The influence of Dutch (L1) and English (L2) on third language learning
The effects of education, development and language combinations
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The Influence of Dutch (L1) and English (L2) on Third Language Learning: the Effects of Education, Development and Language Combinations

In the last decades, English has become increasingly important in Dutch society and, especially for adolescents, English functions as a second language (L2). This dissertation investigates how English (L2) in addition to Dutch as a first language (L1) affects the acquisition of the third languages (L3) French and German in Dutch secondary education. Six syntactic empirical studies are conducted in different groups of students enrolled in the first four years of either Dutch/English bilingual secondary education or mainstream Dutch education. Comprehension tasks and guided production tasks are used to examine the acceptance and use of Dutch XVSO word order and English Adv-V word order in French and German.

The context of a partially bilingual secondary school made it possible to investigate L1/L2 influence on L3 acquisition amongst students in different stages of secondary education, with varying amounts of L2 exposure and in two different language combinations (L1 Dutch–L2 English–L3 French and L1 Dutch–L2 English–L3 German).

This dissertation shows that secondary school students use both Dutch and English as transfer sources in L3 acquisition. A preference for either Dutch (L1) or English (L2) depends on the amount of English (vs Dutch) the students have been exposed to, the developmental stage of L3 learning the students are in and the L3 being learned. Making secondary school students and teachers aware that both the L1 and the L2 serve as background languages could help students learning a foreign language.

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The Influence of Dutch (L1) and English (L2) on Third Language Learning:
The Effects of Education, Development and Language Combinations

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Author contributions

Chapter 1
Introduction
Rosalinde Stadt is the sole author of this chapter. It has not been submitted for publication elsewhere.

Chapter 2
L1 Dutch and L2 English transfer in third-year bilingual stream and mainstream students

Stadt, Hulk and Sleeman formulated the research questions presented: whether L2 English is more important than L1 Dutch in L3 learning of French and how bilingual and mainstream school programmes affect these roles. Stadt designed the stimuli for the grammaticality judgement task and the English gap-filling task. On the basis of several feedback sessions with Hulk and Sleeman, Stadt revised the tasks. The background questionnaire was a standardised questionnaire taken from the UvA that we slightly adapted. The grammaticality judgement task, the English gap-filling task and the background questionnaire can be found in the Appendix. Stadt asked for approval from the ethical committee, recruited the participants and conducted the experiments. Stadt and Sleeman statistically analysed the results. Stadt wrote the first version of the chapter. The text was discussed over the course of several supervision sessions with Hulk and Sleeman. On the basis of their feedback, Stadt rewrote and revised the paper into its final, published form.

Chapter 3
L1 Dutch and L2 English transfer in third- and fourth-year bilingual stream and mainstream students: A comparative look
Adapted slightly from: Stadt, R., A. Hulk & P. Sleeman (2018a). The role of L2 exposure in L3A: A comparative study between third- and fourth-year

Stadt, Hulk and Sleeman formulated the question under investigation in this study, which concerned the role of the L1 vs the L2 in both third- and fourth-year bilingual and mainstream school programmes. The grammaticality judgement task, the English gap-filling task and the background questionnaire that were used were the same as presented in Chapter 2. Stadt recruited the fourth-year students and conducted the experiments. Stadt and Sleeman statistically analysed the results. Stadt wrote the first version of the chapter, which was discussed over the course of several supervision meetings with Hulk and Sleeman. On the basis of their valuable feedback, Stadt rewrote and revised the paper into its final, submitted form.

**Chapter 4**

**L1 Dutch and L2 English transfer in the initial stages of L3 French acquisition**

Adapted slightly from: Stadt, R., A. Hulk & P. Sleeman (*submitted*). L1 Dutch vs L2 English in the initial stages of L3 French acquisition: The case of verb placement.

Stadt, Hulk and Sleeman formulated the research question, which concerned the role of the background languages L1 Dutch and L2 English in L3 French learners in the initial stages of acquisition. With valuable input from Hulk and Sleeman, Stadt designed the stimuli for the grammaticality judgement task and the gap-filling task. The tasks that were used to test the initial state learners were simplified versions of the tests used for third- and fourth-year students. The vocabulary list and the preparation programme were also designed by Stadt. The English gap-filling task and background questionnaire were the same as presented in Chapter 2. Stadt statistically analysed the results and wrote the first version of the chapter. The text was discussed over the course of several supervision sessions with Stadt, Hulk and Sleeman. On the basis of the valuable feedback received from Hulk and Sleeman, Stadt rewrote and revised the manuscript into its current form.
Chapter 5
The role of L2 proficiency vs L2 exposure in L3 French acquisition

The research questions presented in this chapter – on the difference between first- and third-year students that concern the use of L2 English as a background language and the effect of L2 proficiency in L3A – were formulated by Stadt, Hulk and Sleeman. The first-year data used were the same as in Chapter 4. With valuable input from Sleeman and Hulk, Stadt designed the third-year gap-filling task. The English gap-filling task and the background questionnaire used were the same as presented in Chapter 2. Stadt asked for approval from the ethical committee and conducted the experiments. Stadt statistically analysed the results. Stadt wrote the first version of the chapter, which Stadt, Hulk and Sleeman discussed over the course of several supervision meetings. On the basis of their feedback, Stadt rewrote and revised the manuscript into its final, published form.

Chapter 6
L1 Dutch and L2 English transfer in the first two years of L3
French acquisition: A longitudinal study

Stadt, Hulk and Sleeman formulated the research question presented in this chapter, which concerns the development of the L1 and the L2 in the first two years of bilingual stream education. The grammaticality judgement task and the gap-filling task were the same as used in Chapter 4. The English gap-filling task and the background questionnaire were reused from Chapter 2. The first-year data were reused, and Stadt collected the second- and third-year data at the start of the 2016 and 2017 school years. Stadt statistically analysed the results and wrote the first version of the chapter, which was discussed over
the course of several supervision sessions with Stadt, Hulk and Sleeman. On the basis of valuable feedback from Hulk and Sleeman, Stadt rewrote and revised the manuscript into its final, published form.

Chapter 7
The role of the L3 in L3A: Comparing L3 French to L3 German

Stadt, Hulk and Sleeman formulated the research question presented in this chapter that asks about the extent to which L2 English plays a similar role in L3 German as compared to L3 French. The French grammaticality judgement task and the gap-filling task were translated to German by Stadt and controlled by a native speaker of German. The English gap-filling task and the background questionnaire that were used were the same as presented in Chapter 2. Stadt recruited the participants and conducted the experiments on German. The experiments on French were re-used. Stadt statistically analysed the results. Stadt wrote the first version of the chapter. This was discussed during several supervision sessions with Hulk and Sleeman. On the basis of valuable feedback from Hulk and Sleeman, Stadt rewrote and revised this manuscript into its current form.

Chapter 8: Discussion
Rosalinde Stadt is the sole author of this chapter. It has not been submitted for publication elsewhere.
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Chapter 1

Introduction

1.1. Setting the stage
Foreign language learning plays a substantial role in the curricula of Dutch secondary schools. In the current Dutch secondary school system, English is mandatory during the entire curriculum and two other foreign languages besides English are mandatory in the junior classes, that is in the first three years of secondary education. These foreign languages are mostly French and German, but schools are allowed to substitute one of these languages with another modern foreign language such as Spanish, Russian or Arabic. English as a foreign language has a special status in the Netherlands. Dutch children start learning English in primary school, and in secondary school English is one of the three core subjects (alongside math and Dutch) and is taught intensively throughout secondary school. The importance of English in Dutch schooling is also revealed by the increasing popularity of Dutch/English bilingual secondary schools (from 30 schools in 2002 to 132 schools in 2018 [Nuffic, 2019]). Additionally, over the past decades, English has become a lingua franca in the Netherlands. Especially adolescents listen mainly to English music and watch series and films in English, and Internet sites, social networks and apps on smartphones and tablets are often in English (e.g. Verspoor, De Bot & Van der Heiden, 2007). English is therefore not only an important school subject in both primary and secondary school, but most children and adolescents receive a great deal of English input outside their daily school context.

The status of English as a dominant second language (L2) in modern Dutch society also has implications for the role of English as a transfer language in foreign language learning. Since students learn English from a young age and are surrounded by English in their everyday lives, Dutch adolescents can be considered bilinguals.¹ As a consequence, other foreign languages learned in secondary school are technically not second languages.

¹ The term bilingual refers in this dissertation to sequential bilinguals: a situation in which an additional language is acquired after a first language in childhood, adolescence or adulthood (Baker, 2006; Aronin & Singleton, 2012).
but third languages (L3s). However, in the current foreign language learning practice in the Dutch educational system, learning a third foreign language such as French and German is approached as if it were the student’s second language. Because of the increased importance of English in the Dutch society, it is relevant to investigate whether and to what extent English as an L2 affects foreign language learning in secondary schools.

This dissertation examines the role of L2 English in the acquisition of a subsequent, third language in the first four years of a Dutch/English bilingual stream programme and a mainstream Dutch secondary school programme. It is a syntactic study in which I and my co-authors on the individual substudies (Aafke Hulk and Petra Sleeman; see ‘Author contributions’) investigate to what extent secondary school students accept and use Dutch and English finite verb placement constructions in French and German declarative sentences instead of the target ones. The central question in this dissertation is whether English (in addition to Dutch) is a source of transfer in the acquisition of an L3, and, if so, what factors can be identified that further L2 transfer into the L3. Results from syntactic studies on L3 acquisition have indicated that transfer may occur from both background languages (the L1 and the L2) and transfer models broadly distinguish between four options: 1) transfer mainly occurs from the L1 (the L1 transfer scenario, Lozano, 2003; Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b), 2) transfer mainly occurs from the L2, (the L2 status factor hypothesis, Bardel & Falk, 2007, 2012, Falk & Bardel, 2011), 3) transfer occurs from either the L1 or the L2 depending on perceived typological resemblance between the L1/L2 and L3 (Typological Primacy Model, Rothman, 2010, 2011, 2013, 2015) and 4) transfer occurs from either the L1 or the L2 and depends on structural resemblance between the L1/L2 and L3 (Linguistic Proximity Model, Mykhaylyk et al., 2015; Westergaard et al., 2016). Additionally, with respect to L2 transfer, many studies have shown that other factors such as L2

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2 In the research field of third language acquisition (L3A), the term L3 is used for the non-native languages that are acquired after the L2 (Hammarberg, 2001).
3 In this dissertation, we use the terms learning and acquisition interchangeably. Both terms are generic terms that are used by researchers in the field of L3 research.
4 Two other L3 models have been postulated: the Cumulative Enhancement Model ([CEM] Flynn, Foley & Vinnitskaya, 2004) and the Scalpel Model (Slabakova, 2016). Since these two models do not play an important role in this dissertation, we do not discuss them in this introduction.
exposure, L2 output of use and L2 proficiency may enhance L2 transfer in L3 acquisition. Altogether, L3 research shows that transfer from the L2 can be an important component in L3 transfer. Consequently, we may expect that L2 English affects L3 syntactic learning in a context where English is the dominant L2, and especially with secondary school students enrolled in a bilingual stream programme, and therefore receiving a considerable amount of L2 exposure in their daily school lives.

1.2. Different perspectives on L3A

The L3 field of research is a complex field of research because the role that previous linguistic knowledge plays is dynamic and because it depends on various factors. To create a complete picture of L1/L2 influence on L3 learning in adolescents in different stages of L3 development and in two educational tracks, the study considers L3A from three different perspectives.

The first perspective is educational. To this end, we test one of the L3 models, viz. the L2 status factor hypothesis, in both types of education. This learning context allows us to test the L2 status factor hypothesis in two different groups of learners. Moreover, it allows us to investigate whether there is an effect of an increased exposure to the L2 in the daily context on the L1/L2 as background languages in L3A. We also compare the effect L2 of exposure to L2 proficiency in L3A in both the bilingual stream and the mainstream third-year students.

The second perspective is developmental and compares L1 and L2 influence over time in the learning process. By testing L3 French students in the first four years of secondary school education (from learners in the initial stages of French to intermediate learners of French), we study the effect of L2 English exposure over the years on the role of Dutch (L1) and English (L2) as background languages in L3 French acquisition. We conduct one study that especially focuses on learners in the initial stages of L3A, two cross-sectional studies and one longitudinal study. In the first cross-sectional study, we compare bilingual stream and mainstream third- to fourth-year students with respect to the use of Dutch (L1) and English (L2) in L3 French. The L2 status

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5 In L3A studies, factors such as L2 input, L2 exposure, L2 frequency of use and L2 recency are used more or less interchangeably to indicate the extent to which the L2 is ’activated’ in the daily context of the learner. To be consistent, we use L2 exposure throughout the whole dissertation.
factor hypothesis is tested again in the fourth year and both bilingual stream and mainstream third-year students are compared to fourth-year students. The second cross-sectional study specifically looks at whether L2 English influence changes over the years in L3 French by comparing first- to third-year bilingual stream and mainstream students. With the longitudinal study, we further investigate L1 and L2 transfer into L3 French only of bilingual stream students in the first two years of secondary school, in which we tested them three times. The focus on development with regards to L1 and L2 transfer into L3A enables us to investigate the importance of the stage the learner is in with respect to the role of the L1 and the L2 in L3A.

The third perspective is cross-linguistic and studies the effect of language combinations on transfer from the L1 and the L2 into L3A. Over the years, a considerable number of L3 studies have been conducted. However, the focus has mainly been on comparing L1 and/or L2 influence in relation to one and the same L3. With the third perspective we aim to broaden our view on transfer into L3A by investigating to what extent transfer from L1 Dutch and L2 English is the same into a different L3. The aim is to establish whether Dutch/English bilingual secondary school students show divergent behaviours in L3 French as compared to L3 German with regards to L1/L2 transfer. This gives us more insight on how language combinations affect L1/L2 transfer by studying both L3 German and L3 French while the L1/L2 are kept constant.

The three perspectives together shed more light on the question whether L2 English (in addition to L1 Dutch) is a source of transfer into L3A and what factors might influence L2 transfer into the L3. Only a few studies have been conducted in the L3 field of research that especially focus on the effect of L2 exposure, and no wide-scale studies have been conducted investigating L2 exposure in the daily context and over multiple years. Furthermore, not so many longitudinal studies have been carried out in the syntactic L3 field of research. This dissertation aims to fill a gap in the L3 field of research and as such, it intends to contribute to the further advancement of the L3A debate. Therefore, we connect the results of our studies to other L3 studies and explore to what extent the results are in line with or contrary to other studies that focused on the role of the L1/L2 in L3A. In what follows, we will discuss the L3 field of research.
1.3. **Background: The L3 field of research**

In the past two decades or so, interest in L3A has evolved into a research field of its own. As already mentioned, at a syntactic level, several L3 models have been proposed that aim to explain observed regularities in transfer. Two models propose that transfer occurs preferably from the L1 or the L2: the L1 transfer scenario states that transfer occurs mainly from the L1 (Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b). Empirical evidence for a preferred role of the L1 in L3A has been found principally in initial state L3 learners (Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b), but also in intermediate L3 learners (Jin, 2009). The L2 status factor hypothesis (Bardel & Falk, 2007, 2012, Falk & Bardel, 2011) claims that the L2 is the preferred default source of transfer into L3A (over the L1) because both the L2 and the L3 are foreign languages, making them cognitively more similar as compared to the L1. The model was initially proposed for initial-stage learners (Bardel & Falk, 2007, 2012). However, empirical evidence has been found in intermediate L3 learners as well (Falk & Bardel, 2011).

Other L3 models propose that both background languages can be potential sources of transfer. The Typological Primacy Model ([TPM], Rothman, 2010, 2011, 2013, 2015) claims that perceived typological proximity between the L3 and the L1 or L2 determines which of the previous languages provides transfer. The TPM states that transfer occurs in the initial stages of L3A and is wholesale, that is, the learner copies the ‘full grammar’ of the background language perceived to be the most similar one on the L3. The Linguistic Proximity Model ([LPM], Mykhaylyk et al., 2015; Westergaard et al., 2016) builds on the TPM with regards to the idea that similarity between target language and one of the background languages is

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6 Strictly speaking, the L1 transfer scenario has not been put forward as an L3 model. Since evidence has been found in several studies and since the scenario is tested in different groups of learners, the scenario is included here as one of the L3 models.

7 In 2017, Bardel & Sánchez revised the L2 status factor hypothesis. In the revised version, L2 metalinguistic knowledge is a decisive factor for L2 transfer into L3A. In this dissertation, we adopt the version as described in Bardel & Falk (2007).

8 This L3 model argues for a privileged role of the L2 based on Paradis’ theory (2004, 2009) on a distinction between implicit linguistic competence (which is sustained by the procedural memory) and explicit linguistic knowledge (which is sustained by the declarative memory). The grammar of a foreign language (the L2 or the L3) is, according to this theory, based on explicit knowledge, and therefore learned in a different way than the grammar of the L1 (Falk, 2010; Bardel & Falk, 2012).
decisive for transfer. However, whereas the TPM predicts that the L3 learner copies the ‘full grammar’ in the initial stages of acquisition, the LPM claims that similarity of (abstract) linguistic properties causes transfer. When a learner perceives supporting evidence in the L1/L2 of a certain linguistic property of the L3, transfer into the L3 occurs. Since the LPM suggests that transfer operates ‘property by property’, this model also applies to transfer in later stages of acquisition. Evidence for the LPM has been found in intermediate learners (Mykhaylyk et al., 2015; Westergaard et al., 2016). Apart from studies that have been undertaken to test L3 models, several studies focused on other factors that might influence L1/L2 transfer into L3A, such as exposure, proficiency and metalinguistic knowledge. Evidence has been found for more L2 influence in L3A due to increased exposure to the L2 (Tremblay, 2006) and higher L2 proficiency (De Angelis, 2007; Jaensch, 2009a, 2009b; Sánchez & Bardel, 2017). Other studies found that an increased metalinguistic knowledge in the L1 (Falk, Lindqvist & Bardel, 2015) or the L2 (Thomas, 1988) affects the role of the L1/L2 in L3A.

The L3 field is a relatively new field of research. Although several L3 studies have been conducted in the past few decades with varying language combinations and in different types of learners, L3 models show contradictory results. Consequently, more empirical research is necessary to learn more about regularities in L3A.

1.4. School context
The data presented in this dissertation are collected in a Dutch secondary school in a small town in the province of North Holland. In this school, students can opt for a Dutch/English bilingual four-year programme or for a Dutch mainstream ‘regular’ programme, which follows the Dutch national curriculum.

The four-year bilingual stream programme is called ‘Middle Years Programme’ (MYP) and is intended for students aged eleven to sixteen years old. In this school, the programme is offered in the first four years of secondary education. The programme is provided by the ‘International Baccalaureate’ (IBO, 2019): an international educational organisation that offers international (bilingual) educational programmes for both primary school and secondary school. The MYP in this school provides at least 50% of the school subjects, such as ‘Sciences’, ‘Humanities’, ‘Technology’, ‘Physical Education’ and ‘Performing Arts’, in English. This means that
communication in the classroom, textbooks and tests are in English. Apart from these English-medium subjects, the bilingual stream students also receive four hours of English as a separate subject. English as a subject has a special status in the bilingual stream programme. In the first and second year, English is taught as a foreign language; in the subject ‘Language Acquisition’, however, in the third and fourth year, English is taught as an L1 in the subject ‘Language and Literature’. Education differs from mainstream English education, especially in the third and fourth year, mainly because there is less special focus on grammar and explicit learning. In addition to the school subjects taught in English, we could say that English in the bilingual stream context is learned in a more implicit way.

Mainstream secondary schools in the Netherlands are divided into three tracks: a four-year pre-vocational track (VMBO), a five-year general track (HAVO) and a six-year pre-university track (VWO). Students are placed in the various tracks based on their overall performance in primary school. The school where this study is conducted offers two tracks: the general track and the pre-university track. The mainstream data are collected in the pre-university track. Since the four-year MYP gives access to the last two years of the pre-university track, the overall levels of these tracks are most homogeneous. English plays a considerably smaller role in the mainstream track as compared to the bilingual track. The mainstream pre-university students all receive three hours of English a week. This is the case throughout all six years of this mainstream programme.

With respect to the teaching of other foreign languages, the number of contact hours is the same in the bilingual and mainstream tracks. In the first year, students receive three hours of French a week. In the second year, all modern foreign languages this school offers – French, German and Spanish – are mandatory for two hours a week. In the third year, students choose two out of these three foreign languages, and in the fourth year they receive three hours a week of instruction in the foreign language(s) they have chosen. Although there are different teachers that teach the foreign languages, the textbooks that are used are the same in both programmes and the examination requirements are the same as well. The data in this dissertation were collected from September 2015, the school where we collected our data stopped offering both the MYP and a mainstream track. Since then, the school only offers the MYP programme. We collected the mainstream data before September 2015.
amongst first-year bilingual stream students (aged between 11 and 13), second year bilingual stream students (aged between 12 and 14), and third- and fourth-year bilingual stream students (aged respectively 13–15 and 14–16 years old). With respect to the mainstream students, we only gathered data from third- and fourth-year students (who have the same ages as their bilingual peers).

1.5. Word order in Dutch, English, French and German

The branch of linguistics relevant to this acquisitional study is syntax. The objective of the study is to measure the extent to which word order constructions from the background languages Dutch (L1) and English (L2) are transferred to the target languages French (L3) and German (L3). In all studies conducted in this dissertation, the focus is on errors caused by a difference in word order between the background language and the target language. This means that the focus is on negative transfer. This is in line with other syntactic L3 research, where transfer is often investigated by examining differences between the L1/L2 and L3. The reason why in this dissertation we focus on differences is that in intermediate L3 learners – of which the majority of the participants in this study consists – it is difficult to distinguish transfer of similarities (i.e. positive transfer) from L3 knowledge (i.e. syntactic constructions that the participants have already acquired in the target language).

1.5.1. Measuring Dutch influence

Since we test students with different L3 proficiencies (starting in the initial stages), we focus exclusively on simple declarative sentences. To measure possible influence from Dutch on French, we concentrate on the Dutch XVS(O) word order in French. In Dutch sentences beginning with a sentence-initial adverbial phrase such as a temporal or locative adverbial noun phrase or adverb (e.g. ‘today’, ‘in Paris’, ‘Friday’), the subject is in postverbal position and the verb always appears in the second position of the sentence (see example 1a), whereas in French, this is not the case and the word order is XSV(O) (as in 2a). Note that French and English share the same word order.

