy the girl hits. ☐

B) The boy hits the girl. ☐

C) The girl the boy hits. ☐



38) A) The girl the cup throws to the boy. ☐

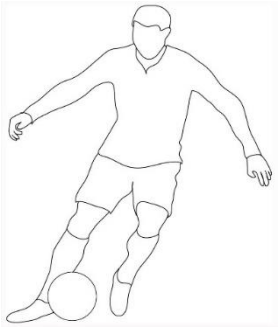
B) The girl throws to the boy the cup. ☐

C) The girl throws the cup to the boy. ☐

39) A) Paul play football well. ☐

B) Paul plays football well. ☐

C) Paul playt football well. ☐



40) A) The boy, of which is chasing the girl, laughs. ☐

B) The boy, which is chasing the girl, laughs. ☐

C) The boy, who is chasing the girl, laughs. ☐