10 In generative grammar, the inversion in Dutch of the subject and the verb that occurs when a declarative sentence starts with an adverbial phrase (resulting in an XVS(O) surface structure), is attributed to verb movement to the C position of the clause (and
in this case (see 2b). Acceptance or use of the XVS(O) word order in the target language French – shown as ungrammatical in (1c) – is therefore considered as possible transfer from Dutch.

**XVS(O) word order in Dutch**

(1a) Vandaag gaat Manon naar Parijs.

(1b) *Today goes Manon to Paris.

(1c) *Aujourd’hui va Manon à Paris.

‘Today Manon is going to Paris.’

**XSV(O) word order in French and English**

(2a) Aujourd’hui Manon va à Paris.

(2b) Today Manon goes to Paris.

‘Today Manon is going to Paris.’

1.5.2. **Measuring English influence**

English influence is measured in both French and German. To be able to detect possible transfer from English into French and into German, we concentrate on declarative sentences that contain either manner/frequency adverbs such as ‘really’, ‘easily’ and ‘sometimes’ or the quantifier ‘all’. In these types of English sentences, the adverb or quantifier appears before the verb (Adv-V) (as in 3a), whereas in French and German (and also in Dutch), the adverb appears after the verb (V-Adv) (shown in 4a and 5a). Acceptance or use of the Adv-V word order in the target languages French and German – as demonstrated in examples (3b) and (3c) – is considered as possible transfer from English.

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11 German and Dutch are both V2 languages. Since German and Dutch share the same word order in this respect, the XVS(O) word order is not investigated in L3 German.

12 In generative terms, the English Adv-V word order under investigation is a result of the finite verb not moving to the T position in the declarative clause. In German, Dutch and French declarative main clauses, the finite verb moves to the T position (V(erb)-to-T(ense) movement), which results in the adverb appearing post-verbally. At surface structure, English differs in this respect from the other languages under investigation because V-to-T movement occurs in Dutch, French and German but not in English (Pollock, 1989).
Adv-V word order in English

(3a) Thomas sometimes goes to the movies.
(3b) *Thomas parfois va au cinéma.
(3c) *Thomas manchmal geht ins Kino.
(3d) *Thomas soms gaat naar de bioscoop.

‘Thomas sometimes goes to the movies.’

V-Adv word order in French

(4a) Thomas va parfois au cinéma.
(4b) *Thomas goes sometimes to the movies.

‘Thomas sometimes goes to the movies.’

V-Adv word order in German

(5a) Thomas geht manchmal ins Kino.
(5b) *Thomas goes sometimes to the movies.

‘Thomas sometimes goes to the movies.’

To detect possible transfer in this dissertation, we use two types of experiments throughout the whole dissertation: a grammaticality judgement task (GJT) and a gap-filling task (GFT). With the GJT, the incorrect acceptance of the XVS(O) word order and the incorrect rejection of the XSV(O) word order is tested in French and the incorrect acceptance of the Adv-V word order and the incorrect rejection of the V-Adv is tested in French and German. The GFT aims to detect the incorrect (guided) production of the XVS(O) and the Adv-V word orders in the target languages.

1.6. Outline

The perspectives addressed in Section 1.1 shape the structure of this dissertation, and together, they aim to answer the central question of this dissertation whether English (in addition to Dutch) is a source of transfer in the acquisition of an L3, and, if so, what factors can be identified that further L2 transfer into the L3. This dissertation builds upon six empirical studies. This last section presents a brief overview of which chapter concerns which empirical study.

Chapter 2 describes the results of a comprehension study that investigates the effect of the Dutch XVS(O) word order vs English Adv-V in L3 French declarative sentences amongst third-year secondary school students.
enrolled in both the mainstream pre-university programme and the bilingual stream programme. It is hypothesized that English (L2) is the preferred background language over Dutch (L1) in L3 French learning. As such, the L2 status factor hypothesis – according to which L2 is the privileged source of transfer over the L1 – is tested in two educational programmes in which L2 exposure differs. The central questions in this chapter are 1) Does L2 English play a more important role than L1 Dutch in L3 French? and 2) to what extent is the role of the L2 in the bilingual stream programme similar to its role in the mainstream context? In Chapter 3, the L2 status factor hypothesis is tested again in two additional groups of learners. The findings of the third-year study are repeated and compared to the findings of a comprehension study that investigates (both bilingual stream and mainstream) fourth-year students. As such, an increased amount of L2 English exposure over time in the two educational programmes is studied in a cross-sectional comparison between two programmes and two different years. This empirical study has a considerable overlap with the study reported in Chapter 2 with regards to the methodology, since the same constructions are tested and the same comprehension task is used. The research questions addressed in Chapter 3 concentrate on the comparison between third- and fourth-year bilingual stream and mainstream students with respect to the role of the L2 vs L1. Chapter 4 expands on the study reported in Chapters 2 and 3: again, the number of Dutch XVS(O) errors vs English Adv-V errors in French are investigated. However, here the focus lies on L1/L2 transfer into L3A in initial-state learners of French who were not yet receiving any syntactic input in the target language. This study describes the results of a comprehension task and a (guided) production task. The central question in this chapter concerns the role of the background languages L1 Dutch and L2 English in L3 French learners in the initial stages of acquisition. Chapter 5 describes the findings of a cross-sectional guided production study in which the focus is only on the influence of L2 English on L3 French. The goal of the study is twofold because both the effect of L2 exposure and of L2 proficiency on the role of English as an L2 are studied. To this end, English Adv-V word order in French is investigated in two stages of cross-sectional development, viz. in first- and in third-year bilingual stream and mainstream students. Additionally, the correlation between the third-year students’ English proficiency and the role of English in French is measured. The central questions in this chapter are: 1) To what extent does transfer from L2 English
into L3 French differ between first-year bilingual stream students and third-year bilingual stream students? and 2) To what extent does L2 English proficiency affect L2 English transfer into L3 French? Chapter 6 presents the results from a longitudinal study. We report on the findings of a study in which L1/L2 influence in L3 French learning is tested in the same students three times in the first two years of the bilingual stream programme. This study describes the results of a comprehension and a guided production task and aims to shed more light on when the background languages Dutch and English are used in the same students at three different stages of L3 development. The question central to this chapter is: How does the influence of the background languages (L1 and L2) develop over time in the learning process? In Chapter 7, the number of (English) Adv-V errors are compared in two different L3s – French and German – with a guided production and a comprehension task. The findings reported in Chapter 2 are compared to new data on third-year bilingual stream German students. Here the focus lies on the extent to which language combinations are decisive for L1/L2 transfer into L3A. The research question addressed in Chapter 3 is: To what extent does L2 English play a role in L3 German similar to the one it plays in L3 French?

In Chapter 8, the dissertation concludes with a discussion on the findings on the basis of the three perspectives and in light of the existing L3 models. Furthermore, possible directions for future research and implications for foreign language teaching are addressed.
Chapter 2

L1 Dutch and L2 English transfer in third-year bilingual stream and mainstream students

Abstract

In this chapter, the L2 status factor hypothesis (Bardel & Falk, 2007) is tested by examining to what extent Dutch secondary school students (13–15 years) prefer L2 English over L1 Dutch in L3 French acquisition, and the influence of L2 education is studied by comparing a Dutch/English bilingual stream curriculum to a mainstream Dutch curriculum. We investigate verb placement in declarative root clauses, viz. V-to-T movement, where the finite verb moves to T in French but not in English and V-to-C movement, in which case the V2 rule applies in Dutch but not in French. Data are presented from a grammaticality judgement task. The results indicate that in the bilingual stream group there is significantly more influence from English than from Dutch. In the mainstream group, the L1 and the L2 are both important sources of transfer.

2.1. Introduction

In the Netherlands, English is ubiquitous in everyday life as an L2 (second language) and as a result an increasing number of primary schools and secondary schools offer an English-based bilingual stream programme (Nuffic, 2019). The increasing importance of English in society could have an effect on how third foreign languages are learned. Since most schools offer French at secondary school level it would be interesting to investigate to what extent the acquisition of French is affected by the status of English in the Netherlands and how L2 bilingual stream education affects third

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(language acquisition (L3A). The effect of the L2 on L3A is an important topic in the field of language acquisition. L3 learning entails a complexity that is not observed in L2 acquisition since transfer can take place both between the L1 and the L3 and between the L2 and the L3. Over the last decades, there has been increasing interest in L1 and L2 transfer in L3A. Several studies indicate that transfer from both background languages plays a role in L3A depending on factors such as typological resemblances (Rothman, 2010, 2011, 2013, 2015), L2 status (Hammarberg, 2001; Bardel & Falk, 2007, 2012; Falk & Bardel, 2011), amount of exposure (Tremblay, 2006), L2 proficiency (Tremblay, 2006; Hammarberg, 2009; Jaensch, 2009a, 2009b), L2 education (Thomas, 1988), and bilingual stream education (Sánchez, 2015b). However, since the studies devoted to learning an L3 show divergent results, more empirical research is needed.

In this chapter, we test one of the theories proposed in the literature to account for L3A, the L2 status factor hypothesis, and we investigate how L2 education affects the role of the L2 as a background language. We hypothesise that L2 bilingual stream education furthers the role of English in L3A. Therefore, we examine if and to what extent learning English in bilingual stream secondary education increases its role as a background language in L3A. The present study was conducted on 27 third-year Dutch secondary school students (13–15 years) who are intermediate L3 French learners. The students are divided into two groups: one group is enrolled in an English bilingual stream programme where more than 50% of the subjects are taught in English, and the other group is enrolled in the mainstream programme where students receive three hours a week of English as a school subject, and receive therefore less L2 exposure in the school context. We look at two verb placement constructions, one where French differs from Dutch and one where it differs from English. We investigate the role of L2 English and L1 Dutch by means of a grammaticality judgement task.

2.2. Transfer and current L3A research
Kellerman (1977, 1979) describes transfer as a psychological process whereby the learner (consciously or not) uses native language features in the target language. In L3A, possible transfer can occur from both previously acquired languages (the L1 and the L2). Transfer can be positive, leading to target-like production, or negative, leading to errors in the target language.
In current L3A research, several L3 models have been postulated predicting negative and/or positive transfer and conducted on initial state and/or intermediate L3 learners. Amongst the most influential ones are (1) Rothman’s Typological Primacy Model ([TPM] Rothman, 2010, 2011, 2013, 2015) proposing that positive/negative language transfer from the L1/L2 is an unconscious process and depends on (perceived) typological similarity: the learner transfers in the initial state the full grammar of the language that is perceived to be the most appropriate one to transfer into the L3; (2) the Cumulative Enhancement Model ([CEM] Flynn et al., 2004), claiming that transfer from both previously learned languages can occur when it is facilitative to L3 acquisition and (3), the L2 status factor hypothesis, postulated for both initial state and intermediate learners, claiming that the L2 is the preferred source of positive/negative transfer in L3 acquisition because of the shared foreign language status between the L2 and the L3.

2.2.1. The L2 status factor hypothesis at a morphosyntactic level
Bardel and Falk (2007) and Falk and Bardel (2011) investigated the role of the L2 in L3 acquisition at a morphosyntactic level. In a study amongst initial state learners on verbal negation with L2 Dutch/German/English, and L3 Swedish/Dutch, Bardel and Falk (2007) found that syntactic structures are more easily transferred from the L2 than from the L1. In a study amongst intermediate L3 German learners on object placement with L1 French, L2 English or L1 English, L2 French, Falk and Bardel (2011) found that the L2 is more important than the L1 as a source of both negative and positive transfer.

The present study focuses on the L2 status factor hypothesis since this is the most suitable existing L3 model for this research: we concentrate on negative transfer from L2 English in L3 French acquisition, and we test intermediate French learners. The French learners have already received a considerable amount of exposure in French. In order to avoid the possibility that target-like production is the result of the learner already knowing the L3 feature, we only look at negative transfer.

2.2.2. The role of L2 education in L3 acquisition
Several studies point out that knowing a second language in general increases cognitive abilities such as metalinguistic awareness and communicative strategies (Thomas, 1988; Hammarberg, 2009; Forsyth,
Furthermore, the way in which the L2 is learned can also affect its role as a background language in L3A. Hammarberg (2009) points out that acquisition and use in a natural learning environment furthers L2 transfer because of the automatized use and frequent exposure and output of the L2. In addition to the learning environment in which the learners’ L2 is very present, Hammarberg (2009) also suggests that a greater and more current knowledge of the L2 furthers its influence in L3A. Thomas (1988) on the other hand proposes that formal training in the L2 increases the positive effect of bilingualism on L3A. Learning the L2 in a formal context may have an impact on grammatical sensitivity developing students’ metalinguistic awareness. According to Forsyth (2014), however, bilingualism does not necessarily facilitate language learning: it may also result in errors triggered by L2 transfer.

2.3. Design of this study
2.3.1. Research questions
The study presented in this chapter tests the L2 status factor hypothesis by examining to what extent L2 English is more important than L1 Dutch in L3 French acquisition. To learn more about the role of L2 education in L3 acquisition, we explore Hammarberg’s (2009) hypothesis according to which the L2 is furthered when it is learned in a natural learning environment. However, in this case the natural learning environment is a bilingual stream context, where the L2 is also very present and learned in a more implicit way.

We conducted our experiment amongst third-year secondary school students at a partially bilingual Dutch secondary school in the Netherlands, where students can opt for a bilingual stream curriculum, the Middle Years Programme (MYP) of the International Baccalaureate (IBO, 2019), or a mainstream Dutch secondary school curriculum (VWO). The MYP is a four-year programme and gives the students access to the fifth year of the VWO. The teaching of L2 English differs in these two tracks. In the mainstream curriculum, students receive three hours a week of English as a school subject. In the MYP bilingual stream programme students learn English mainly in an implicit way, that is by using the language a lot in the daily school practice. Moreover, at least 50% of the subjects are taught in English, meaning that the bilingual stream students receive a lot more exposure in English and use English to a greater extent.
To test the L2 status factor hypothesis and to learn more about the role of L2 bilingual stream education, we hypothesise that the L2 is the preferred background language in L3A and that L2 bilingual stream education furthers its role as a background language. We formulated the following research questions:

1. Is L2 English a more important background language than L1 Dutch in L3 French acquisition?

2. To what extent does bilingual stream education affect L2 English as a background language in L3 French acquisition?

2.3.2. Participants

On the basis of background questionnaires containing language-related details and on the basis of an English gap-filling task (addressed in more detail in Section 2.3.5.2), we selected 27 third-year students (13–15 years) of whom 16 were enrolled in the bilingual MYP curriculum and 11 were enrolled in the mainstream VWO curriculum. All bilinguals or students who had lived outside of the Netherlands were excluded from the tests. The students were intermediate French learners and received the same amount of exposure in French according to the school curriculum.2

2.3.3. Finite verb movement in Dutch, English and French

In this section, we describe the grammatical constructions that are relevant to this study. Examining negative transfer, we will look at two word order structures where French differs from English or from Dutch. We will concentrate on (1) declarative root sentences containing manner/frequency adverbs or a floating quantifier where the finite verb moves to T in French and Dutch but does not do so in English, and we also look at (2) declarative root sentences with sentence-initial adverbs where the finite verb in Dutch moves to C (the so-called V2 rule) (Den Besten, 1983) but not in French and English, resulting in V3 word order in these languages.

In English clauses, there is no finite verb movement to T with the effect that an adverb appears pre-verbally (Adv-V word order) (Pollock,

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2 First- and third-year students receive three hours a week of French as a school subject, and second-year students receive two hours a week. The same textbooks and the same achievement levels are used in both tracks.
This situation contrasts with that in French, where the finite verb does move to T, leading the adverb to appear post-verbally (V-Adv word order). As a result, the surface structure of English differs in this respect from French, as illustrated in (1). In a second language acquisition study, White (1991) showed that ‘no V-to-T’ in English is difficult to acquire for L2 learners having French as their L1.

\[
(1) \quad \text{Jean regarde souvent la télé.} \\
\quad \text{*John watches often television.}
\]

‘John often watches television.’

The second construction involves V-to-C movement (the so-called V2 rule) and applies in all Germanic languages except in English. In Dutch declarative root clauses, the finite verb always raises to the second position of the sentence (Den Besten, 1983) so that the finite verb is placed immediately after a sentence-initial adverbial phrase. In French there is no V-to-C movement in declarative root sentences, as illustrated in (2). For this study, we focus on clauses starting with a temporal and locative noun phrase or adverb.

\[
(2) \quad \text{Vandaag doet Manon haar examen.} \\
\quad \text{*Aujourd’hui passe Manon son examen.}
\]

‘Today Manon is taking her exams.’

The next table gives an overview of the differences in finite verb movement in Dutch, English, and French.

<table>
<thead>
<tr>
<th>Verb movement</th>
<th>Dutch</th>
<th>French</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-to-T movement</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>V-to-C movement</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

---

3 Dutch and French share the same surface structure in this case: in both cases the verb moves from V to T, nevertheless, in Dutch this is followed by movement from V to C (Den Besten, 1983).
2.3.4. Predictions

Hypothesising that French L3 learners prefer L2 English over L1 Dutch as a background language and that the bilingual stream education furthers the role of L2 English in L3 acquisition, we make the following predictions with respect to the research questions formulated above:

Prediction 1a. Negative transfer from English to French in the case of (no) V-to-T movement, leading to the acceptance of the English word order in French in declarative root clauses such as *Jean souvent mange une pomme ‘John often eats an apple’ and the rejection of grammatical clauses such as Jean mange souvent une pomme.

Prediction 1b. No negative transfer from Dutch to French in the case of V-to-C movement, leading to the rejection of the Dutch word order in French in declarative root clauses such as *Aujourd’hui mange Jean une pomme and the acceptance of grammatical French sentences such as Aujourd’hui Jean mange une pomme ‘Today John is eating an apple’.

Prediction 2. Bilingual stream students (MYP) will accept the (ungrammatical) English word order more often than the mainstream students (VWO).

2.3.5. Method

We collected data using a grammaticality judgement task (GJT) testing receptive knowledge. We aimed at comparing similar constructions by selecting verb placement constructions in declarative root clauses, and we used test sentences with a low degree of difficulty.\(^4\) We also created an English gap-filling task (GFT) to control for the students’ knowledge of finite verb placement in English declarative root clauses. We tested during school hours, to ensure that the students were sufficiently motivated. We emphasised that concentration is essential and gave explicit instructions so that the students could carry out the task in as automatic a fashion as possible.

\(^4\) We used vocabulary from the curriculum and handed out a vocabulary list beforehand.
possible. We gave the session an official and important character by using an exam set-up in the classroom and by serving drinks.

2.3.5.1. The GJT. The GJT contains 45 French test sentences: 14 items testing V-to-T movement, 14 items testing V-to-C movement and 17 fillers to check whether the students took the test seriously and to distract them from the constructions being tested. It was a forced choice task: the students had to decide whether they accepted a sentence by marking it as correct (c) or incorrect (i). Since we were only looking at negative transfer, we concentrated on the number of wrong answers. For a complete overview of all the items in the GJT, see Appendix A.2.

Examples from the GJT:

(3) Jean mange souvent une pomme. c / i
*Manon souvent mange une pomme. c / i
‘Manon often eats an apple.’

(4) Aujourd’hui Jean mange une pomme. c / i
*Aujourd’hui mange Jean une pomme. c / i
‘Today Jean is eating an apple.’

In the case of ‘no V-to-T’ (transfer from English), the students got a ‘miss’ accepting a sentence such as *Jean souvent mange une pomme or rejecting Jean mange souvent une pomme. In the case of V-to-C (transfer from Dutch), the students got a ‘miss’ accepting sentences such as *Aujourd’hui mange Jean une pomme or rejecting Aujourd’hui Jean mange une pomme. The distractors were simple SVO sentences with a subject, a finite verb, and a direct and/or indirect object such as Mes parents aiment le café, ‘My parents like coffee’, of which 9 were grammatical and 8 ungrammatical.

2.3.5.2. The English GFT. Knowledge of the lack of V-to-T movement in English was an absolute necessity for the students to be taken into account, because if they do not know the (correct) English word order, this order is not expected to influence their L3 French. We used an English GFT with a simple vocabulary so that the student could focus on the verb placement. The test contained 24 items (8 testing V-to-T movement and 16 fillers). We used twice as many fillers as test items because it was a very simple test and
we wanted to avoid the students becoming aware of what we were testing. The students were excluded if they answered more than 3 of the 8 V-to-T items incorrectly. Only two students from the mainstream group were excluded. All the items for this task can be found in Appendix A.7.

Example from the English GFT:
(5) John…………… sometimes …………… to the cinema.  goes ‘John sometimes goes to the cinema.’

2.4. Results
In this section we give an overview of the results. In Section 2.4.1, we report the results within both groups of the examined constructions: V-to-T and V-to-C movement. In Section 2.4.2, we compare the mainstream students to the bilingual stream students. Before conducting statistical tests in SPSS, all data were controlled for normality of distribution using the Shapiro–Wilk test. All variables were normally distributed.

2.4.1. Comparing V-to-T to V-to-C movement
Table 2.2 shows the results from the bilingual stream group and the mainstream group reporting data from 16 bilingual stream students and 11 mainstream students.

<table>
<thead>
<tr>
<th>Y3 students</th>
<th>N.</th>
<th>V-to-T misses (SD)</th>
<th>Mean V-to-T misses (SD)</th>
<th>V-to-C misses (SD)</th>
<th>Mean V-to-C misses (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilingual</td>
<td>16</td>
<td>95/224 (42.4%)</td>
<td>5.95 (2.24)</td>
<td>55/224 (24.6%)</td>
<td>3.44 (1.79)</td>
</tr>
<tr>
<td>mainstream</td>
<td>11</td>
<td>53/154 (34.4%)</td>
<td>4.82 (2.82)</td>
<td>65/154 (37%)</td>
<td>5.18 (2.23)</td>
</tr>
</tbody>
</table>

The bilingual stream students misjudged the (no-)V-to-T items in 42.2% of the cases. In 24.6% of the cases, they misjudged the V-to-C items.5 The

5 In case of doubt, students tend to opt for ‘correct’. Since the percentage of ‘correct’ answers of all 45 items of each individual test was 57.6% (415/720) in the bilingual stream group, and 54.1% (268/495) in the mainstream group, and since hits were not
Paired-Samples T-test conducted on the results showed that the performance of the bilingual stream group with respect to the V-to-T movement construction was significantly different from the results of the V-to-C movement construction ($t=3.250$, df=15, $p=0.005$). However, the mainstream group misjudged 34.4% of all (no-)V-to-T items and 37% of all V-to-C items (Paired-Samples T-test, $t=-.339$, df=10, $p=0.742$), a difference that is not significant.

2.4.2. Comparing bilingual stream to mainstream students

In this section we compare the behaviour of bilingual stream students to mainstream students by means of diagrams. Figure 2.1 shows the misses in the V-to-T movement construction and Figure 2.2 shows the misses in the V-to-C movement construction in the bilingual stream and the mainstream group.

We see in Figure 2.1 that the bilingual stream students misjudge the V-to-T movement construction more often than the mainstream students (in 42.4% vs 34.4% of the cases respectively). The Independent-Samples T-Test showed that this difference is not significant ($t=1.149$, df=25, $p=0.261$). Figure 2.2 shows that the mainstream students made more mistakes in the V-to-C movement construction than the bilingual stream students (in 37% vs 24.6% of the cases respectively). The Independent-Samples T-Test demonstrated that this difference is significant ($t=-2.254$, df=25, $p=0.033$).

necessarily related to ‘correct’, the influence of the so-called ‘yes bias’ is minimal in this test.
Figure 2.1. Results of V-to-T errors in bilingual stream and mainstream third-year students.

Figure 2.2. Results of V-to-C errors in bilingual stream and mainstream third-year students.
2.4.3. **Summary of the results**
Here we present a summary of the results:

- The bilingual stream students misjudged (no) V-to-T movement significantly more often than V-to-C movement.
- The mainstream students misjudged slightly more often V-to-C movement than (no) V-to-T movement. The difference is not significant.
- The bilingual stream students misjudged (no) V-to-T movement more often than the mainstream students. The difference is not significant.
- The mainstream students misjudged V-to-C movement significantly more often than bilingual stream students.

2.5. **Discussion**

2.5.1. *L2 English in L3 acquisition*
The first aim of this study was to test the L2 status factor hypothesis at a syntactic level, concentrating on verb placement in declarative root clauses in L3 French in the Netherlands, a country where English is very present. In Section 2.3.4, we predicted:

- Negative transfer from English to French in the case of (no) V-to-T movement.
- No negative transfer from Dutch to French in the case of V-to-C movement.

We found partial support for the L2 status factor hypothesis since the results show significantly more transfer from L2 English than from L1 Dutch in the bilingual stream group. However, the mainstream students made slightly more mistakes by transfer from Dutch than from English.

2.5.2. *L2 education in L3 acquisition*
To learn more about the role of L2 education, we predicted that bilingual stream students would accept the (ungrammatical) English word order more often than the mainstream students. A comparison between groups revealed that the bilingual stream students show more transfer from English than the mainstream students, but this difference is not significant. However, on the basis of a comparison between the two constructions, we only found support
for the L2 status factor hypothesis in the bilingual stream group meaning that in the bilingual group there is more transfer from the L2 compared to the L1 in accordance with Hammarberg’s hypothesis (2009), stating that learning the L2 in a natural learning environment and therefore receiving more exposure furthers its role as a background language. We might find an explanation for the discrepancy between the results within groups and the results between constructions in the role of the L1. Whereas the L2 is an important background language in both groups, the role of L1 Dutch is significantly stronger in the mainstream group than in the bilingual stream group. It could be the case that whereas the L2 is present in both tracks, the role of the L1 in the bilingual stream programme is suppressed by the L2 as being ‘non-foreign’ (cf. Hammarberg, 2001).

The fact that mainstream students also make mistakes based on English might be due to the fact that English is ubiquitous in everyday life in the Netherlands. The stronger role of L1 Dutch in the mainstream group compared to the bilingual stream group could be attributed to the smaller amount of L2 English exposure or to the larger amount of L1 Dutch exposure. It could also be the case that the mainstream students have not overcome the effect of the L1 Dutch V2 rule and thus experience more difficulties accepting the V3 structure in L3 French.

2.5.3. Analysing the results in light of other L3 theories
Our results support the L2 status factor hypothesis, but only in the bilingual stream programme. Would other L3 theories be able to better account for our results? In section 2 we presented two other L3 theories. The Typological Primacy Model (e.g. Rothman, 2015), claiming full transfer of the grammar based on perceived similarity at the initial state, cannot say anything about our findings since 1) we tested intermediate students (whereas the model applies to beginners) and 2) French, as a Romance language, is typologically related to neither English nor Dutch, which are Germanic languages and consequently no influence from neither L1 nor L2 would be predicted.

The Cumulative Enhancement Model (Flynn et al., 2004) hypothesises that L3 learners transfer from L1 and/or L2 if this is facilitative. Since our learners are not initial state learners, it might be that the correct use of a structure is not due to positive transfer, but simply to the L3 structure having been acquired. If we assume, however, that the correct use of a structure in L3 French is due to positive transfer, then the model can
explain our results, because in both constructions and in both groups the percentage of correct answers is higher than the percentage of ‘misses’.

Another, recent, model, the Linguistic Proximity Model (LPM), proposed by Mykhaylyk et al. (2015) and Westergaard et al. (2016), might also account for the results. According to the LPM, transfer into L3 acquisition occurs when a certain linguistic property receives supporting evidence from previous learned languages (either the L1 or the L2). The higher percentage of correct answers for the V-to-T construction in French would thus be due to positive transfer from Dutch, and the higher percentage of correct answers for the ‘no V-to-C’ construction in French would thus be due to positive transfer from English. Although this model can account for our results, it would have to be explained why in the bilingual stream group the percentage of positive transfer from Dutch in the V-to-T construction (57.6%) is relatively low and the percentage of ‘misses’ is relatively high (43.4%).

2.6. Conclusion

In this study, comparing V-to-T to V-to-C, we found partial support for our first hypothesis based on the L2 status factor hypothesis, i.e. there seems to be significantly more negative influence from L2 English than from L1 Dutch in the bilingual stream group where students receive more L2 exposure. Comparing groups, we saw that there is more negative influence from L2 English in the bilingual stream group than in the mainstream group. This difference is not significant, probably because the L2 is also an important source of transfer in the mainstream group. This might be due to the fact that the mainstream students are also surrounded by English in everyday life. However, we found indirect support for our second hypothesis concerning the influence of education, more specifically a natural learning environment, on L2 transfer into L3 French: the role of L1 Dutch is significantly stronger in the mainstream group as compared to the bilingual stream group. This could be attributed to the stronger role of L1 Dutch in mainstream education or to less exposure of L2 English. It could also mean that the L2 blocks the L1 in the bilingual stream group. In future research, we plan to look at developmental patterns by comparing the results to first year (initial state) learners. This is exactly what we do in Chapter 5.
Chapter 3

L1 Dutch and L2 English transfer in third- and fourth-year bilingual stream and mainstream students: A comparative look

Abstract

In this chapter, we test the L2 status factor hypothesis (Bardel & Falk, 2007), which claims that the L2 is the preferred background language over the L1 in L3 acquisition, and we investigate the effect of L2 English exposure on the role of the L1 and the L2 in L3A. We examine how increased developmental L2 exposure changes L1/L2 influence in L3A by comparing third- to fourth-year Dutch secondary school students who are enrolled in either a bilingual stream or a traditional mainstream secondary school programme. We look at two verb placement constructions in which case French differs from English or from Dutch. We report data from a grammaticality judgement task.

3.1. Introduction

In this chapter, we investigate to what extent the amount of L2 English exposure affects the role of the L1 and the L2 as sources of transfer in the acquisition of a third, Romance language. The aim is to contribute to the L3A debate by investigating the role of two Germanic languages (L1 Dutch and L2 English) in the acquisition of a Romance target language (L3 French) at a morphosyntactic level. L3A is a complex field of research because both the L1 and the L2 are possible sources of transfer into the L3 and there are various supplementary factors that can interfere in the transfer process, such

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as L2 metalinguistic knowledge (Thomas, 1988), L2 proficiency (Jaensch, 2009a, 2009b) and L2 exposure (Tremblay, 2006). There is an extensive literature on L3 modelling proposing that transfer primarily depends on 1) (perceived) typological resemblances (Rothman, 2010, 2011, 2013, 2015), on 2) the special status of L2 (Bardel & Falk, 2007, 2012; Falk & Bardel, 2011) or on 3) the facilitating nature of transfer (Flynn et al., 2004). However, since the studies on L3A show divergent results, more empirical research is needed to test these different models and interfering factors.

We focus in this chapter on the influence of the L2 on L3A by further exploring the L2 status factor hypothesis according to which the L2 is the preferred source of transfer over the L1 in L3A (Bardel & Falk, 2007, 2012; Falk & Bardel, 2011). We build on Chapter 2, in which we examined the L2 effect on L3 French by comparing L2 English bilingual stream education to Dutch mainstream education, only finding support for the L2 status factor hypothesis in the bilingual stream group, where students receive more L2 exposure. Since the L2 status factor hypothesis was partially confirmed in Y3 students (13–15 years), viz. in the bilingual stream group, we could state that L2 education and, related to that, L2 exposure influence the role of the L2 as a background language.

Now, it is interesting to raise the question to what extent the role of the L2 is stable or develops through the years when the mainstream students have also received more L2 exposure. Therefore, we collected data from 23 Y4 students (14–16 years), of whom 12 were enrolled in the bilingual stream programme and of whom 11 were enrolled in the mainstream programme, and we compare the results of the Y4 students to the results of the Y3 students from Chapter 2. We used the same structures and test as in Chapter 2. We investigate verb placement in declarative root sentences by examining two grammatical structures where French differs from English or from Dutch. We concentrate (1) on declarative root sentences containing manner/frequency adverbs or a floating quantifier where the finite verb moves to T in French but not in English, such as in *Thomas mange souvent une pomme (*Thomas eats often an apple) and (2) on declarative root sentences where the finite verb does not move to C in French but does so in Dutch, as in *Aujourd’hui mange Thomas une pomme (Vandaag eet Thomas een appel ‘Today Thomas eats an apple’). This rule in Dutch (and in other Germanic languages except for English) is often referred to as the V2 rule. We collected data using a grammaticality judgement task.
Chapter 3

This chapter is organized as follows. In Section 3.2 we present some theoretical background to our study. This is followed by our research questions and methodology, which are set out in Section 3.3. Our results are reported in Section 3.4 and discussed in Section 3.5. The chapter ends with some concluding remarks in Section 3.6.

3.2. Background of this study

3.2.1. Studies on the L2 status at a morphosyntactic level

The L2 status factor hypothesis was firstly postulated at a morphosyntactic level by Bardel and Falk (2007) and Falk and Bardel (2011), who performed several studies that supported the claim that the L2 is more important than the L1 in L3 acquisition. In a study from 2007 on initial state L3 Swedish/L3 Dutch learners with different L2’s (Dutch, German or English), Bardel and Falk found that in the acquisition of verbal negation, L3 learners prefer the L2 over the L1. In a second study amongst intermediate learners (Falk & Bardel, 2011) on object placement in L3 German (L1 French/L2 English or L1 English/L2 French) they also found evidence for the L2 status factor hypothesis. Other support on a morphosyntactic level came from a study conducted by Rast (2010), who explored the influence of the L2 by testing French learners of L3 Polish with different L2s. She studied the placement of clausal negation with respect to the verb and found evidence for the L2 being an important background language: L3 Polish learners did not place the negation pre-verbally, as in Polish, but placed the negation in a variety of positions based on the placement in the L2s, indicating that the L2 plays a decisive role. Bohnacker (2005) also found support for L2 influence in L3A. In a study on the acquisition of the V2 rule in main causes amongst initial state and intermediate learners, she found that German (+V2) learners of L3 Swedish (+V2) who learned English (non-V2) as an L2 had more difficulties acquiring the V2 rule than German learners of Swedish who did not speak English, suggesting that the knowledge of a non-V2 language as an L2 causes negative transfer, which makes it harder to learn this rule in the L3.

3.2.2. The role of L2 exposure in L3A

With respect to the influence of interacting L2 factors like L2 proficiency and, related to that, L2 exposure and L2 frequency of use, there is limited understanding on how they affect L3 learning since, according to De Angelis (2007), few experimental studies analyse these L2 factors as a central
variable, and it is a complex subfield of study because there is a lot of individual variation in the L2 learners (to a much greater extent than in L1 acquisition). However, there has been some research on the influence of L2 proficiency and L2 input. Hammarberg (2009) states that L2 influence is favoured if the learner has a high level of competence in the L2 and if there is frequent input and output, which is the case if the acquisition of the L2 takes place in a natural learning environment. In a study on lexical transfer amongst L2 learners with a low to intermediate L2 proficiency, Tremblay (2006) found that L2 exposure has a positive effect on the learners’ ability to overcome difficulties in L3 learning. She tested English students who learned French as an L2 and who were enrolled in their second- or third-year university level of L3 German. In this study, Tremblay distinguished between L2 exposure (based on information obtained using a questionnaire) and L2 proficiency (based on a French proficiency test). Jaensch (2009a, 2009b) found in several studies, for instance on the use of the article and on grammatical gender acquisition in L3 German (L1 Japanese and L2 English), that L2 proficiency has an effect on the selection of L2 features in the L3.

Since in a previous study conducted on Y3 students (Chapter 2) we found support for the L2 status factor hypothesis in the bilingual stream programme only, here we further explore the L2 status factor hypothesis by investigating how more generally L2 exposure influences transfer from L2. Does L2 exposure only further the role of the L2 when learned in a natural learning environment (in this case school immersion) or can the importance of L2 exposure also be related to the number of years of study, in a secondary school context, as in the mainstream programme?

### 3.3. Design of this study

In Section 3.3.1, we present the research questions and the hypotheses. In Section 3.3.2, we describe the learning context, which involves the school system and the teaching method used for the school subjects English and French. In Section 3.3.3 we present the tested constructions, followed by the testing procedure in Section 3.3.4.
3.3.1. **Research questions and hypotheses**

We formulated the following research questions. Comparing Y3 to Y4 students, is there a difference:

1. in the role of L2 English versus L1 Dutch?

2. in the role of a bilingual stream programme vs a mainstream programme?

With respect to the developmental status of the background languages, we expect that more L2 exposure makes the L2 a more important source of transfer (Tremblay, 2006; Hammarberg, 2009). This leads us to hypothesize that:

a. we will again find support for the L2 status factor hypothesis in the Y4 bilingual stream group.

b. we will also find support for the L2 status factor hypothesis in the mainstream Y4 group because the students received more L2 exposure than the mainstream Y3 students.

c. we will find more negative transfer from L2 English and less influence from L1 Dutch in the bilingual stream Y4 group than in the bilingual stream Y3 group.

d. we will find more negative transfer from L2 English and less influence from L1 Dutch in the mainstream Y4 group than in the mainstream Y3 group.

e. we will again find more negative transfer from L2 English and less influence from L1 Dutch in the Y4 bilingual stream group than in the Y4 mainstream group.

3.3.2. **Learning context of the participants**

We collected the third-year and fourth-year data at a partially bilingual Dutch secondary school in Laren, where students can either opt for the MYP, an English bilingual stream educational programme (IBO, 2019), or the VWO, a mainstream Dutch school curriculum. The VWO is the preparatory programme for University. The MYP is a four-year programme with a level comparable to the VWO. The bilingual stream students receive
at least 50% of their subjects in English. Since a majority of the classes are taught in English, it is a form of bilingual education: the students learn English mainly by using English. English as a school subject in the bilingual stream classes differs: in the first two years of the bilingual stream programme, English is taught as a foreign language with a focus on implicit learning. In third- and fourth-year students, the subject English is called ‘Language and Literature’ and is taught as an L1. Concerning the teaching method for L2 English in the mainstream programme, the students receive three hours a week of English as a school subject. The target language is English, and focus on form and explicit grammar explanation are more important than in the bilingual stream. The French curriculum is the same in both tracks. The acquisition of French is formal and mainly takes place in the school context. The students receive three hours a week of French, except for the second-year students, who receive two hours a week. It must also be mentioned that English is ubiquitous in daily life in the Netherlands. Television and movies are subtitled rather than dubbed, and most of the music broadcast on the radio is in English. In this way Y4 students also have had more L2 exposure than their younger Y3 counterparts.

All participants were native speakers of Dutch learning English as an L2 and French as an L3. The Y4 students were between 14 and 16 years old, and the Y3 students were between 13 and 15 years old. We collected data from 16 Y3 and 12 Y4 students enrolled in the bilingual stream programme and 11 Y3 and 11 Y4 students enrolled in the mainstream programme. We asked the students to fill in a personal questionnaire about their language background. We excluded bilingual participants and participants who had lived abroad.

3.3.3. Finite verb movement in Dutch, English and French

In order to study the influence of L1 Dutch and L2 English on L3 French, we look at two different grammatical structures where French differs from Dutch or English. In declarative root sentences containing manner/frequency

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2 Students start their closing programme in year 4, in which they start preparing themselves for the Dutch school exams in year 6. Therefore, the percentage of courses in English in Y3 students is 58%, and in Y4 students, it is around 48% depending on the set of courses selected.

3 A ‘school year’ consists of 39 weeks (breaks, test weeks and school trips not included).
adverbs and quantifiers, the word orders in French and English differ. In English clauses there is no V-to-T movement over the adverb which results in an Adv-V word order, as illustrated in (1). In French clauses, the finite verb does move to T, leading to a post-verbal position of the adverb (V-Adv word order), as shown in (2) (Pollock, 1989).4

(1) Manon sometimes goes to the zoo.
   *Manon parfois va au zoo.
   ‘Manon sometimes goes to the zoo.’

(2) Manon va parfois au zoo.
   *Manon goes sometimes to the zoo.
   ‘Manon sometimes goes to the zoo.’

In Dutch declarative root clauses, the finite verb is always raised to C, the second position of the clause (the so-called V2 rule) (Den Besten, 1983). The finite verb is placed immediately after a sentence-initial adverbial phrase and the subject is in postverbal position. For this study we used clauses starting with a temporal or locative adverbial noun phrase or adverb.

(3) Vandaag gaat Thomas naar Parijs.
   *Aujourd’hui va Thomas à Paris.
   Aujourd’hui Thomas va à Paris.
   ‘Today Thomas goes to Paris.’

3.3.4. Predictions. Considering the tested constructions and on the basis of the L2 status factor hypothesis, we make the following predictions with respect to the hypotheses formulated above:

Prediction 1. Both the Y4 bilingual stream and the Y4 mainstream students will show more negative transfer from English in the case of V-to-T movement than negative transfer from Dutch in the case of V-to-C movement.

Prediction 2. Y4 mainstream students will show more negative

---

4 Dutch and French share the same surface structure in this case: in both cases the verb moves from V to T. Nevertheless, in Dutch this is followed by movement from V to C (Den Besten, 1983).
transfer from English in the case of V-to-T movement than negative transfer from Dutch in the case of V-to-C movement than the Y3 mainstream students.

Prediction 3. Y4 bilingual stream students will show more negative transfer from English in the case of V-to-T movement and less negative transfer from Dutch in the case of V-to-C movement than the Y3 bilingual stream students.

Prediction 4. Both Y3 and Y4 bilingual stream students will show more negative transfer from English in the case of V-to-T movement and less negative transfer from Dutch in the case of V-to-C movement than the mainstream students.

3.3.5. Data collection
To elicit information about the students’ use of Dutch and English in French, we used an offline grammaticality judgement task (GJT). We opted for the GJT, so as to be able to assess the students’ reactions to sentence types that do not normally occur in their own use of the language and to obtain reactions on constructions that are not grammatically correct in the target language. The goal of the GJT is to learn more about the students’ grammatical competence, in this case the (subconscious) knowledge of the linguistic rules that constitute the internal grammar of French (Tremblay, 2005). The students had to indicate whether they judged a sentence grammatical or ungrammatical by marking each test sentence either correct (c) or incorrect (i) [forced choice]. Since we are only looking at negative transfer we only took into account the number of ‘wrong answers’. We counted as a ‘wrong answer’ the judgement of an incorrect sentence as ‘correct’, or conversely the judgement of a correct sentence as ‘incorrect’. This means that in the case of ‘no V-to-T’ (possible transfer from English), we counted as a ‘wrong answer’ the acceptance of incorrect sentences such as *Manon parfois va au Zoo or the rejection of the correct Manon va parfois au Zoo. In the case of V-to-C (possible transfer from Dutch), we counted as a ‘wrong answer’ the acceptance of incorrect sentences such as *Aujourd’hui va Thomas à Paris or the correct rejection of sentences such as
Chapter 3

_Aujourd'hui Thomas va à Paris._ Here below we present two examples from the GJT.

Examples from the GJT:

(4) Manon va parfois au Zoo. c / i *Manon parfois va au Zoo. c / i
    ‘Manon sometimes goes to the Zoo.’

(5) Aujourd’hui Thomas va à Paris. c / i *Aujourd’hui va Thomas à Paris. c / i
    ‘Today Thomas is going to Paris.’

In the tests there were 14 items for each of the constructions of which 7 were grammatical and 7 were ungrammatical. We used distractors to check whether the students had taken the test seriously. The distractors were simple constructions with a subject, a finite verb and a direct and/or indirect object that were known to the students, according to the curriculum. The full task is presented in Appendix A.2.

We decided to use an offline GJT because the students’ reaction time was not our main interest: instead, we did not want them to feel that they were under a lot of pressure. Nevertheless, we asked them not to hesitate too much and we emphasised that there were no ‘wrong’ answers. To make sure that the students were familiar with all the words in the test, we used vocabulary from the curriculum. We also handed out a vocabulary list beforehand for them to study and we provided the same vocabulary list during the test procedure. We checked the French curriculum to make sure that the students did not receive explicit instruction on the constructions being tested. We tested during school hours.

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5 In Y3, we also used an English gap-filling task to control for the students’ knowledge of ‘no V-to-T’ in English in sentences such as ‘John often eats an apple’ (see Appendix A.7.). All students who made ≥3 out of 8 errors were excluded from the data. Two students (only from the mainstream group) were excluded (see Chapter 2). Since in the Y3 the percentage was above 90%, we did not use the test in Y4.
3.4. Results
In this section we give an overview of the results. In Section 3.4.1 we first compare the results of the Y4 students with respect to V-to-T and V-to-C, which is followed by a comparison with the Y3 results reported in Chapter 2. In Section 3.4.2, we compare the results of the Y3 to the Y4 students, giving an overview of the data within and between groups.

3.4.1. Comparing V-to-T to V-to-C
In Section 3.4.1.1, we present the results of Y4 with respect to V-to-T and V-to-C within the bilingual stream and the mainstream group. In Section 3.4.1.2, we repeat the results of the Y3 students to be able to make a clear comparison between Y3 and Y4 in Section 3.4.2. We present the results in tables and diagrams. We controlled all data for normality with a Shapiro–Wilk test. The Y4 bilingual stream and mainstream V-to-C data were not distributed normally, and the samples were small. For these reasons, we used a non-parametric 2 related samples test in both years.

3.4.1.1. Comparing V-to-T to V-to-C: Y4. Table 3.1 and Figure 3.1 show that the Y4 bilingual stream students misjudged the V-to-T items in 32.7% of the cases. They misjudged the V-to-C items in 11.3% of the cases. In the mainstream Y4 group these percentages are 25.3% and 2.6% respectively. Table 3.1 (Y4) and Table 3.2 (Y3) show the mean numbers of errors in the tested items for each group and the standard deviation (SD) for each set of items to indicate the variation from the mean. In both groups, the students made significantly more V-to-T errors than V-to-C errors (in the bilingual Y4 group: \( Z = -2.810, p=0.005 \) and in the mainstream Y4 group: \( Z = -2.823, p=0.005 \)). The stars used in the diagrams indicate significant differences (*** (p < 0.001), ** (p < 0.01), * (p < 0.05)).

<table>
<thead>
<tr>
<th>Y4 students</th>
<th>N. of items (%)</th>
<th>Mean V-to-T misses (SD)</th>
<th>Mean V-to-C misses (SD)</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilingual</td>
<td>168 (32.7%)</td>
<td>4.58 (1.83)</td>
<td>19/168 (11.3%)</td>
<td>1.58 (1.98)</td>
</tr>
<tr>
<td>mainstream</td>
<td>154 (25.3%)</td>
<td>3.55 (1.92)</td>
<td>4/154 (2.6%)</td>
<td>0.36 (0.67)</td>
</tr>
</tbody>
</table>
3.4.1.2. Comparing V-to-T to V-to-C: Y3. In this section we repeat the Y3 results (see Chapter 2). Table 3.2 shows that the bilingual stream Y3 students misjudged the V-to-T items in 42.2% of the cases, whereas the mainstream Y3 students misjudged the V-to-T items in 34.4% of the cases. Concerning the V-to-C items these percentages are 24.6% and 37% respectively.\(^6\) The bilingual stream Y3 group made significantly more errors in V-to-T than in V-to-C (\(Z = -2.524, \ p=0.012\)). However, there is no significant difference in the mainstream Y3 group (\(Z = -.358, \ p=0.720\)).\(^7\)

\(^6\) The ‘yes bias’ is minimal in both Y3 and Y4. To calculate the percentage of ‘yes’ answers, we counted the total number of yesses out of all items (the distractors included). In the third year the percentages were 57.6% in the bilingual stream group, and 54.1% in the mainstream group, while in the fourth year the percentages were 50% and 43.1% respectively.

\(^7\)Although the Y3 data are normally distributed, we decided to use non-parametric tests in all groups in Chapter 3 because Y4 data were not normally distributed and the samples were quite small. Therefore, the statistics in Chapter 3 slightly differ from the statistics reported in Chapter 2. There are, however, no consequences for the statistical differences (\(p=0.012\) vs \(p=0.005\) in the bilingual group and \(p=0.720\) vs \(p=0.742\) in the mainstream group).
Table 3.2. Results of V-to-T and V-to-C constructions in Y3 bilingual and mainstream group.

<table>
<thead>
<tr>
<th>Y3 students</th>
<th>N. of items (%)</th>
<th>V-to-T misses Mean (SD)</th>
<th>V-to-C misses Mean (SD)</th>
<th>p = 0.012</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilingual</td>
<td>224 (42.4%)</td>
<td>95/224 5.94 (2.24)</td>
<td>55/224 (24.6%) 3.44 (1.79)</td>
<td></td>
</tr>
<tr>
<td>mainstream</td>
<td>154 (34.4%)</td>
<td>53/154 4.82 (2.82)</td>
<td>65/154 (37%) 5.18 (2.23)</td>
<td>p = 0.720</td>
</tr>
</tbody>
</table>

Figure 3.2. Results of V-to-T and V-to-C constructions in bilingual stream and mainstream Y3 students.

3.4.2. Comparing Y3 to Y4 and bilingual stream to mainstream
In this section, we show the same results as presented in the section above. However, we compare groups and not constructions to be able to learn more about the role of L2 exposure. We again concentrate on the V-to-T construction and on the V-to-C construction. Since not all variables were normally distributed and the number of participants is limited, we used the non-parametric Mann-Whitney U Test to establish whether the findings were significant.

Here below we present the results of V-to-T movement in Table 3.3 and Figure 3.3, and the results of V-to-C movement in Tables 3.4 and Figure 3.4.
### Table 3.3. Results of V-to-T in Y3 and Y4 students.

<table>
<thead>
<tr>
<th></th>
<th>Y3</th>
<th>Mean (SD)</th>
<th>Y4</th>
<th>Mean (SD)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilingual</td>
<td>95/224</td>
<td>5.94 (2.24)</td>
<td>55/168</td>
<td>4.58 (1.83)</td>
<td>0.099</td>
</tr>
<tr>
<td></td>
<td>(42.4%)</td>
<td></td>
<td>(32.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mainstream</td>
<td>53/154</td>
<td>4.82 (2.82)</td>
<td>39/154</td>
<td>3.55 (1.92)</td>
<td>0.272</td>
</tr>
<tr>
<td></td>
<td>(34.4%)</td>
<td></td>
<td>(25.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>0.222</td>
<td></td>
<td>0.168</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 3.4. Results of V-to-C in Y3 and Y4 students.

<table>
<thead>
<tr>
<th></th>
<th>Y3</th>
<th>Mean (SD)</th>
<th>Y4</th>
<th>Mean (SD)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilingual</td>
<td>55/224</td>
<td>3.44 (1.79)</td>
<td>19/168</td>
<td>1.58 (1.98)</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td>(24.6%)</td>
<td></td>
<td>(11.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mainstream</td>
<td>65/154</td>
<td>5.18 (2.23)</td>
<td>4/154</td>
<td>0.36 (0.50)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>(37%)</td>
<td></td>
<td>(2.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>0.043</td>
<td></td>
<td>0.129</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.3. Results of V-to-T construction in bilingual stream and mainstream Y3 and Y4 students.
3.4.2.1. Comparing Y3 to Y4 students. Concerning the V-to-T construction, Table 3.3 and Figure 3.3 show that the Y3 bilingual stream students misjudged the V-to-T items in 42.2% of the cases, whereas the Y4 bilingual stream students did so in 32.7% of the cases ($U = 61.00 \ z = \ -1.65, \ p=0.099$). In the mainstream group, these percentages are 34.4% and 25.3% respectively ($U = 44.00 \ z = \ -1.10, \ p=0.272$). In both cases the differences are not significant. With respect to the V-to-C construction (Table 3.4 and Figure 3.4), we see that in the bilingual stream group, the Y3 students misjudged 24.6% of the items, and the Y4 students misjudged 11.3% of the items. This difference is significant ($U = 46.50 \ z = \ -2.33, \ p=0.020$). The mainstream Y3 students misjudged the V-to-C items in 37% of the cases and the mainstream Y4 students in 2.6% of the cases. This difference is also significant ($U = .50 \ z = \ -4.05, \ p<0.001$).

3.4.2.2. Comparing bilingual stream to mainstream. Comparing the two educational systems in both years, we see in Table 3.3 and Figure 3.3 that both the Y3 and the Y4 bilingual stream students misjudged the V-to-T items more often than the mainstream students, viz. 42.4% vs 34.4% of the items for Y3 students and 32.7% vs 25.3% of the items for Y4, respectively. However, these differences are not significant in both years: in the Y3 group
(U = 63.50 z = –1.22, p=0.222) and in the Y4 group (U = 44.00 z = –1.38, p=0.168).

In the V-to-C construction (Table 3.4 and Figure 3.4), the Y4 bilingual stream students made errors in 11.3% of the cases and the mainstream students made errors in 2.6% of the cases. However, this difference is not significant (U = 41.50 z = –1.68, p=0.129). In Y3 students, it is the reverse: the mainstream Y3 students made errors in 37% of the cases, whereas the bilingual stream Y3 students made errors in 24.6% of the cases. This difference is significant (U = 47.50 z = –2.03, p=0.043).8

3.4.3. Summary of the results
Here we present a summary of the results.
Comparing (no) V-to-T to V-to-C:
• Both the Y4 bilingual stream and the Y4 mainstream students misjudged the V-to-T items significantly more often than the V-to-C items, viz. they accepted clauses like *Manon parfois va au zoo and rejected grammatical clauses like Manon va parfois au zoo more often than that they accepted *Aujourd’hui va Thomas à Paris or rejected clauses like Aujourd’hui Thomas va à Paris.
• The Y3 bilingual stream students misjudged the V-to-T items significantly more often than the V-to-C items. However, the Y3 mainstream students misjudged the V-to-C items slightly more often than the V-to-T items.

Comparing Y3 to Y4 students:
• The Y3 students misjudged the V-to-T movement items more often than the Y4 students. This holds for both the bilingual stream and the mainstream students. However, this difference is not significant. The Y4 students misjudged the V-to-C items significantly less often

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8 As already mentioned, the Y3 data are normally distributed. Nevertheless, we used non-parametric tests in Chapter 3 because the samples are small. Therefore, the statistics in Chapter 3 slightly differ from the statistics reported in Chapter 2. The differences do not have consequences for the statistical outcome. In the comparison between Y3 mainstream and Y3 bilingual stream students, the non-parametric test indicated p=0.043 (instead of p=0.033) with regards to the V-to-C errors and p=0.231(instead of p=0.222) with regards to the V-to-T errors.
than the Y3 students. This also holds for both the bilingual stream and the mainstream students.

Comparing bilingual stream to mainstream students:

- Both in Y4 and in Y3 students, the bilingual stream students misjudged V-to-T more often than the mainstream students, but the difference is not significant.
- The Y3 bilingual stream students misjudged V-to-C significantly less often than the Y3 mainstream students. However, the Y4 bilingual stream students misjudged V-to-C more often than the mainstream students, but the difference is not significant.

3.5. Discussion

In the present study, we concentrated on the role of L2 English in L3 French acquisition and especially on the effect of L2 exposure on L3A. Therefore, we tested the L2 status factor hypothesis amongst fourth-year secondary school students who were enrolled in either an L2 English bilingual stream programme or a more traditional mainstream L2 education and we compared these results to the findings of third-year students following the same educational programme reported in Chapter 2. To test the L2 status factor hypothesis, we compared V-to-T movement (possible influence from English) to V-to-C movement (possible influence from Dutch), expecting more negative transfer from English to French in the case of (no) V-to-T movement and less transfer from Dutch to French in the case of V-to-C movement.

In this study we examined the effect of L2 exposure in L3 French acquisition by comparing Y3 to Y4 secondary school students (RQ1).

We predicted that:

1. *both* the Y4 bilingual stream and the Y4 mainstream students would prefer L2 English over L1 Dutch as a background language in L3 acquisition.

We found support for the L2 status factor hypothesis in both Y4 groups: the results indicate that both the bilingual stream *and* the mainstream students made significantly more errors due to transfer from English than due to transfer from Dutch.

To examine the effect of L2 exposure, we compared Y3 (Chapter 2) to Y4 students, predicting that:
2. Y4 mainstream students would show more negative transfer from L2 English and less influence from L1 Dutch than the Y3 mainstream students.

3. Y4 bilingual stream students would show more negative transfer from English and less influence from L1 Dutch than the Y3 bilingual stream students.

Although our results showed that L2 English is an important source of transfer in Y4, the influence of L2 English in Y4 diminishes compared to Y3 in both tracks. However, the decrease is not significant. When we compare Y3 to Y4 with respect to the influence of L1 Dutch, we see that it decreases significantly in both groups, as expected. Although the role of English diminishes in Y4, the L2 status factor hypothesis is nevertheless supported. This is because the influence of Dutch diminishes significantly in Y4 as compared to Y3. The decreasing influence of both V-to-T and V-to-C in Y4 could be due to an increased L3 French proficiency in Y4, resulting in a more target-like behaviour.

RQ2 addressed the developmental differences with respect to the role of background languages when comparing L2 bilingual stream to mainstream education in both Y3 and Y4. We predicted that:

4. Bilingual stream Y3 and Y4 students would show more negative transfer from English in the case of V-to-T movement and less negative transfer from Dutch in the case of V-to-C movement than mainstream students.

As predicted, both the Y3 and the Y4 bilingual stream students were found to be more negatively influenced by the English word order than the mainstream students, although the differences are not significant. Concerning the influence of L1 Dutch, the results show that the Y4 bilingual stream students are slightly more influenced by Dutch than the mainstream students (not significant), which was not predicted. The Y4 mainstream students make hardly any errors based on transfer from Dutch, which means that they seem to have overcome the V2 rule in their L3. However, the Y3 mainstream students are significantly more influenced by Dutch word order than the Y3 bilingual stream students, as predicted. According to the L2 status factor hypothesis, the L1, being a non-foreign language, is suppressed by the L2. In our data, this is the case in the Y3 bilingual stream group.

The strong role of L1 Dutch in the Y3 mainstream group is no longer present in the Y4 mainstream group. Whereas the Y3 mainstream
students still lean a lot on their L1 Dutch, the Y4 mainstream students barely make any errors based on transfer from Dutch, which means that they seem to have overcome the V2 rule in their L3. In a study on the second language acquisition of L2 French by L1 Dutch secondary school students, Hulk (1991) also found that the acceptance of V2 decreases dramatically in the three first years of secondary school.

Interestingly, the influence of both English and Dutch decreases more in the mainstream programme than in the bilingual stream programme. This might be due to the fact that the mainstream students have more metalinguistic knowledge, because English is taught in a formal way (Thomas, 1988), and that this leads to a more target-like production in French.

Overall, our results suggest that the L2 status factor hypothesis is supported in both Y3 and Y4, apart from the mainstream Y3 group. The negative influence of L2 is developmentally stable in the bilingual stream group, which has already received a considerable amount of exposure in Y3. The increased amount of exposure may account for the fact that the L2 status factor hypothesis is also supported in the Y4 mainstream group, whereas it was not supported in the Y3 mainstream group, where the L1 still plays an important role. Whereas in Y4 the influence of L2 diminishes, it is still important. The role of L1 decreases dramatically, which accounts for the fact that the L2 status factor hypothesis is also supported in the mainstream programme.

3.6. Conclusion
In this study, we tested the L2 status factor hypothesis (Bardel & Falk, 2007, 2012) according to which the L2 is the preferred background language over the L1 in L3 acquisition, and we investigated the influence of L2 English exposure on L3 French learning. Therefore, we compared the results of Y3 students to the results of Y4 students in their use of L1 Dutch and L2 English in L3 French, making a distinction between L2 mainstream and L2 bilingual stream education, the latter programme offering more L2 exposure. We found that in both programmes, the Y4 students use the L2 significantly more than the L1 in their acquisition of L3 French, supporting the L2 status factor hypothesis. Comparing these results to the Y3 study, where we only found support for the L2 status factor hypothesis in the bilingual stream group, we argue that the amount of L2 exposure affects the role of the L2 as
a background language in L3A in two ways: through bilingual stream education and through developmental progress over the years. Interestingly, it is mainly the role of the L1 that changes. In all four groups the influence of English is considerable – although we see a decline in Y4, where the students show an overall more target-like production in French – but the negative influence of L1 Dutch, being a non-foreign language, is significantly less dominant in the Y3 bilingual stream programme compared to the Y3 mainstream programme, and the negative influence of Dutch diminishes significantly in both Y4 groups with respect to Y3 students. Overall, the Y4 students show a more target-like production with respect to both the V-to-T movement and the V-to-C movement construction. The more target-like production of both Y4 groups may be due to a higher L3 proficiency. Especially in the Y4 mainstream group, where students have more metalinguistic knowledge, the students have overcome acceptance of the V2 rule in French.

In this study, we have shown that more L2 exposure – by bilingual stream education or by an increased developmental L2 exposure – furthers the influence of the L2 with respect to the role of the L1 in L3 acquisition. It would be interesting to know if the influence of the L2 stays stable with even more exposure to the L2 over time. We leave that question for future research.
L1 Dutch and L2 English transfer in the initial stages of L3 French acquisition

Abstract
With this chapter, we attempt to define the role of background languages in L3 learning by focusing on the influence of L1 Dutch and L2 English verb placement in L3 French amongst Dutch secondary school students who are in the initial stages of L3 acquisition of French (N=23). To detect possible transfer from Dutch, we look at errors based on V2 surface structures in sentences containing a sentence-initial adverb, and in order to detect transfer from English into French, we look at errors based on the Adv-V word order in the middle field of the clause. We collected data from a grammaticality judgement task to account for receptive knowledge and a gap-filling task to measure learners’ guided production. We found massive transfer from the L1 in the initial stages, in both the grammaticality judgement task and the gap-filling task. This chapter shows that students at the onset of L3 learning of French transfer from the L1 and not from the L2, probably because in the initial stages of L3A they do not yet perceive the L2 as a possible source of transfer.

4.1. Introduction
In today’s Dutch secondary school curriculum, foreign language learning plays an important role. English is mandatory throughout the whole duration of the secondary school programme, and two other foreign languages (mostly French, German or Spanish) besides English are mandatory in the first three years of secondary education. In this chapter, we investigate to

1 Stadt, R., A. Hulk & P. Sleeman (submitted). L1 Dutch vs L2 English in the initial stages of L3 French acquisition: The case of verb placement.
what extent the background languages L1 Dutch and L2 English play a role in L3 learning of French in secondary school students. We especially concentrate on students who have just entered secondary school and are therefore in the initial stages of learning French, but who already started learning English in primary school.

In previous studies (Chapters 2 and 3), conducted in the same secondary school as in this study, we found an effect of L2 exposure on the role of the L1 and the L2 as transfer sources in L3A, that is we found support for the L2 status factor hypothesis (Bardel & Falk, 2007, 2012; Falk & Bardel, 2011) in a group where students are increasingly exposed to the L2. We tested the L2 status factor hypothesis – according to which the L2 is a more important background language than the L1 in L3A – on four groups of Dutch secondary school students (L2 English, L3 French): third- and fourth-year students who had either been enrolled in an L2 English bilingual stream programme or in a mainstream Dutch secondary school curriculum. In both bilingual groups, where students receive more daily L2 exposure than the mainstream groups, and in the fourth-year mainstream group, where students have received more L2 exposure than the third-year mainstream group, we found significantly more possible transfer from English than from Dutch (supporting the L2 status factor hypothesis). However, in the third-year mainstream group, where students are less exposed to English, the L1 and L2 were equally important sources of transfer. These results were interpreted as an effect of the amount of L2 exposure on L2 transfer in L3A (see Hammarberg, 2001, 2009; Tremblay, 2006).

The effect of L2 English exposure on L3 French learning that we found in our previous research led us to an interest in studying other stages of L3A to learn more about the extent to which the L1 and the L2 play different roles in students who just entered the bilingual stream education and are not yet exposed to the L2 in the daily school context. Therefore, the general aim of this study is to investigate L1/L2 transfer in L3 French in first-year students (aged 11–13). These students are in their second week of secondary school and thus in the initial stages of L3 French learning.\textsuperscript{2} The

\textsuperscript{2} In L3A literature, initial state and initial stages are both used to indicate learners at the onset of L3A. Since the first-year students are in their second week of learning (L3) French (having received some L3 vocabulary input) and based on the distinction made by García-Mayo and Rothman (2012), we use the term ‘initial stages’ to indicate the developmental stage these L3 French learners are in.
research question is: What is the role of the background languages L1 Dutch and L2 English in L3 French learners in the initial stages of acquisition? We gathered data from 23 first-year students enrolled in the same Dutch secondary school as the third- and fourth-year students we studied in Chapters 2 and 3. They had not yet started their L2 English bilingual stream education, and as a consequence, they were not yet surrounded by English in their daily school practice as were their third- and fourth-year fellow students. However, let us stress that the first-year students are not at the onset of learning English. Although the quality and quantity of teaching and therefore proficiency differs (Unsworth et al. 2015), most primary schools in the Netherlands offer English as a subject from at least the penultimate year of primary school (ages 10–11) (Rose 2016).3 To investigate the linguistic behaviour of the first-year students and to be able to compare the results to previous results, we use the same constructions as in our previous studies: To detect possible influence from Dutch on French, we look at errors based on XVS(O) (V2) word order in sentences containing a sentence-initial adverb: *Vandaag eet Jan een appel ‘Today eats John an apple’, *Aujourd’hui mange Jean une pomme, and to detect transfer from English into French, we look at errors based on Adv-V word order in sentences containing a manner/frequency adverb or a floating quantifier: ‘John often eats an apple’ *Jean souvent mange une pomme. We collected data from a grammaticality judgement task (GJT) to account for receptive knowledge and a gap-filling task to measure the learners’ guided production.

The chapter is structured as follows. In Section 4.2, we (1) discuss some studies in the L3A field of research that also focus on the initial stages of L3A, (2) review some studies on verb placement, and (3) give a short overview of the background for this study, that is, a recap of the third- and fourth-year results. We will set out our design in Section 4.3, and in Section 4.4 we report the results. In Section 4.5, we discuss our results, and in Section 4.6 we present some concluding remarks.

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3 66% of the Dutch primary schools offer English in the last two years of school (when students are aged 10–12 years). A small number of schools (17%) offer English before that (from the age of 8–9) or, also in 17% of the cases, even earlier, from the age of 4–7 (Thijs et al., 2011).
4.2. **Theoretical background**

4.2.1. **L3 learning at the initial stages of acquisition**

L3 initial state learning resembles L2 initial state learning with respect to the unconscious linguistic knowledge in advance of L3 input. However, it differs in the sense that the learner has already learned a foreign language, which makes him or her a more ‘advanced’ language learner (Cenoz & Valencia, 1994; Jessner, 2006), and the learner has two systems available instead of one to make predictions about the L3. González Alonso and Rothman (2016) point out that a focus on the initial state of L3A should even be a priority in the field because ‘only by fully understanding the onset of any process do we have the best chance of ultimately revealing the nature of the rest’ (González Alonso & Rothman, 2016:3).

Various studies have been conducted in the initial stages of acquisition finding both transfer from the L1 and the L2. In what follows, we briefly discuss some studies that proposed L1 or L2 transfer in the initial stages and which are therefore relevant to this study. Hermas (2014a, 2014b) found preferred transfer from the L1 (Arabic) rather than from the L2 (French) in L3 English in two studies on the acquisition of the null subject parameter (2014a) and of restrictive relative clauses (2014b). Lindqvist (2009) also found a clear dominance of L1 influence in the initial stages of L3 French acquisition. The results of her study suggested that L1 Swedish is the main source of influence in spoken L3 French. Falk et al. (2015) found transfer from both the L1 and the L2 depending on the metalinguistic knowledge (MLK) in the L1. They investigated the oral production of adjectives in 40 participants who were in the initial stages of the learning of L3 French and who had different degrees of explicit MLK of the L1. They found L1 transfer in learners with high MLK in the L1, whereas learners with a low MLK (incorrectly) transferred language related information from the L2. Other empirical evidence for L1 and L2 transfer in the initial stages is presented in Section 4.2.2, in which we focus specifically on transfer of the XVS(O) and the Adv-V word order.

4.2.2. **Studies on verb placement**

In what follows, we discuss several studies that concentrated particularly on the acquisition of the two word order constructions that are under examination in this study: Adv-V word order (+English, −French) and XVS(O) word order (+Dutch, −French).
4.2.2.1. Adv-V word order. Verb placement has already been the object of investigation in L3A, and various studies have more specifically focused on the Adv-V word order in the middle field of the clause. In English, manner and frequency adverbs and floating quantifiers appear pre-verbally, such as in a clause like ‘Manon sometimes goes to the zoo’. In the field of L3A, Westergaard et al. (2016) found empirical evidence for the Linguistic Primacy Model (LPM) – according to which transfer in L3A occurs when a linguistic property receives supporting evidence from the L1/L2 – by investigating the acquisition of Adv-V word order in English (as an L2 and an L3). They studied Adv-V word order in monolingual Norwegian and monolingual Russian learners learning English as an L2 and Norwegian-Russian bilinguals learning English as an L3. Russian and English both share the Adv-V word order, whereas Norwegian has the V-Adv word order in the same type of sentences. In that study, in which data were gathered by means of a GJT, they found that Russian monolinguals and Norwegian-Russian bilinguals could benefit from the Russian Adv-V word order, resulting in a more target-like use in English (compared to the Norwegian monolinguals).

Falk (2010) found evidence for the L2 status factor hypothesis in intermediate learners. She studied (amongst other things) the influence of English Adv-V word order in declarative main clauses in L3 German by means of a grammaticality judgement and correction task. She investigated 60 learners of German (L3): one group of 30 L1 English, L2 French learners and one group of 30 L1 French, L2 English learners. French and German both share a V-Adv word order, whereas English has an Adv-V word order (‘Il mange souvent du chocolat’, ‘Er isst oft Schokolade’, *He eats often chocolate, ‘He often eats chocolate’). Thus, for the L1 English–L2 French–L3 German group, the L2 and L3 shared the same word order, whereas it was the L1 and the L3 that showed similarity in this structure for the L1 French–L2 English–L3 German group. The results of this study showed that the L2 was the default transfer source in the acquisition of an L3, regardless of whether the influence was facilitative or not.

Hermas (2010), on the other hand, found empirical evidence for L1 transfer in a study on the initial stages of L3 learning. He investigated the acquisition of Adv-V word order in L3 English by means of an acceptability judgement test and a preference test. He tested 20 native speakers of Arabic in the initial stages of L3 English (L2 French). In Arabic, both the Adv-V
and V-Adv word order are used, whereas French (V-Adv) differs from English (Adv-V) in this respect. The results of this study showed that the L3 learners of English, who had Arabic as an L1 and French as an L2, reached a high rate of accuracy in judging the Adv-V word order in L3 English, which Hermas (2010) interpreted as facilitative transfer from the Adv-V Arabic (L1) word order. On the basis of the data, Hermas argued that transfer from L1 can also be non-facilitative.

4.2.2.2. XVS(O) word order. Most Germanic languages are so-called V2 languages (e.g. German, Norwegian, Swedish, Danish and Dutch). In these languages, the finite verb occupies the second position of the declarative main clause, including after a sentence initial adverb, resulting in Dutch sentences such as Vandaag gaat John naar Parijs *‘Today goes John to Paris’ ‘Today John is going to Paris’. In what follows, we will discuss the results of two studies that demonstrated that a –V2 language (as an L2) negatively influenced the acquisition of the V2 property in the (+V2) target language. Although various second language acquisition studies claim that the V2 rule (XVS(O)) is difficult to learn since Subject-Verb-Object (SVO) is the canonical word order (Pienemann, 1998), Bohnacker (2006) found V2 placement in two groups of Swedish (+V2) initial state learners of German (+V2), which she attributed to positive transfer of the V2 rule. One group was learning German as an L2, and the other as an L3 after English (–V2). The oral production data indicated that at least for the L2 German group the acquisition of the V2 rule was not at all complicated (100% target-like after four months of study). The other group, however, experienced more difficulties, which was attributed by the researchers to the negative influence of the L2 (English).

Bardel and Falk (2007) studied placement of sentence negation in various groups of L1 and L2 backgrounds in the initial stages of L3 Swedish/L3 Dutch (both +V2 languages). In the first group, the L1 was a +V2 language (Dutch when the L3 was Swedish or Swedish when the L3 was Dutch) and the L2 was a –V2 language (English). In the second group, the L1 was a –V2 language (English, Italian, Hungarian or Albanian) and the L2 a +V2 language (Dutch in the case of L3 Swedish or Swedish in the case of L3 Dutch). The results of this study demonstrated both positive and negative transfer of the V2 property in L3 Swedish/L3 Dutch, but only when the L2 was a +V2 language. The participants in the L1 +V2 group showed
less transfer of the V2 rule in L3 Swedish or L3 Dutch. Bardel and Falk concluded that ‘in L3 acquisition, the L2 acts like a filter, making the L1 inaccessible’ (Bardel & Falk, 2007:480).

4.2.3. Verb placement in secondary school students learning L3 French: The origin of this study

In two previous studies (Chapters 2 and 3), we studied verb placement amongst four groups of third- and fourth-year secondary school students who were either enrolled in an international Middle Years Programme (MYP) (a Dutch-English bilingual stream programme) or a mainstream Dutch curriculum. The MYP is a bilingual stream programme of the International Baccalaureate (IBO, 2019). In this programme, students receive over 50% of their subjects in English, whereas in the Dutch curriculum, students receive three hours a week of English as a school subject. In these studies, we compared the extent to which the third- and fourth-year students made errors based on the V2 rule (+ Dutch, –English, –French) vs the Adv-V word order (–Dutch, +English, –French) by means of a GJT.4 The results of these studies are repeated in Tables 4.1 (Chapter 3) and 4.2 (Chapter 2). The results demonstrated that the third-year bilingual stream students made significantly more errors based on the (L2 English) Adv-V word order than on the (L1 Dutch) XVS(O) word order in French. In both fourth-year groups, this was also the case. However, the mainstream third-year students made an equal number of errors based on Dutch as on English.

Table 4.1. Results of Adv-V errors and V2 errors in Y4 bilingual stream and mainstream group.

<table>
<thead>
<tr>
<th>Y4 students</th>
<th>N. of items (%)</th>
<th>Adv-V errors Mean (SD)</th>
<th>V2 errors Mean (SD)</th>
<th>p = 0.005</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilingual</td>
<td>168 55/168 (32.7%)</td>
<td>4.58 (1.83)</td>
<td>19/168 (11.3%)</td>
<td>1.58 (1.98)</td>
</tr>
<tr>
<td>mainstream</td>
<td>154 39/154 (25.3%)</td>
<td>3.55 (1.92)</td>
<td>4/154 (2.6%)</td>
<td>0.36 (0.50)</td>
</tr>
</tbody>
</table>

4 We only looked at negative transfer since positive transfer could also mean L3 knowledge. Neither construction had explicitly been part of the French curriculum.
The results of the same study also showed that the third-year mainstream students made significantly more XVS(O) word order errors (based on the Dutch word order) than the bilingual stream students. In the mainstream group, 65 out of 154 errors could be traced to Dutch (37%) and in the bilingual stream group, 55 out of 224 (24.6%) errors were attributed to Dutch XVS(O) order \( (p=0.033) \) (Chapter 2). Although the difference between mainstream and bilingual stream education particularly concerns the amount of L2 exposure (and L2 use) in the school context, the role of L1 Dutch differs considerably across groups. We suggested in Chapter 2 that the relatively stronger role of the L1 in the third-year mainstream group could be indirectly due to less L2 exposure in this particular group. In other words, these results show that the mainstream school environment affects the extent to which the L1 is suppressed by the L2 and that the special L2 status does not come into play when the L2 is not sufficiently activated to suppress the L1 (cf. Hammarberg, 2001).

However, in the fourth-year mainstream group, where Dutch is also more present in the daily school context, students barely made any XVS(O) errors. We interpreted this result by stating that the learners had ‘unlearned’ the V2 rule (Westergaard, 2003). The slight decrease in the role of the L2 might be due to the fact that the students had an increased overall L3 proficiency. We aimed at making the L3 proficiency variable as small as possible by using very easy tests for all levels. Although the decrease in the number of L2 errors is not significant, there is an overall decrease in errors, which might be due to an increased L3 proficiency.\(^5\) Nevertheless, the role

\(^5\) We also investigated the extent to which L3 proficiency determines whether students make fewer Adv-V errors in year 3. In order to see whether there was a relationship, we calculated the correlation between the number of Adv-V errors in the French GJT and the year 3 French final marks at school (which is an average of
of the L2 remained statistically stable across both years and types of education, whereas acceptance of the Dutch word order decreased.\(^6\)

### 4.3. Design of this study

Taking into consideration the results presented above, it is relevant to study to what extent L1 and L2 transfer occurs in first-year secondary school students who have not yet started their bilingual L1 Dutch/L2 English education and who are at the onset of French learning. We address the following research question: How does the L1 Dutch and L2 English word order affect L3 French learning in the initial stages of acquisition?

#### 4.3.1. Hypothesis

We predict that the first-year students will show more XVS(O) errors (based on the Dutch word order) than Adv-V errors (based on the English word order) in the initial stages of acquisition. This hypothesis is based on our previous study (Chapter 2) in which we found that the mainstream third-year students – who are receiving less L2 exposure compared to the third-year bilingual stream – make significantly more errors based on L1 Dutch than the third-year bilingual stream students and on Hermas (2010, 2014a, 2014b), who found that the L1 plays a strong role at the onset of learning. In the next section, we will concentrate on the background of the participants and set out the design of our experiment.

#### 4.3.2. Participants

At the time of data collection, the first-year students (aged 11–13) were in the second week of secondary school. Therefore, in the first regular school week, three 45-minute periods were dedicated to the study of the basic French vocabulary that the students needed to be able to participate in the French test. The students also studied the necessary vocabulary as a homework assignment. Since it was their first week at school and their first encounter with French, we aimed at making this first week as playful as reading and listening comprehension, written production, and vocabulary/grammar). We did not find a significant correlation \(r(15)=-.14; p=0.59\).

\(^6\) Although we found a tendency, the Y4 bilingual group did not make significantly fewer Adv-V errors than the Y3 bilingual group \((55/168=32.7\% \text{ vs } 95/224=42.4\%; p=0.099)\) and the Y4 mainstream group did not make significantly fewer Adv-V errors than the Y3 mainstream group \((39/154=25.3\% \text{ vs } 53/154=34.4\%; p=0.272)\).
possible. For instance, the students had to create a colour card on the computer, filling in the French colour terms, and to name animals. They also learned some small clarifying chunks that we used in the tests such as À Paris, ‘In Paris’ or C’est un, ‘It is a’. However, it was very important that the students did not receive any L3 grammar instruction or L3 input of whole sentences to avoid feeding them any relevant information about French syntax.7

We tested 118 first-year students, but we had to exclude the vast majority of the students because they did not meet all criteria. One criterion was that students had to be aware of the Adv-V word order in English. To transfer the Adv-V word order into the L3, it was necessary that the students be sufficiently familiar with this particular word order in English. We tested this by means of an English gap-filling task. This English gap-filling task contained 24 items of which eight controlled for Adv-V word order (see Appendix A.7.). Let us stress that the students took the English gap-filling task after the French linguistic tasks to avoid raising awareness of this structure. All students with more than three errors were excluded from the test.8 43 (out of 118) students passed the English gap-filling task. We also used the standardised online Anglia placement test to make sure that all students had at least the Anglia ‘elementary level’ in English. When students do not have an elementary level, the online test indicates a level lower than elementary (preliminary, primary, junior or first step) (Anglia, 2015). No students were excluded because of the Anglia test. The reason may be that most primary school students start learning English in the 7th grade (aged 9–11) according to the Dutch curriculum. Nonetheless, although starting earlier has been gaining in popularity, the level is in most cases still very basic, varying greatly between schools. Furthermore, the amount of exposure is not defined in the curriculum and is often minimal (approximately one hour a week) (Rose, 2016). The quality of teaching varies as well: In general, primary school teachers are not especially trained to be English teachers. The students’ exposure to English outside the school context also differs greatly and depends on personal and parents’ interests in things such as English-language music and films. However, English is quite ubiquitous in

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7 The researcher (who is also French teacher in this school) designed the classes for the first week.
8 The accuracy minimum of 5/8 was used to make sure that the students would have a minimal knowledge of the Adv-V word order to transfer into the L3.
the Netherlands. Therefore, youngsters receive a great deal of English input because of media such as music, films and the Internet (Verspoor et al., 2007; Verspoor, De Bot & Van der Heiden, 2010).

The students also filled out a language background questionnaire. Based on this questionnaire, we excluded all simultaneous bilinguals and put aside all students who had lived abroad or who had a French language background in their immediate family. Of the remaining 43 students, 20 additional students were excluded on the grounds of other criteria such as a bilingual background. We used the data of the remaining 23 students.

4.3.3. Experiments
The data collection for this study consists of two linguistic tasks: a GJT and a guided production gap-filling task (GFT). The tasks were easy to perform: We used very simple sentences with a lot of cognates, and since we trained the vocabulary in the preparation week, the students were familiar with the vocabulary used in the tasks. Although the first-year tests were simplified versions of the third- and fourth-year tests, we created tests for first-year students comparable to those we devised for third- and fourth-year students so as to be able to fully focus on the L2 exposure variable.

4.3.3.1. The GJT. The GJT consisted of 32 items: seven items testing the Adv-V word order, of which four items were ungrammatical (incorrect [i]) and three items were grammatical (correct [c]); seven items tested the V2 rule, of which four items were ungrammatical (i) and three items were grammatical (c); and 18 fillers. The fillers were very simple SVO sentences. For each sentence, students had to indicate whether they judged the sentence correct (c) or incorrect (i). Two example items are provided in (1) and (2). For an overview of all the items in the GJT, see Appendix A.1.

Examples from the GJT:

(1) Manon aime vraiment les biscuits. c / i
   *Manon vraiment aime les biscuits. c / i
   ‘Manon really loves biscuits.’

(2) Aujourd’hui Jean mange une pomme. c / i
   *Aujourd’hui mange Jean une pomme. c / i
   ‘Today Jean is eating an apple.’
To detect possible transfer from L2 English, we focused on errors based on English Adv-V word order. We coded the answers as incorrect when the students marked ungrammatical sentences such as *Jean souvent mange une pomme as correct and grammatical sentences such as Jean mange souvent une pomme as incorrect. Possible transfer from the L1 Dutch XVS(O) word order was investigated by marking answers as incorrect when students falsely marked sentences such as *Aujourd’hui mange Jean une pomme as correct or grammatical sentences such as Aujourd’hui Jean mange une pomme as incorrect.

4.3.3.2. The GFT. The GFT contained 24 items: eight testing the Adv-V word order (reflecting the English word order) and eight testing the V2 rule (reflecting the Dutch word order). The test contained 8 fillers. We asked the students to fill in the verb in the correct gap. Examples are provided in (3) and (4). If the students placed the verb in the first gap in (3) or in the second gap in (4), we coded the answer as correct, and if the students placed the verb in the second gap in (3) or in the first gap in (4), we coded the answer as incorrect. All the items for this task can be found in Appendix A.3.

Examples from the GFT:

(3) Les enfants ….. tous ….. un téléphone. utilisent
   ‘The children all use a telephone.’

(4) Aujourd’hui ….. Jean…… au cinéma. va
   ‘Today Jean is going to the movies.’

For this study, reaction time was not our main focus. The students needed some time to read the sentences, and we did not want to make them nervous. We impressed upon them that they needed to concentrate but that they just had to mark what they thought to be correct. We also stressed that there were no spelling errors.

In the next section, we present the results of this study. Although we will mainly focus on the new first-year results in the following section, we close the section by also repeating the results of the third- and fourth-year students (see Section 4.2.3) in order to get a clearer idea of the cross-sectional developmental pattern with respect to the influence of the background languages.
4.4. Results
In this section, we give an overview of the data and aim at determining the statistical differences between errors in French (L3) based on Dutch (L1) XVS(O) word order versus errors based on English (L2) Adv-V word order. To make a valid statistical comparison, we aimed at minimising the differences between the test pairs in both the GJT and the GFT. Therefore, we kept the variances between the items, such as vocabulary and number of words, as minimal as possible. We tested all data for normality of distribution. Except for the XSV(O)/XVS(O) construction in the GJT, the Shapiro-Wilk test was below 0.05, and thus, almost all data deviated significantly from a normal distribution. For this reason, we used the non-parametric 2 related samples test.

4.4.1. XVS(O) word order and Adv-V word order in the initial stages of L3 French
In Table 4.1, we present the Adv-V word order errors and V2 errors from both the receptive knowledge task (GJT) and the guided production task (GFT). In the GJT, the percentages are out of 161 (seven items per condition x 23 students), both for the Adv-V construction and the XVS(O) construction. In 33.5% of the cases, the students accepted ungrammatical Adv-V sentences based on English such as *Jean souvent mange une pomme or rejected grammatical V-Adv sentences such as Jean mange souvent une pomme. In 64.6% of the cases, the students misjudged the items based on the Dutch V2 rule, accepting sentences such as *Aujourd’hui mange Jean une pomme or rejecting correct sentences such as Aujourd’hui Jean mange une pomme (Z = -3.047, p=0.002). In the production task (GFT), the percentages are out of 184 (eight items per condition x 23 students). We found the same tendency as in the GJT in both the Adv-V word order construction and the XVS(O) construction: In 72.3% of the cases, the students filled in the wrong gap, creating sentences such as *Aujourd’hui mange Jean une pomme (Dutch word order), and in only 10.9% of the cases did they use the ungrammatical English Adv-V word order *Jean souvent mange une pomme (English word order) (Z = -3.047, p<0.001).
We present the same results below by means of a diagram (Figure 4.1). What catches the eye is the massive transfer of the L1 Dutch V2 word order into L3 French at the initial stages of acquisition. Let us emphasise that – although the first-year students make significantly more mistakes based on the Dutch word order than on the English word order – they still make a considerable number of Adv-V errors in the GJT.

In the results of Adv-V errors in the GFT, two students fell below two standard deviations of the mean. Without these outliers, the mean falls to 0.48 and the SD falls to 0.75. There are no consequences for the statistical analysis.
4.5. Discussion

4.5.1. Interpretation of the results

In this chapter, we investigated L1 Dutch and L2 English syntactic transfer in secondary school students in the initial stages of L3 French acquisition. We aimed at investigating the extent to which L1 and L2 transfer occurs in this specific group of learners. To this end, we addressed the following research question: What is the role of the background languages L1 Dutch and L2 English in L3 French learners in the initial stages of acquisition? Based on Hermas (2010, 2014a, 2014b), who found that the L1 plays a strong role at the onset of L3 learning, and based on our previous study presented in Chapter 2 in which we found that third-year mainstream students – who are less exposed to English in the daily school context than the third-year bilingual stream students – use significantly more often their L1, we hypothesised that in the initial stages of L3 French acquisition, students would make more errors based on the Dutch word order than on the English word order.

To test transfer at the initial stages of acquisition, we examined to what extent first-year students accepted and produced the V2 property (from L1 Dutch) and Adv-V word order (from L2 English) in French. We found support for our hypothesis; that is, in the initial stages of acquisition, students transfer the L1 massively into the L3, which is in line with Hermas (2010, 2014a, 2014b). These findings are also in line with Lindqvist (2009), who found L1 transfer in the initial stages of L3 French acquisition. Both in judgement (GJT) and in guided production (GFT), first-year students applied the L1 Dutch V2 rule in French (and possibly Dutch V-Adv word order, as well). The massive L1 transfer in the initial stages could be due to the fact that the students had not yet received any L3 morphosyntactic input at the time of testing. Therefore, they were not able to make assumptions about word order in French in comparison with L1 or L2, so that they resorted to their L1 as a default language.

Regarding the comparison between transfer from the L1 and the L2, we found that the differences between possible negative transfer from L1 Dutch and possible negative transfer from L2 English are significant in both tests (GJT p=0.002 and GFT p<0.001). This finding can be interpreted as evidence against Bardel and Falk (2007), who found a preferred role for the L2 in the initial stages of L3A. However, we have to stress that in the GJT, students also made a considerable number of errors based on the English
word order (in 33.5% of the cases, students accepted the English Adv-V word order, which is ungrammatical in L3 French, or rejected the grammatical V-Adv word order). The relatively high acceptance rate in the GJT could be due to the task. The judgement task might have been difficult for the first-year students to complete: although the students were familiar with the vocabulary used in the task, a GJT demands reading skills and focus, which might be hard for first-year students who are in the initial stages of acquisition and who have only just learned some words in French. In general, the students found the GFT a much easier test to perform. In the GFT, the students almost never placed the verb after the adverb in French, hence making hardly any Adv-V errors. It could be that the activation and/or proficiency level of the L2 is so low, that students in this stage of acquisition consider the L1 as the only possible language to transfer information from.

When we compare the results of the present study to the results from Chapter 2 with respect to the cross-sectional developmental pattern in the roles of L1 Dutch and L2 English in L3 French, we see an enormous decrease of XVS(O) errors from Y1 to Y3. Although the students had not received explicit instruction on L3 French verb placement in this case, the decrease in the number of V2 errors in later stages of L3 acquisition may also be due to increased L3 proficiency. Still, it is quite interesting to see that the increasing L3 proficiency has no effect on the number of L2 Adv-V errors: when we cross-sectionally compare the first-year GJT data from this study to the third-year GJT data (Chapter 2) we see that the role of L2 English remains stable despite the fact that L3 proficiency increases (see Falk, 2010, who found evidence for a substantial role for the L2 in intermediate learners).

Another explanation for the changing role of the L1 could be that in the initial stages the L1 plays the most important role and that in later stages of acquisition – once the students received some L3 input and the L2 plays a more prominent role in their everyday (school) lives – the L2 comes into

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10 After completing all the tests, we always asked the students some questions about the tests. We often received the feedback that the GFT was easier than the GJT. Since the two tasks have the same type of sentences, testing the same constructions, the difference in experience could be due to the type of test: judging could be more difficult than completing a sentence with a given verb.

11 Note that we did find an increase of Adv-V errors from year 1 to year 3 in the guided production task (Chapter 5).
play so that the L1 is to some extent suppressed by the L2 when the L2 is sufficiently activated. Westergaard et al. (2016) found positive transfer from L1/L2 Russian (+Adv-V word order) into L3 English (+Adv-V word order) in later stages of L3 English acquisition when learners received supporting evidence from the L1/L2. In our case, it seems possible that in later stages of L3 French acquisition, the learners received ‘misleading’ evidence from the English Adv-V word order and therefore negatively transferred the Adv-V property into L3 French.

The idea that the learner needs a certain level of development and proficiency in the L2 to transfer syntactic structures from the L2 was found earlier by Bardel and Falk (2007). Moreover, the argumentation that the L2 suppresses the L1 when the L2 is sufficiently activated is also found in our previous study presented in Chapter 2, in which we demonstrated that students with the same L3 proficiency showed different use of the background languages in L3A: the mainstream students used the L1 significantly more often than the bilingual stream students. Furthermore, in the comparison between L1 and L2 transfer, we found that the third-year mainstream students used the L1 and the L2 to the same extent, whereas the third-year bilingual stream students demonstrated significantly more influence from the L2 than from the L1.

For future research, it might be interesting to look further into the interplay between an increasing L2 input/L2 proficiency and L3 proficiency (Bardel & Lindqvist, 2007; Sánchez & Bardel, 2017). It might also be relevant for a subsequent study to test L2 production in L3A such as writing and speaking skills so as to get a more complete picture of the differences between receptive knowledge and production in L3A. Although the tasks that we used in this study are very important in linguistic research because they provide evidence about the grammaticality of utterances that do normally not occur in natural language production (Schütze & Sprouse, 2014), it would be interesting to also focus on tasks that concentrate on fluency and meaning such as written or oral narrative tests (Ellis, 2005, 2009).

4.5.2. Analysing the results in light of other studies

The results of this study demonstrate that students transfer from the L1 in the initial stages of L3 acquisition. In the L3A field of research, other studies found a strong effect from L1 in the initial stages of acquisition as well (as
already mentioned in 4.2.1 and 4.2.2). Just as in studies conducted by e.g. De Bot (2004), Lindqvist (2009), Na Ranong & Leung (2009) and Hermas (2010, 2014a, 2014b), our results suggest L1 transfer in the initial stages. Subsequently, the role of the L2 becomes relatively more important. This may be due to the amount of L2 exposure; hence the degree of activation of the L2. In the latest version of the L2 status factor hypothesis (Bardel & Sánchez, 2017), the particular status of the L2 is related to the degree of metalinguistic knowledge, meaning the extent to which the (L2 and L3) grammar is learned explicitly and thus stored in declarative memory. This may be related to our findings on the changing roles of L1 and L2: in later stages of L3A, when students have received language instruction (and gained more knowledge about languages) they may use their background languages differently. Future research might further explore the effect of metalinguistic knowledge on L1/L2 transfer in L3A in secondary school students (see Falk et al., 2015). Transfer from the L1 occurred regardless of the transfer being facilitative (or neutral) which is contra the Cumulative Enhancement Model ([CEM] – Flynn et al. 2004), and without the languages being typologically related which is contra the Typological Primacy Model ([TPM] – Rothman, 2010, 2011, 2015). Moreover, transfer from the L1 occurred although the V2 rule is often recognised as difficult to transfer in the first stages of acquisition (Pienemann, 1998). In a model recently introduced – the hierarchical inference framework (Pajak et al., 2016) – development plays a central role. According to this model, the L3 learner slowly changes his or her implicit beliefs about the target language that are based on prior beliefs about other background languages. This is conventionally referred to as ‘interlanguage restructuring’ and results from hypothesis testing. The hypotheses about language are adjusted as the learner receives more input from the L3. Pajak et al. (2016) would explain the decrease of transfer from the L1 by stating that, because of the L3 input in French in combination with an increasing knowledge of English, the learners’ hypotheses about the ‘usability’ of the background languages are adjusted.

12 The L2 status factor hypothesis follows Paradis’ (2004) distinction between procedural (implicit) and declarative (explicit) memory. In foreign language acquisition, information is stored in declarative memory. For a detailed discussion, see Bardel and Sánchez (2017).
4.6. **Conclusion and future directions**

In this chapter, we examined to what extent first-year secondary school students transfer L1 Dutch and L2 English into L3 French in the case of two verb placement constructions: the V2 rule (L1 Dutch) and Adv-V word order (L2 English). Our aim was to further define under which circumstances L1/L2 transfer occurs in the initial stages of L3 learning. The results of this study demonstrate L1 transfer at the first encounter with the L3, arguably because the students think, before having received any L3 morphosyntactic input, that Dutch and French share the same word order. Hermas’ (2010) hypothesis on L1 (Arabic) transfer in the initial stages of L3 (English) acquisition would therefore also hold for this particular group of secondary school students. A preferred role for the L2 over the L1, which we found in later stages of L3 development when students are exposed to L2 English to a greater extent (Chapters 2 and 3), is not found in this group of learners at the onset of L3 French learning. We argued that this is due to the massive L1 transfer in the initial stages but also to the fact that the L2 needs to be sufficiently activated for the L2 to ‘suppress’ the L1 (see Hammarberg, 2001).

In this study, we found a task variation between the GJT and the GFT regarding the Adv-V construction. It would be relevant for further work in the field to verify whether a GJT is a suitable task for (young) learners in the initial stages of L3 acquisition. A suggestion for future research could also be to examine other cases of syntactic transfer from L1 Dutch into L3 French to investigate whether the massive L1 transfer that we found in this study is typical for transfer of the V2 property or whether L1 transfer in the initial stages applies to other syntactic constructions as well. In future research, it would be interesting to also look at production data to learn more about L1 versus L2 transfer in the initial stages of acquisition in secondary school students (see Falk et al., 2015). Furthermore, it would be interesting to investigate the influence of L1 Dutch and L2 English in L3 French learning in other stages of L3 acquisition with a longitudinal study to learn more about the developmental patterns of L1/L2 influence in L3 French secondary school students, which is exactly what we do in Chapter 6.
Chapter 5

The role of L2 proficiency vs L2 exposure in L3 French acquisition

Abstract
In the present chapter, we compare L2 English influence on French third language acquisition (L3A) in first-year and third-year bilingual stream secondary school students and in third-year mainstream secondary school students by means of a gap-filling task. We found that the influence of L2 English on French L3A increases from first- to third-year bilingual students, which is not the case in the mainstream group. This raises the question if L2 influence on L3A in bilingual education is the result of the increased L2 exposure or of a higher L2 proficiency, factors that both have been claimed to play a role in L3A-research (e.g. Hammarberg, 2001; Tremblay, 2006; Jaensch, 2009a, 2009b). The results of this chapter show that there is no individual correlation between L2 English proficiency and influence of English in L3 French learning. Therefore, we suggest that it is L2 exposure rather than L2 proficiency that leads to more influence of the L2 in L3 French.

5.1. Introduction
Internationalisation in the Netherlands has led to enhanced interest in Dutch/English bilingual teaching, and accordingly, there has been a strong increase in the number of bilingual schools. In bilingual education, the second language (L2) is learned in a bilingual school environment, which results in more L2 exposure in the daily school context when compared to mainstream education. An interesting question is whether learning English (L2) in a

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bilingual stream context influences learning other foreign languages and, if this is the case, why this should be so.

The present study examines the effect of bilingual education on the role of English as a second language (L2) in French as a third language (L3). We explore cross-sectional development of English (L2) influence on French (L3) in first-year bilingual stream students – those who have just entered secondary school – and in third-year bilingual stream students who have received almost three years of bilingual education. Third-year mainstream students are used as a control group to examine whether findings are due to bilingual education. In this chapter, we focus on the role of the L2. Transfer from the L1 has been the object of investigation in previous chapters.

In order to distinguish L1 transfer from L2 transfer, we focus on a construction in which English and French differ in word order, whereas Dutch and French share the same order. In declarative root clauses containing a manner/frequency adverb, the surface structure in French and Dutch is the same: the finite verb appears before the adverb (V-Adv word order), whereas in English the finite verb appears after the adverb (Adv-V word order) in this type of sentences. L3A research often focuses on differences between background languages and target language, that is, negative (i.e. non-target-like) transfer to distinguish L3 knowledge from positive transfer. We also concentrate on negative transfer for this practical reason: since our third-year participants are intermediate learners of French, target-like production (hence positive transfer) could also simply mean knowledge of the L3.

In light of the cross-sectional development of the L2 in L3A in bilingual education, we should also ask to what extent L2 influence in L3A is related to an increased L2 exposure as opposed to a higher L2 proficiency. Both factors have been claimed to play a role in L3A (Hammarberg, 2001, 2009; Tremblay, 2006; Jaensch, 2009a, 2009b), but they have generally not been (sufficiently) disentangled. We study the proficiency factor by measuring the individual L2 proficiency of both the bilingual stream students and the mainstream control group students using a standardised English proficiency test, and we compare this to the number of Adv-V errors they make in L3 French.

5.2. Theoretical background

Although input in the target language in FLE (foreign language education) is of great importance in the language learning process, it is not generally
assumed that there is a one-to-one correspondence between linguistic input and the learners’ internal language system (Benati & Schwieter, 2017). In both L2 and L3 learning, learners can produce target-like sentences without the input in the target language necessarily providing this actual information, and learners can also make mistakes despite correct input from the target language; that is, there is a discrepancy between target language input and foreign language production. This kind of (non-)target-like production can be the result of influence from previously learned languages and is often referred to as language transfer, or ‘cross-linguistic influence’. Transfer is an essential foreign language learning strategy (Council of Europe, 2001; Beacco et al., 2016) – which can thus be both positive and negative – and is often described as the conscious or unconscious influence from one language on another (Kellerman, 1977, 1979) or as ‘processes that lead to incorporation of elements from one language into another’ (Kellerman & Sharwood Smith, 1986:1). In L3A, the learner has two languages instead of one available for transfer and the second language can potentially affect the acquisition of an L3 which involves a change in language learning and processing (Jessner, 2006).

5.2.1. Bilingual education and further language learning
The idea that plurilingualism affects linguistic competence and language learning in general is widespread (Cook, 1992, 1995; Klein, 1995; Jessner, 2008; Rivers & Golonka, 2009; Grosjean, 2010; Rutgers & Evans, 2015). This is often attributed to better developed cognitive skills with respect to language awareness, that is, increased metalinguistic knowledge (Klein, 1995; Jessner, 2008).

There are several studies that especially focus on the influence of bilingual education on L3 learning. According to Cenoz and Valencia (1994), bilingual education (Spanish/Basque) improves English (L3) language achievement due to a higher level of linguistic knowledge: the learners have two linguistic systems available that they can compare to the new system. In a longitudinal study, Sánchez (2015b) focused on negative transfer. She analysed English word construction attempts in native speakers of Spanish and Catalan (who are simultaneous bilinguals) in an L2 German bilingual school context. These students had been learning German as an L2 from the age of six (since grade one in primary school) and English as an L3 from the age of nine (since grade four in primary school). She found that German was
activated during English word construction attempts. In a previous study (Chapter 2), we also looked at negative transfer to learn more about influence from L1 Dutch and L2 English on L3 French. In that study, we compared (the same) third-year bilingual stream students to mainstream students on the (incorrect) acceptance of English and Dutch verb placement in French, reporting data from a grammaticality judgement task. The bilingual stream students showed a tendency to accept the English word order in French more often than the mainstream students (in 95 out of 224 of the cases, 42.4%, and in 53 out of 154 of the cases, 34.4%, respectively), although this difference was not significant (p=0.261). However, we found that the amount of L2 exposure may affect the amount of transfer from the L1 into the L3; that is, the bilingual group accepted the incorrect Dutch Adv-V-S word order (in sentences such as *Aujourd’hui vais-je à l’école *‘Today go I to school’, *Vandaag ga ik naar school*) significantly less often than the mainstream group. We suggested that in the bilingual group – where there is a lot of L2 exposure in the daily school context – the L2 might ‘block’ the L1 in L3A, whereas in the mainstream group this is not the case and the L1 continues to play an important role. We interpreted these results by referring to Hammarberg (2001), who explains the special status of the L2 in L3A by stating that L3 learners have the tendency to ‘suppress’ the L1 as being non-foreign. In the current chapter, we focus on the difference between first-year bilingual stream students and third-year bilingual stream students, reporting on data from a gap-filling task. We examine the same construction to elicit transfer from the L2 into the L3 and data were collected in the same secondary school as in previous chapters.

5.2.2. The L2 in L3 learning: L2 exposure vs L2 proficiency

In what follows, we review some studies that looked into the effect of L2 proficiency and L2 exposure on the role of the L2 in L3A. According to Hammarberg (2009), the L2 can take on a stronger role than the L1 in L3A, especially when there is frequent input from and output in the L2. Tremblay (2006) investigated lexical influence (lexical interventions, slips of the tongue, and language shifts) of L1 English and L2 French on L3 German in three groups of L3 learners with different L2 proficiencies and different degrees of L2 exposure. She found that participants with both high L2 proficiency and high L2 exposure use their knowledge of French (L2) to create words (lexical inventions) and to make comments or corrections (language
shifts) in the L3 significantly more often than participants with low L2 proficiency and low L2 exposure. However, the results of her study suggest that L2 exposure and L2 proficiency have different impacts: since no L2 influence was found in low L2 exposure groups regardless of the L2 proficiency, she states that high L2 exposure is needed for the L2 to play a role. Tremblay (2006) also proposes that L2 proficiency can have an effect in L3A, but that a threshold level has to be achieved before the L2 plays a role. Jaensch (2009a) found that in some cases of L1 Japanese speakers, higher L2 English proficiency leads to increased selection of L2 features in L3 German acquisition, for instance, in the appropriate selection of definiteness.

In the current chapter, we aim to disambiguate the L2 exposure and L2 proficiency factors by studying both the cross-sectional development of the L2 in a bilingual stream context, and the correlation between individual L2 proficiency in the third-year groups and L2 influence in L3A.

5.3. Design of this study

5.3.1. Research questions

This chapter investigates the influence of L2 English on L3 French in a bilingual programme. We concentrate on the cross-sectional development in L2 English influence on L3 French in first-year bilingual stream students who have just started the bilingual programme, and in third-year bilingual stream students who have received almost three years of bilingual education and are therefore increasingly exposed to English (RQ1). We use third-year mainstream students as a control group.

We also aim to explore whether L2 English influence on L3 French in the bilingual stream context is the result of increased L2 exposure or rather of higher L2 proficiency, which we try to disentangle in this study. For this reason, we study the direct relationship between the third-year students’ individual proficiency in English and the amount of transfer from English into French (RQ2). Accordingly, our research questions are:

1. To what extent does transfer from L2 English into L3 French differ between first-year bilingual stream students and third-year bilingual stream students?

2. To what extent does L2 English proficiency affect L2 English transfer in L3 French?
5.3.2. Finite verb placement in Dutch, English and French
The grammatical focus of this study is declarative root sentences that contain either a manner/frequency adverb (such as parfois ‘sometimes’, vraiment ‘really’, souvent ‘often’, toujours ‘always’) or the floating quantifier tous ‘all’. In Dutch and French, the verb appears before the adverb in the surface structure, resulting in a verb-adverb (V-Adv) word order. In English, the verb appears after the adverb, resulting in an adverb-verb word order (Adv-V), as illustrated in (1).

(1)  Ils mangent parfois une pomme.
    Zij eten soms een appel.
    *They eat sometimes an apple.

‘They sometimes eat an apple.’

There are various reasons why we selected the Adv-V word order. We aimed at using a construction in which case English differs from French while at the same time Dutch and French share the same word order, allowing us to tease apart transfer from Dutch (L1) and transfer from English (L2). Furthermore, the construction suited the context: it has not been covered in the French curriculum and it is an easy construction used in simple affirmative root clauses, which is suited for both learners who are at the onset of learning French and intermediate learners of French.

5.3.3. Context and participants
The research was conducted in the bilingual and the mainstream departments of the same secondary school in the Netherlands. Pupils in the bilingual stream at this particular school follow the ‘Middle Years Programme’ (MYP) of the International Baccalaureate (IBO, 2019) for their first four years at the school before entering the fifth year of the six-year academic pre-university Dutch mainstream secondary school programme (VWO). As in other Dutch bilingual schools, students receive over 50% of their school subjects in English and the remainder in Dutch or, in the case of Modern Foreign Languages, partly in the TL (target language). To enter the bilingual stream of this school, students need to be placed in either of the highest levels (HAVO, VWO). Therefore, the overall scholastic aptitude of the students is comparable. The division of
the tracks in the Dutch school system is explained in more detail in Mearns and De Graaff (2018).

Learning in a school bilingual environment leads to increased L2 exposure, and although not all students are equally talkative, they are all expected to produce output in English (in both writing and speaking). Alongside the other English-medium subjects, the bilingual stream students also receive four hours of English as a separate subject: in the first and second year of the MYP in this school, English is taught as a foreign language, in a subject called ‘Language Acquisition’, and in the third and fourth year, English is taught as an L1 and the subject is called ‘Language and Literature’. After almost three years of this programme, students have received approximately 1,942 hours of English input in the bilingual environment. The third-year VWO mainstream students that we used as a control group receive three hours a week of English as a school subject which equals approximately 240 hours of English input after almost three years.

We collected data from 23 first-year bilingual stream students (11–13 years old), 16 bilingual stream third-year students (13–15 years old), and 11 third-year mainstream students (13–15 years old). Both third-year groups were the same as in Chapter 2 but in that chapter, we reported data from a grammaticality judgement task. The first-year students are considered to be pre-bilingual stream students as they had just started the bilingual programme. Nevertheless, we need to keep in mind that they opted for a bilingual educational programme, which makes them a specific group and thus different from regular mainstream students (Mearns, de Graaff & Coyle, 2017).

We could not use the data from all students because the students had to meet several criteria for inclusion. Eligibility for the study was assessed using a background questionnaire containing language-related questions. We did not consider students raised bilingually, students with French- or English-speaking families, or students who had lived abroad for a long period of time. We also used an initial English gap-filling task in all groups to assess the students’ knowledge of the English Adv-V word order (see Appendix A.7.). To detect transfer from English, we used this specific construction. Therefore, it was necessary that the students were sufficiently familiar with it in English. The test contained 24 items, eight of which tested the Adv-V word order. The students were asked to fill in the given verb in one of the two gaps (as in the example below). All students who made more than three errors were excluded from the data.
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Example from the English gap-filling test:

(2) John ………….. often ………….. a banana. 

‘John often eats a banana’.

In the first-year group, we also set an entrance level for the students. Although English is mandatory from at least the penultimate year of primary school (ages 10–11) (Rose, 2016), the quality and quantity varies between schools, resulting in different levels of L2 proficiency (Unsworth et al., 2015). Since the first-year bilingual stream students come from different primary school backgrounds with different levels of L2 proficiency, we checked whether the students had at least an elementary level of English by means of the standardised Anglia test so as to ensure that all students had at least some knowledge of English (Anglia, 2015). No students were excluded because of the Anglia test. We started out with 118 first-year bilingual stream students, of which 43 passed the English gap-filling task. In the third year of both streams, French is an optional subject, which explains why there are fewer students in the third-year groups. In the third-year mainstream group, we started out with 15 and in the third-year bilingual group with 26 students. Only 2 mainstream students were excluded because they did not pass the English gap-filling task. Other students could not be included because of other criteria mentioned above (for instance because of a bilingual upbringing or a stay abroad).

With regards to the students’ level of French, both third-year groups had received almost three years of formal instruction in French in school. Although there were several teachers with different individual teaching styles, the bilingual and mainstream students were all using the same textbook and the learning objectives for both groups of the students were similar. In their first- and third-year students receive 45 minutes of formal instruction in French three times a week, and in their second year they receive 45 minutes twice a week for about 35 weeks, amounting to approximately 210 hours.

5.3.4. Experiments

We used two different tests to collect our data: a French gap-filling task (GFT) to measure possible influence from the English word order in French and a standardised L2 English proficiency vocabulary size test (Meara, 2010) to
calculate the correlation between the students’ individual L2 proficiency and the number of Adv-V mistakes.

5.3.4.1. The French GFT. Gap-filling tasks measure the participants’ guided production. The first-year test contained 24 items: 8 items testing Adv-V word order and 16 fillers (see Appendix A.3.). The third-year test consisted of 36 items: 12 items testing Adv-V word order and 24 fillers (see Appendix A.4.). The first-year test contained fewer items because the students were very young, they were in the first regular school week of secondary school and they were initial state learners of French. Although L3 proficiency increases from first- to third-year students, L3 development and L3 proficiency are not the focus of this study so it was important that the French tests were very easy for all students to take. To this end, we used basic vocabulary and simple French sentences to detect transfer from the L2. Students were asked to fill in the given verb in the correct gap. If the students placed the verb before the adverb it was counted as a ‘hit’. When they placed the verb after the adverb the students got a ‘miss’. In the following example, we present an instance from the gap-filling test.

Example from the French GFT:

(3) Manon …… vraiment …… ce gâteau. aime
‘Manon really loves this cake.’

5.3.4.2. The L2 proficiency test. Overall L2 proficiency is difficult to measure. However, in the literature, vocabulary knowledge is seen as an important component of proficiency (Hulstijn, 2010), and in most cases, more advanced learners have larger vocabularies (Meara, 2010). Therefore, vocabulary size is often taken to be a good predictor of language ability in other domains, such as fluency in the target language (Hilton, 2008), which (historically) often ‘refers to a person’s general language proficiency’ (Housen & Kuiken, 2009:4). We used the online standardised Yes/No Vocabulary Test, which is often used to measure overall proficiency in SLA research (Meara, 2010). In

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2 To check that L3 proficiency did not play a role, we calculated the correlation between the number of Adv-V errors in French and students’ final third-year French marks at school (which is an average of reading and listening comprehension, written production, and vocabulary/grammar). No correlation was found (bilingual stream group (r(15)= −.14, p=0.594) and control group (r(10)= −.20, p=0.588)).
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In the literature, this test is presented as one of the most authoritative vocabulary size tests (Eyckmans, 2004; Read, 2010). It is based on a vocabulary of 10,000 words and contains 200 items. It gives an estimate of the participants’ vocabulary size (out of 10,000 words). Scores ranging from 6,000 to 10,000 are typical for proficient non-native speakers, whereas intermediate-level speakers score between 3,500 and 6,000 and competent beginners between 2,000 and 3,500. The test contains both real and imaginary words. The participants have to indicate whether they think they know the meaning of the word displayed.

5.3.5. Procedure and analysis

All linguistic tests and the background questionnaire were completed during school hours. We scheduled two 45-minute sessions in which we began with the French gap-filling task, followed by the English gap-filling task and the English proficiency tests. The final component was the background questionnaire. It was important to start with the French test so as not to bias the students with respect to English influence before taking the French test.

We tested the first-year bilingual stream students in their second school week, so they were initial-state learners of French, i.e. learners at the onset of learning. Before being able to take the French linguistic test, the students first needed to become familiar with the French vocabulary used in the tests. We scheduled three 45-minute preparation sessions during French lessons in their first week of secondary school, in which attention was devoted to all of the necessary vocabulary. The students were given the vocabulary as a homework assignment and were allowed to use their vocabulary list during the test. According to the curriculum, all third-year students should already be familiar with the French vocabulary that was used in the test. Still, we handed out a vocabulary list beforehand for them to study and we provided the same vocabulary list during the test procedure.

All data were controlled for normality using a Shapiro–Wilk test. The first-year data and the data from the control group were not distributed normally, and the samples were small. For this reason, we used a non-parametric Mann-Whitney U test to calculate the difference in the number of Adv-V errors between groups. The dependent variable was the number of errors. The number of items differed between the tests that we used in the first year and the third year, so we transformed the scales so that we could compare number of errors despite this difference. To calculate the relationship between
the individual L2 proficiency scores and the number of Adv-V errors in French, we used the non-parametric Spearman correlation test.

5.4. Results
In Section 5.4.1, we first present the number of Adv-V verb placement errors in French in all groups by means of boxplots to learn more about the descriptive statistics of the students’ performance. This is followed by a statistical analysis. In Section 5.4.2, we present the results of the correlation between the number of Adv-V verb placement errors in French in the third-year bilingual group and the control group and the students’ individual English (L2) proficiency.

5.4.1. Adv-V word order in French
We first present the results by means of three boxplots to learn more about the distribution of the number of Adv-V errors within groups. All individual results are presented in Appendix B.1. The first boxplot (Figure 5.1) shows that there is an outlier in the group of first-year bilingual stream students that is shown as an asterisk (participant number 18), who made six errors. Another first-year bilingual stream student (participant number 21) made four errors. The top quartile of scores – i.e. the highest 25% – falls within the range between one and two errors. The median is zero errors. Note that 13 out of the 23 first-year bilingual stream students did not make any Adv-V errors at all, and only two students made more than two errors.

With the second boxplot (Figure 5.2), we present the results of the third-year bilingual stream students. The tinted area – the interquartile range – shows that 50% falls within the range between one and four errors. However, the top quartile of scores – i.e. the highest 25% – falls within the range between four and seven errors. The lowest 25% falls within the range between zero and one error. The median is 2.5.

In Figure 5.3, we present the boxplot of the control group. We see that 50% of the scores fall in the range between one and four errors and that the median in this group is one error. Other than the one outlier, who made 11 out of 12 errors, only one student made 5 errors. 25% of the students made zero errors.
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Figure 5.1. Number of Adv-V errors in French in first-year bilingual stream students.

Figure 5.2. Number of Adv-V errors in French in third-year bilingual stream students.
Figure 5.3. Number of Adv-V errors in French in third-year control group.

In Table 5.1, we present the total number and the mean number of all Adv-V errors in French per group, the corresponding percentages, the standard deviation (SD), and the minimum and maximum scores. Three students, of whom two were in the first-year group and one was in the control group, fell below two standard deviations of the mean. These students’ scores were not included in the statistical analyses.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Total</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year group</td>
<td>21</td>
<td>10/168 (6%)</td>
<td>0.48</td>
<td>0.75</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Third-year bilingual</td>
<td>16</td>
<td>41/192 (21.4%)</td>
<td>2.56</td>
<td>2.19</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Third-year control</td>
<td>10</td>
<td>17/120 (14.2%)</td>
<td>1.70</td>
<td>2.06</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

3 Including the first-year outliers, the mean rises to 0.87 and the standard deviation rises to 1.52. With the outlier in the control group, the mean rises to 2.56 and the standard deviation rises to 2.19. The differences did not have consequences for the outcomes of the statistical analyses.
Note that the mean number of Adv-V errors in French in the first-year bilingual stream students is 0.48 over eight items, while in the third-year groups this is 2.56 (bilingual stream) and 1.70 (control group) out of 12 items. A Mann-Whitney test revealed significant differences between first- and third-year bilingual stream students ($U = 77.50, z = -2.93, p=0.003$). However, this is not the case with respect to the difference between the first-year bilingual stream students and third-year control group ($U = 78.50, z = -1.28, p=0.201$). We also tested whether there was a significant difference between the two third-year groups, which there was not ($U = 59.5, z = -1.10, p=0.269$).

### 5.4.2. English proficiency and the use of the English word order in French

In this section, we present the L2 proficiency scores and the correlation between the number of verb placement errors in French and overall English proficiency as measured in all third-year students. In Table 5.2, we present the individual L2 proficiency scores, the standard deviation, the range of the scores, and the minimum and maximum scores.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y3 bilingual</td>
<td>5747.33</td>
<td>869.37</td>
<td>2708</td>
<td>4452</td>
<td>7160</td>
</tr>
<tr>
<td>Y3 control group</td>
<td>4930.60</td>
<td>1730.60</td>
<td>5239</td>
<td>2697</td>
<td>6541</td>
</tr>
</tbody>
</table>

The non-parametric Spearman correlation test indicated a non-significant negative correlation between the bilingual stream students' English proficiency and the number of Adv-V errors ($r(15)= -0.21, p=0.44$). The correlation between these variables in the control group is also negative and non-significant ($r(10)= -0.16, p=0.65$).

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Notice that the number of students in the third-year bilingual group is 15, and not 16 ($r(15)$). One third-year bilingual student was not able to continue after the French tests.
5.5. Discussion

In the present study, we explored the effect of L2 exposure and of L2 proficiency on the role of the L2 (English) as a background language in L3 French acquisition. We first focused on the L2 exposure factor followed by the L2 proficiency factor. To investigate the L2 exposure factor, we compared the use of the English word order in first-year students who had just entered the bilingual programme to third-year bilingual stream students who had received almost three years of bilingual education. We used a group of mainstream third-year VWO students as a control group. To this end, the first research question was: To what extent does transfer from L2 English into L3 French differ between first-year bilingual stream students and third-year bilingual stream students?

The results of this study show that L2 influence – as measured by the number of English Adv-V word order errors in French – differs significantly between first- and third-year bilingual stream students, which is not the case in the control group. These findings may be explained by suggesting that over the years the L2 is increasingly activated in the bilingual stream context. However, the number of Adv-V errors in the control group compared to the third-year bilingual group – in which case L2 exposure differs in the daily context – is stable.

We propose concentrating on the individual data that might give us more insight into the cross-sectional developmental pattern with respect to L2 errors in L3 (see boxplots and Appendix B.1.). Although first-year bilingual stream students are initial-state learners of French, only two students made >2 Adv-V errors, and 13 out of 23 students did not make any Adv-V errors at all. In the third-year bilingual group, only three out of 16 students made no Adv-V errors at all, and five students made four errors or more, which may be the reason why the group results for this group differ significantly from those for the first-year bilingual stream students. In the control group a substantial number of students (five out of ten) made no Adv-V errors at all, which may explain why there is no statistical difference between the first-year bilingual stream students and the control group.

It is interesting to note that first-year bilingual stream students scarcely show any transfer from English into L3 French. A possible interpretation of this result is that the initial-state learners, who have just started secondary school, are not yet sufficiently surrounded by English for the language to become a substantial source of influence. Despite the fact that
these first-year students opted for a bilingual education programme, they do not (yet) use English as a background language in L3A. It could also be the case that students need some L3 input before the L2 can be unconsciously perceived as a possible source of transfer. In both L3 intermediate groups – after having received three years of L3 input and after receiving more English in their daily school experience – students do make Adv-V errors. The low number of Adv-V errors in the first-year bilingual stream group may also be explained by another factor: since Dutch and French share the same word order in declarative root clauses (leading to V-Adv word order), the low number of Adv-V mistakes may also indicate positive transfer from Dutch. This is in line with a previous study (Chapter 4), in which we found that initial-state learners of French transfer from the L1 in both acceptance and (guided) production of the XVS(O) word order in incorrect sentences such as *Aujourd’hui vais-je à l’école ‘Today go I to school’ (in Dutch Vandaag ga ik naar school). We have to keep in mind that the first-year participants in this study are a specific group of students because they opted for a bilingual programme. Even though they are in the first regular week of the bilingual programme, we therefore cannot generalize the results to initial state learners of French in mainstream programmes.

With regard to the potential influence of bilingual education (i.e. increased L2 exposure in the daily context) on L3 learning, the question cannot be answered unambiguously. Although we did find an increase with respect to the number of errors based on L2 word order from the first- to third-year bilingual programme, this could also be due to the strong role of Dutch in the initial stages, or to the fact that first-year bilingual stream students do not perceive English as a possible source of transfer at all (either because they need some L3 input or because their L2 is not yet sufficiently ‘activated’). Moreover, the interplay between both background languages is also interesting in this matter, a factor that we discussed in a previous study arguing that it might not be the role of the L2, but rather of the L1 that is affected by bilingual education – the L1 being ‘suppressed’ by the L2 in the bilingual stream context (Chapter 2).

The increased L2 influence on L3 in the bilingual stream context raises the question as to whether this is the result of the increased L2 exposure or rather of a higher L2 proficiency. The second aim of this chapter was to draw a distinction between L2 exposure and L2 proficiency, two factors that have both been claimed to play a role in L3A (Hammarberg, 2009; Tremblay, 2006;
Jaensch, 2009a, 2009b) but which are generally not sufficiently disentangled. Accordingly, our second research question was: To what extent does L2 English proficiency affect L2 English transfer in L3 French? In neither third-year group did we find a correlation between individual L2 English proficiency and Adv-V word order mistakes in French: compared to other students in the same group, students with a higher L2 proficiency do not make more Adv-V errors. On the basis of these results, we could suggest that L2 exposure – the ‘activation’ of English (L2) – is more important than L2 proficiency. However, more empirical research is needed to properly tease apart these variables, with a larger number of students.

The English (L2) transfer in French (L3) that we found in bilingual stream students suggests that foreign language (L3) teachers in bilingual education should be aware of increased (positive and negative) transfer from English. Further research should be undertaken to investigate whether L2 transfer also occurs in other foreign languages taught in secondary school, for instance in German or Spanish (see Chapter 7).

5.6. Conclusion
The goal of the present study was to explore if and how increased English (L2) exposure through Dutch/English bilingual education in the Netherlands affects French (L3) learning. Third-year bilingual stream students transferred significantly more often from English than first-year bilingual stream students (who are in the first official week of their bilingual programme), whereas no difference was found between the first-year bilingual stream students and the third-year mainstream students who formed the control group. We argued that the increased L2 influence may be due to an increased L2 exposure over the years in the bilingual group; that is, more L2 exposure is needed for the L2 to become a source of transfer (Hammarberg, 2009).

We also raised the question of the extent to which L2 influence on L3 is the result of increased L2 exposure as opposed to a higher L2 proficiency. The findings of this study showed no influence of L2 proficiency on the role of the L2 in L3A. Therefore, we tentatively conclude that the more important influence of English on French in the bilingual stream students is rather due to L2 exposure than to L2 proficiency.

Additional empirical research with different constructions is required to learn more about the developmental pattern with respect to the two background languages. We need to conduct a study with other language
pairings to learn more about language learning and processing in L3A, which we will do in Chapter 7. In spite of its exploratory nature, this study adds to our understanding regarding the roles of background languages in L3 learning and processing: some students, after having received enough L2 exposure, perceive the L2 as a possible source of transfer, which might indicate an increased language awareness (Cenoz & Valencia, 1994; Klein, 1995; Jessner, 2008). It is a stimulating idea that especially in bilingual education – when students are surrounded by English, both background languages are used. Students that learn foreign languages in a bilingual environment ‘make use of’ their multilingual brain. If students in bilingual education were made aware of the fact that both the L1 and the L2 could be sources of transfer, for example through teachers drawing explicit attention to it, this could lead to bilingual education providing advantages to L3 learning.
Chapter 6

L1 Dutch and L2 English transfer in the first two years of L3 French acquisition: A longitudinal study

Abstract

This longitudinal study investigates negative transfer from L1 Dutch and L2 English into L3 French in the first two years of French education in a Dutch/English secondary bilingual school. We focus on two word order constructions in declarative root clauses where the three languages differ: V-to-C movement (+Dutch, −French) and V-to-T movement (−English, +French). The results of a grammaticality judgement task and a gap-filling task show that the L3 learners transfer a large amount from L1 Dutch in the initial stages of the first year of French education followed by a dramatic decline in the second and third year of French education. At the onset of L3 learning, L2 English is less activated; however, its influence intervenes and stays stable in later years of learning.

6.1. Introduction

A crucial question in the research field known as third language acquisition (L3A) is which prior language is the source of transfer into the L3, the L1 and/or the L2. Existing models of L3A take different perspectives: the role of the L1 may be maximised (L1 transfer scenario, Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b), the role of the L2 may be as well (L2 status factor hypothesis [L2SF], Bardel & Falk, 2007, 2012; Falk & Bardel, 2011), or both background languages can be potential sources of transfer depending on (perceived) typological resemblance (Typological Primacy Model [TPM], Rothman, 2010, 2011, 2013, 2015), on abstract structural similarity (Linguistic Proximity Model [LPM], Mykhaylyk et al.,

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Transfer in the first two years of L3 French acquisition 2015; Westergaard et al., 2016) or on the facilitating or neutral nature of transfer (Cumulative Enhancement Model [CEM], Flynn et al., 2004). Another question to explore is when transfer occurs in the learning process. Current L3 models predict transfer from either the L1 or the L2 in the initial stages of acquisition (TPM, Rothman, 2011, 2013, 2015; Bardel & Falk, 2007). However, it is also important to consider the interplay between the background languages in different stages of L3 learning, which becomes clearer in empirical data on L3 development.

This chapter is a longitudinal study that investigates the development of the influence of L1 Dutch and L2 English on L3 French acquisition, starting in the initial stages. To collect the data, Dutch/English bilingual stream secondary school students were followed over a period of two years. The study investigates syntactic transfer by looking at two verb placement constructions in which L3 French differs from L1 Dutch and L2 English, i.e. V-to-C movement, (+Dutch, −French) and V-to-T movement (−English, +French). We report findings from a grammaticality judgement task (GJT) and a gap-filling task (GFT).

The chapter is organised as follows. In Section 6.2, the increasing interest of development in the L3 research field is discussed. In Section 6.3, the linguistic description is presented. In Section 6.4, we also take a closer look at some previous studies, since the present research builds on a recent cross-sectional study. Section 5 then describes the design and the method of this empirical study, followed by the results in Section 6.6. The chapter concludes with a discussion of the findings (Section 6.7) and a number of concluding remarks (Section 6.8).

6.2. Theoretical background

6.2.1. Transfer models in L3A

According to the L2SF, the L2 is the primary source of transfer in L3A because the L2/Ln differs cognitively from the L1. Support at a syntactic level has been found in the initial state, for instance in a study on
the placement of sentence negation (Bardel & Falk, 2007) but also in intermediate learners in a study on object pronouns (Falk & Bardel, 2011).

Although it has not yet been postulated as an L3 model, various studies found L1 transfer in the initial stages. In two mophosyntactic studies on the acquisition of the null subject parameter (2014a) and of restrictive relative clauses (2014b), Hermas posits that the L1 (Arabic) and not the L2 (French) is the default source of (non)-facilitative transfer for beginning learners in the initial stages of English (L3). However, in a study on the acquisition of the restrictive relative clause with the same language pairing, pre-intermediate L3 learners also showed (facilitative) transfer from the L2.

Jin (2009) found negative influence of Chinese (L1) in Norwegian (L3) with English as an L2 in the acquisition of null objects. Na Ranong and Leung (2009) observed a positive effect from Thai (L1) in the acquisition of null objects in learners of Mandarin (L3) with L2 English. The TPM (Rothman, 2011, 2013, 2015) proposes that both the L1 and the L2 are potential sources of transfer. In the initial stages of L3A, the L3 learner copies the full grammar of the background language perceived to be the most similar one onto the L3. L3 learners go through a hierarchy of linguistic cues that guides the internal parser to determine which previously acquired language is the most suitable for transfer. In this hierarchy of cues, the lexicon is at the highest level (followed by phonological/phonotactic cues, functional morphology and syntactic structure, in that order) (Rothman, 2013).

Other L3 models focus more on development by assuming property-by-property transfer after the initial stages regardless of the order of acquisition or overall perceived typology. Flynn et al. (2004) proposes property-by-property transfer that occurs when transfer is facilitating or neutral (CEM, Flynn et al., 2004). The LPM suggests that transfer occurs when a linguistic property receives supporting evidence from either the L1 or the L2 (Mykhaylyk et al., 2015; Westergaard et al., 2016). The Scalpel Model (Slabakova, 2016) is in agreement with the LPM: transfer can occur from both the L1 and the L2; that is, the learner uses the grammars (figures out the relevant features and properties) with scalpel-like precision depending on the acquisition task. According to this model, many other factors affect transfer, such as construction frequency, availability of clear unambiguous input, prevalent use and structural linguistic complexity (Slabakova, 2016:7). The increased focus on development demonstrates that the field is ready for a ‘shift in focus towards understanding L3A more
Transfer in the first two years of L3 French acquisition

completely’ (González Alonso & Rothman, 2016:4). Furthermore, the L3 literature also shows an interest in a less static approach by studying the effect of interfering factors that are to some extent connected to development, such as L2 and L3 proficiency (Jaensch, 2009a, 2009b; Sánchez, 2014; Sánchez & Bardel, 2017), L2 exposure/L2 frequency of use (Dewaele, 2001; Hammarberg, 2009) or metalinguistic knowledge attained either in the L1 or in the L2 (Sanz, 2000; Jessner, 2008; Falk et al., 2015; Bardel & Sánchez, 2017).

6.2.2. Longitudinal studies in L3A
There are almost no longitudinal studies in L3A, quite possibly because L3 research is a relatively new field. The only longitudinal study at a syntactic level we know of in L3A is the one carried out by Sánchez (2015a). This includes a four-year longitudinal study and concerns transfer of head-initial features from the L1 (Spanish/Catalan) or head-final values from the L2 (German) into L3 English in bilingual stream students. She found that in the L3 early grammars (after 33 and 66 hours of instruction), the learners treated English as a head-final language just like the L2.2

6.3. Linguistic description
In Dutch clauses that start with a sentence-initial adverbial phrase, the finite verb moves to C and appears in the second position of the clause, which results in an XVS(O) word order (also known as the V2 rule) (Den Besten, 1983), as illustrated in (1). In declarative root sentences containing manner/frequency adverbs, the word orders in French and English differ: in French, the finite verb moves to T and therefore the verb appears before the adverb, as illustrated in (2) whereas in English there is no verb movement, resulting in Adverb-Verb word order in the same type of clause, as shown in (3) (Pollock, 1989).

2 Sánchez (2015b) also carried out a longitudinal L3 study at a lexical level. This includes a four-year longitudinal study in which she examined L1/L2 activation and progressive readjustment of L2 activation and blending over the course of the first 200 hours of instruction among 93 Spanish/Catalan immersion participants (L2 German and L3 English). Sánchez found that learners resort to their L2 at the onset of L3A, followed by a decline after 100 hours of L3 instruction. No evidence was found for L1 activation.
In Table 6.1, we present the movement types and the corresponding differences between languages. It is important to emphasise that where Dutch and French differ, English and French share the same word order – and therefore, the XSV(O) word order in French could also indicate positive influence from English. Conversely, where English and French differ, Dutch and French share the same word order, and thus, V-Adv word order could indicate positive influence from Dutch. This study focuses on errors, this means XVS(O) and Adv-V word order in French, since in later stages of L3 learning it is hard to distinguish between positive influence and acquisition of L3 knowledge.

#### Table 6.1. Dutch, English and French word order in declarative root clauses.

<table>
<thead>
<tr>
<th>Verb movement</th>
<th>Dutch</th>
<th>French</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>XVS(O)(+V2)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Verb-Adverb</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

### 6.4. Influence of L1/L2 and bilingual stream education on L3 French

Previous chapters investigated L1/L2 influence cross-sectionally in different stages of L3A (in Y1, Y3 and Y4 students). This section discusses the most important findings from these chapters, in order to set up the context of the present chapter, allowing us to explore how longitudinal data can contribute to the findings of other studies. The studies presented in previous chapters
were conducted in the same secondary school as this study: a partial Dutch/English bilingual stream secondary school in which students can receive either Dutch/English bilingual stream or mainstream secondary education. We examined syntactic transfer in different groups of learners: in first-year participants who were initial-state learners of French (Chapters 4 and 5), and in both Y3 and Y4 Dutch/English bilingual stream and mainstream students (Chapters 2, 3 and 5). To detect transfer, we tested the same verb placement constructions as in this study: V-to-C movement (−French, +Dutch), in which case in Dutch the verb appears in the second position of the clause, i.e. XVS(O) word order (also known as the V2 rule) (as illustrated in example (1)) and V-to-T movement (+French, −English), in which case the adverb appears post-verbally (V-Adv) in French (as illustrated in example (2)) and pre-verbally (Adv-V) in English (as illustrated in example (3)).

The results of the study amongst initial state learners of French showed that participants lean greatly on their L1 Dutch at the onset of learning French (Chapter 4), much more than on their L2 English. That is to say, the initial-state learners massively transfer the V2 rule into French (XVS(O) errors in 72.3% [GFT] and 64.6% [GJT] of the cases), whereas the first-year participants transfer the English Adv-V word order significantly less often (in 10.9% [GFT] and 33.5% [GJT] of the cases). In later stages of acquisition, the participants ‘unlearn’ the Dutch V2 rule to the point that they make V2 errors in only 2.6% and 11.3% of the cases (in mainstream and bilingual stream Y4 participants, respectively) (data as reported from a GJT in Chapter 3).3

We found more substantial influence of the English Adv-V word order in later stages of L3 learning. The number of Adv-V mistakes increased from Y1 to Y3 in the bilingual group in the production task, from 6% to 21.4% (p=0.003) (Chapter 5), which we interpreted as the L2 needing L2 exposure before it becomes an important source of transfer. The Y3 bilingual stream participants who had received a considerable amount of L2 input in the daily school context also showed significantly more transfer from the L2 than from the L1 (42.4% vs 24.6%, p=0.005) (Chapter 2). Regarding the Y4 participants, the data also showed that the L2 was

3 Westergaard (2003) also pointed out that participants ‘unlearned’ the V2 rule in a second language acquisition study on the acquisition of L2 English (−V2) by L1-Norwegian (+V2) primary-school pupils.
significantly more important than the L1 in both the bilingual stream and the mainstream group (32.7% vs 11.3%, \( p=0.005 \) and 25.3% vs 2.6%, \( p=0.005 \), respectively) (Chapter 3).

However, we also found that the influence of the L1 does not simply decrease in the same way that the influence of the L2 increases in three years of L3A. There is an interesting interplay between the background languages in the cross-sectional developmental process. This interplay depends on the developmental stage of the learner and the amount of L2 exposure the learner receives in the daily context. Although we found a decrease of L1 influence in L3A, in the Y3 mainstream group – where participants are not exposed to English in the daily school context – the L1 remained a relatively important source of transfer as compared to the Y3 bilingual group. That is, the Y3 mainstream participants made significantly more mistakes due to Dutch influence than the Y3 bilingual stream participants (37% vs 24.6%, \( p=0.033 \)) (Chapter 2). We explained this by stating that only in the bilingual stream group (where participants receive enough L2 exposure) is the influence of the L1 overridden by the L2.

Since we tested participants at the onset of Y1 and others at the end of Y3 and Y4, the previous analysis was based on cross-sectional data with a ‘developmental gap’ because we only tested intermediate learners of French in Y3 and Y4. Therefore, the present study aims at exploring the developmental pattern of one and the same group of participants at the onset of Y1, Y2 and Y3. As such, we can study the interplay between the background languages in L3 development described above and explore whether there is a ‘point’ in the acquisition process when the L2 ‘takes over’ the L1 as the preferred source of transfer into L3A.

6.5. Design of this study
6.5.1. Research question and predictions
We aim to enrich existing knowledge on the roles of the L1 and the L2 in different stages of L3A by investigating to what extent and at what point of the L3 learning process the L2 overtakes the L1 as the source of transfer. To this end, the research question is as follows:

How does the influence of the background languages (L1 Dutch and L2 English) develop over time in L3 French learning?
Transfer in the first two years of L3 French acquisition

Based on the study in support of massive L1 transfer at the initial stages in the same population (Chapter 4), and in line with the L1 transfer scenario in L3A (Jin, 2009; Na Ranong & Leung, 2009; Hermas, 2010, 2014a, 2014b) in the initial stages, we formulated the following prediction:

Prediction 1. Transfer from L1 Dutch in the initial stages (Y1) of L3 French acquisition.4

Based on previous studies in which we found almost no transfer from the L1 into Y4 bilingual stream students and an important L2 role in Y3/Y4 bilingual stream students (Chapter 3) and following the studies in support of L2 (French) as a source of transfer in pre-intermediate L3 (English) (e.g. Hermas, 2015), we put forward:

Prediction 2. A decrease of L1 Dutch influence and an increase of L2 English influence in L3 French acquisition starting in Y2.

6.5.2. Context of study
The secondary school where we collected the data is a partly bilingual secondary school that has integrated a bilingual educational system of the International Baccalaureate in the first four grades of secondary school (viz., the Middle Years Programme [MYP]) (IBO, 2019). This programme offers more than 50% of all school subjects in English. Because of this international programme and also because of the ubiquitous presence of English in the Netherlands – which results in English input outside school in, for instance, games, television, series and music, the participants are exposed to English in their daily lives (e.g. Verspoor et al., 2007). The overall scholastic aptitude of the participants is comparable because of the Dutch secondary school system. In the Dutch system students are divided into three

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4 It is difficult to define when a learner is in the initial stages of acquisition since the length of the initial stages depends on various factors such as quantity and quality of input and context (González Alonso & Rothman, 2016). For the purpose of this study, in which case students receive three 45-minute classes of French education per week, we limit the initial stages to the first weeks of learning. Therefore, we only consider the Y1 students as learners in the initial stages.
different tracks after elementary school, and in the school where the study took place, students are enrolled in the two highest tracks.\footnote{At the end of elementary school, Dutch pupils take a national standardised test, called the CITO test, to get an idea of their overall learning ability. On the basis of this test (and in accordance with the recommendation of the primary school teacher), the pupils are placed in one of the three tracks in secondary school: pre-vocational (VMBO), general (HAVO) or pre-university (VWO) (Mearns & de Graaff, 2018).}

### 6.5.3. Participants

We examine the involvement of the L1/L2 in the developmental process of the L3 by following a group of participants over a time span of two years of study in which we tested them three times: Y1 participants at the average age of 12.8, Y2 at the age of 13.8 and Y3 at the age of 14.9. The average age in the Y3 group is different due to participants who we could no longer follow in Y3.

#### 6.5.3.1. First-year participants

For the data collection in Y1, we tested all participants in their second school week.\footnote{Note that a part of the data from the study on initial state learners (Chapter 4) were reused for the Y1 data of this study.} We used the data from 18 participants (average age 12.8), as we had to tackle the following criteria: they had to be native speakers of Dutch, excluding bilinguals, participants with a bilingual parent and participants who had been in extensive contact with other languages besides Dutch outside the school context (such as through relatives or a stay abroad). Furthermore, since English is the L2, the first-year participants took an English gap-filling task with declarative root clauses that contain a manner or frequency adverb as illustrated in example (1). We only considered the results of the participants who had an adequate accuracy on Adv-V word order in English. We tested the knowledge of the English Adv-V word order with a GFT. Since we wanted to control for English verb placement, the participants simply had to put the verb in the right gap. The subject and object of the sentence and a manner/frequency adverb were given. The participants were instructed to choose the gap they presumed to be correct in English. The test contained 24 items, eight of which tested the Adv-V word order and 16 were fillers. All participants who...
made more than three mistakes were excluded. The full task is presented in Appendix A.7.

Example from the English GFT:

(4) Paul…………….. sometimes ……………..an apple. *eats*

‘Paul sometimes eats an apple.’

Although English is mandatory in the last two grades of Dutch elementary schools, the quality and quantity of English teaching (and hence the first-year participants’ proficiency) differs considerably (Unsworth et al., 2015). Therefore, after the English GFT test, we also checked the learners’ proficiency level in English using the Anglia placement test. The participants needed to have at least an elementary level of the standardised Anglia placement test (Anglia, 2015).

The first-year participants are initial-state learners of French. However, to be able to take the test, they needed some L3 French lexical input. Therefore, we used the first week of secondary school to present them with vocabulary. The training consisted of several online exercises in which we incorporated the words that we used in the test. The participants also had to learn these words as a homework assignment. We made sure that they did not come into contact with the sentence structures to be tested since that could have constituted a rehearsal of the experimental test. A more detailed explanation of the first-year preparatory lessons can be found in Chapter 4, Section 4.3.

6.5.3.2. Second- and third-year participants. At the second time of data collection, the participants had been enrolled in the bilingual stream context

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7 We set an accuracy minimum of 5/8 to ensure that the learners would have a minimal knowledge of the Adv-V word order to transfer into the L3. We also set this accuracy minimum for practical reasons. Otherwise, the number of participants would be too low.

8 Only one first-year participant had an ‘elementary’ level according to the Anglia Placement test. Five students had a pre-intermediate level, seven an ‘intermediate level’, three a ‘proficiency level’ and two a ‘masters level’. We also calculated the correlation between the first-year participants’ L2 proficiency (using the standardised Meara vocabulary size test [Meara, 2010]) and the number of Adv-V errors. We found a weak correlation (coefficient of minus .104) that was not significant (p=0.663).
for one year, and testing took place at the start of their second year. The third time of testing took place at the start of their third year. All students need an A1 English proficiency level (as defined in the Common European Framework of References [CEFR]) (Council of Europe, 2001) to pass from Y1 to Y2 and an A2 English proficiency level to pass from Y2 to Y3. We checked the students’ L2 proficiency by means of the end grades of Y1 and Y2 (which is an average of reading, listening, writing and oral skills).

The setting of French acquisition was exclusively in the formal school context. The participants are required to have an A1 level (CEFR, receptive knowledge) in French after two years of instruction. However, L3 proficiency is not the focus of this study, so just as in Y1, the tests had to be very easy to take. Although we used the same tests as in Y1, we made sure that the Y2 and Y3 participants were still familiar with the vocabulary used in the tests: since we are focusing on word order, their vocabulary should not be a hurdle. As mentioned above, the constructions that we tested had not been part of the French curriculum. Nevertheless, since the participants had received a considerable amount of authentic L3 input at the time of testing in Y2 and Y3, we only concentrated on errors to avoid confusing positive transfer with L3 knowledge.

6.5.4. Experimental tasks
We report data from a grammaticality judgement task (GJT) and a gap-filling task (GFT) testing the two constructions as illustrated in Table 6.2: (1) declarative root clauses with manner/frequency adverbs (V-Adv word order in French and Adv-V word order in English) and declarative root clauses starting with a sentence-initial adverb (+V2 in Dutch and −V2 in French). The GJT contained seven test items per construction, four of which were grammatical and three were ungrammatical, and 18 fillers, while the GFT contained eight items per construction and eight fillers (Appendices A.1. and A.3.). The fillers were very simple sentences with SVO word order. The same tests were used in Y1, Y2 and Y3. Since the Y1 participants were initial-state learners, we used simple short sentences with many cognates, such as ‘chocolat’, ‘film’ or ‘série’.
In the first and second year, the participants took the tests in the French class. In the third year, we tested them after school.

6.6. Results

This section presents the group results. Since we tested 18 participants in Y1 and Y2 and 14 participants in Y3, we will report and analyse two data sets separately: one on the basis of 18 participants, presented in Tables 6.3 and 6.4 (comparing Y1 to Y2), and one on the basis of the 14 participants who reached Y3, presented in Tables 6.5 and 6.6 (comparing Y1 to Y2 to Y3). The V2-errors in Y1 and Y2 are presented in Tables 6.3 and 6.5 and the Adv-V errors are presented in Table 6.4 and 6.6. We also report the accuracy scores because they reveal the L3 learners’ progress.
Table 6.3. Results of V2 constructions in GJT and GFT for Y1 and Y2.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Mean</th>
<th>SD</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1 GJT</td>
<td>83/126</td>
<td>4.61</td>
<td>1.42</td>
<td>34.1%</td>
</tr>
<tr>
<td>(65.9%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GJT</td>
<td>41/126</td>
<td>2.28</td>
<td>1.60</td>
<td>67.5%</td>
</tr>
<tr>
<td>(32.5%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y1 GFT</td>
<td>115/144</td>
<td>6.39</td>
<td>2.12</td>
<td>20.1%</td>
</tr>
<tr>
<td>(79.9%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GFT</td>
<td>19/144</td>
<td>1.06</td>
<td>2.15</td>
<td>86.8%</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Table 6.4. Results of Adv-V constructions in GJT and GFT for Y1 and Y2.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Mean</th>
<th>SD</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1 GJT</td>
<td>39/126</td>
<td>2.17</td>
<td>1.69</td>
<td>69%</td>
</tr>
<tr>
<td>(31%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GJT</td>
<td>43/126</td>
<td>2.39</td>
<td>1.58</td>
<td>65.9%</td>
</tr>
<tr>
<td>(34.1%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y1 GFT</td>
<td>21/144</td>
<td>1.17</td>
<td>1.82</td>
<td>85.4%</td>
</tr>
<tr>
<td>(14.6%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GFT</td>
<td>22/144</td>
<td>1.22</td>
<td>1.73</td>
<td>84.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What stands out is the decrease in the number of V2 errors from Y1 to Y2 in both tasks. The close inspection of the table shows a difference between receptive knowledge (GJT) and guided production (GFT): Y1 participants make more guided production errors than judgement errors, and Y2 participants make more judgement errors than guided production errors. Table 6.4 shows that the number of English Adv-V errors stays stable across years and in both tasks. However, the participants show more judgement errors than guided production errors.

A repeated-measures ANOVA with TIME as the between-subjects factor and STRUCTURE as within-subject factor showed a significant main effect for V2-errors in both tasks: GJT, \(F(1.00, 17.00) = 18.51; p<.001, \eta^2_p = .52\) and GFT, \(F(1.00, 17.00) = 68.95; p<.001, \eta^2_p = .80\). However, the difference between the two groups on Adv-V constructions is not significant: GJT, \(F(1.00, 17.00) = .173; p=0.682, \eta^2_p = .010\) and GFT, \(F(1.00, 17.00) = .024 ; p=0.878, \eta^2_p = .001\).
Transfer in the first two years of L3 French acquisition

Table 6.5 presents the data of the V2 word order and Table 6.6 that of the Adv-V word order of the 14 participants in Y1, Y2 and Y3. In these tables, we only took into account the participants that reached Y3. These data show the same decrease in the number of V2 errors, especially from Y1 to Y2. The data also show that the Y1 participants make more errors in the GFT than in the GJT. However, in Y2 and Y3 it is the other way around: students make more judgement errors than production errors.

### Table 6.5. Results of V2 constructions in GJT and GFT for Y1, Y2 and Y3.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Mean</th>
<th>SD</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1 GJT</td>
<td>66/98</td>
<td>4.71</td>
<td>1.49</td>
<td>32.7%</td>
</tr>
<tr>
<td></td>
<td>(67.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GJT</td>
<td>34/98</td>
<td>2.43</td>
<td>1.65</td>
<td>65.3%</td>
</tr>
<tr>
<td></td>
<td>(34.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y3 GJT</td>
<td>25/98</td>
<td>1.79</td>
<td>1.12</td>
<td>74.5%</td>
</tr>
<tr>
<td></td>
<td>25.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y1 GFT</td>
<td>93/112</td>
<td>6.71</td>
<td>2.13</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>(83%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GFT</td>
<td>18/112</td>
<td>1.29</td>
<td>2.40</td>
<td>93.9%</td>
</tr>
<tr>
<td></td>
<td>(16.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y3 GFT</td>
<td>2/112</td>
<td>0.14</td>
<td>0.36</td>
<td>98.2%</td>
</tr>
<tr>
<td></td>
<td>(1.8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 6.6. Results of Adv-V constructions in GJT and GFT for Y1, Y2 and Y3.

<table>
<thead>
<tr>
<th>Adv-V</th>
<th>Total</th>
<th>Mean</th>
<th>SD</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1 GJT</td>
<td>34/98</td>
<td>2.43</td>
<td>1.74</td>
<td>65.3%</td>
</tr>
<tr>
<td></td>
<td>(34.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GJT</td>
<td>32/98</td>
<td>2.29</td>
<td>1.78</td>
<td>67.3%</td>
</tr>
<tr>
<td></td>
<td>(32.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y3 GJT</td>
<td>30/98</td>
<td>2.14</td>
<td>1.56</td>
<td>69.4%</td>
</tr>
<tr>
<td></td>
<td>(30.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y1 GFT</td>
<td>17/112</td>
<td>1.21</td>
<td>1.97</td>
<td>84.8%</td>
</tr>
<tr>
<td></td>
<td>(15.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 GFT</td>
<td>15/112</td>
<td>1.07</td>
<td>1.64</td>
<td>86.6%</td>
</tr>
<tr>
<td></td>
<td>(13.4%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y3 GFT</td>
<td>26/112</td>
<td>1.86</td>
<td>1.83</td>
<td>76.8%</td>
</tr>
<tr>
<td></td>
<td>(23.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The repeated-measures ANOVA with time as the between-subjects and structure as within-subject factor showed a significant main effect of the dependent variable V2 errors in both the GJT ($F(1.81, 23.60) = 15.49; p < .001, \eta^2_p = .54$) and in the GFT ($F(1.74, 22.59) = 51.69, p < .001, \eta^2_p = .80$). We remark that the effect size in GJT is medium and the effect size in GFT is large. Post hoc tests using the Bonferroni corrections revealed a significant difference between Y1 and Y2 in both tasks (GJT, $p < .001$; GFT, $p = .0.287$). Therefore, we conclude that there is a significant decrease in V2 errors after the first year. Regarding the Adv-V errors, we did not find a significant effect of the dependent variable Adv-V errors in both the GJT ($F(1.978, 25.715) = .108, p = .896, \eta^2_p = .01$) and the GFT ($F(1.362, 17.701) = 1.011, p = .355, \eta^2_p = .07$). In the GFT, we do see a tendency of increase of Adv-V errors from Y2 to Y3.

6.7. Discussion

This study examined the longitudinal development of L1 Dutch/L2 English influence on L3 French in V-to-C and V-to-T movement constructions. It sought to explore how the influence of the L1 and L2 develops in the first two years of the L3 learning process.

In light of the statistical analysis, we revisit the learning predictions, repeated here for convenience:

Prediction 1. Transfer from the L1 in the initial stages (Y1) of L3 acquisition.

Prediction 2. A decrease of L1 influence and an increase of L2 influence in L3 acquisition starting in Y2.

**Prediction 1.** The first prediction regarding L1 transfer in the initial stages of French learning is confirmed, which aligns with the L1 transfer scenario (Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b). This is true only for the Y1 participants. At the onset of L3 learning, the Y1 participants massively transferred the L1 Dutch V2-rule into L3 French, although the transfer of the L2 English equivalent construction would have been facilitative (L1 Dutch≠L2 English=L3 French). Group results show that they accepted the Dutch word order at the rate of 65.9% (Table 6.3) and
Transfer in the first two years of L3 French acquisition

67.3% (Table 6.5) (GJT) and produced the Dutch word order at the rate of 79.9% (Table 6.3) and 83% (Table 6.5) (GFT). Since only two constructions are investigated, we need to interpret the transfer of the V2 rule in the initial stages with caution. More research on other constructions is needed to learn more about the extent to which the L1 is transferred in the initial stages.

With regards to the English word order in French, we found an acceptance rate of 31% (Table 6.4) and 34.7% (Table 6.6) (GJT) and a production rate of 14.6% (Table 6.4) and 15.2% (Table 6.6) (GFT). Even though the participants were accurate on the English Adv-V word order, they are not yet exposed to enough English input for the L2 to play a significant role in the L3. There is not enough L2 frequency of use and L2 exposure (Dewaele, 2001; Hammarberg, 2009). It could also be the case that the participants need more L3 input to perceive similarities between L3 French and L1 Dutch or L2 English (which can result in both negative and positive transfer). Since the only input these participants received was lexical input to enable them to take the tests, it could be the case that they were not yet able to make appropriate assumptions at the syntactic level.

Prediction 2. Another important finding is the decrease of L1 transfer after the initial stages. The tasks show a highly significant decrease of L1 transfer from Y1 to Y2 with respect to the number of V2 errors. The results of this study gave us more insight into the transition point where L1 influence decreases, which occurs relatively quickly after the initial stages. Even though there is still some descending tendency from Y2 to Y3, most participants ‘unlearned’ the V2 rule within the first year of instruction in French. Remember that English and French share the XSV(O) word order (and differ from Dutch XVS(O)). Therefore, the decrease of L1 transfer after the initial stages are in favour of L2 English facilitative transfer (but maybe L3 acquisition). These findings are in line with Hermas (2015) and Falk and Bardel (2011), who found L2 transfer in later stages of development. Although we have to be cautious with the interpretation of accuracy rates, since positive transfer could also indicate L3 knowledge, it is still relevant to highlight that there is a massive increase in positive L2 influence with respect to the XSV(O) word order from Y1 to Y2 (34.1% to 67.5% in the GJT and 20.1% to 86.8% in the GFT). This confirms the second prediction and the results of a previous (cross-sectional) study in which we found an increase of the L2 from Y1 to Y3 (Chapter 5).
Although we found influence of L2 English in L3 French acquisition (which is in line with e.g. Hermas (2015), who found that pre-intermediate learners transfer from both L2 French and L1 Arabic into L3 English), no evidence of an increase in Adv-V errors was found in this longitudinal study. Although we did find a small increase from Y2 to Y3 in the guided production task, this is not in accordance with the results of a previous study where L2 increased significantly from Y1 to Y3 in a guided production task (Chapter 5). We suggest that the differences between the current study and the previous ones could be due to the fact that in the first two years of L3 learning, the L2 is (for most participants) not yet sufficiently activated to play a more important role in L3A. Note that the data collection in this longitudinal study took place at the start of the third year whereas in the cross-sectional study the data collection of the Y3 students took place at the end of the school year (Chapter 5). It takes more time in the bilingual stream context for the L2 to demonstrate a group effect. Nevertheless, it is still interesting to see that we did find that the number of Adv-V errors remains statistically stable across the years and in both tasks despite an increase in L3 proficiency.

Transfer from both the L1 and the L2, that is, simultaneous influence of two linguistic systems on the L3 is called combined crosslinguistic influence (De Angelis, 2007). At a certain stage of development, that is in Y2, the influence of Dutch and English is comparable in both tasks. In the GJT, students made V2 errors in 32.5% (table 6.3) and 34.7% (table 6.5) of the cases and Adv-V errors in 34.1% (table 6.4) and 32.7% (table 6.6) of the cases. The same goes for the GFT: whereas V2 errors in Y2 are made in 13.2% (table 6.3) and 16.1% (table 6.5) of the cases, Adv-V errors are made in 15.3% (table 6.4) and 13.4% (table 6.6) of the cases. In other stages of development, the influence seems to be sequential, not simultaneous. That is, L1 transfer in the initial stages of Y1 followed by more L2 transfer in subsequent stages (from Y2 to Y3). In Y1 participants, who just finished elementary school, where foreign language education plays an insignificant role, the L1 is intuitively ‘the first option’ to resort to. In Y2, both languages play a simultaneous role and from Y2 to Y3, a tendency of an increase in Adv-V errors (from the L2) was found in the GFT (13.4% to 23.2%).
6.8. Conclusion

This longitudinal study investigated the development of the influence of L1 Dutch and L2 English in the first two years of L3 French acquisition amongst L2 bilingual secondary school pupils. The first finding was the significant decrease in V2 errors (L1 Dutch) that occurred relatively early in the L3 initial stages; it took about one year of instruction in French for the L3 learners to start transferring less from the L1. This result deepens the understanding of the developmental pattern of L1 influence since previous cross-sectional work only indicated that L1 influence decreased somewhere between the initial stages and the end of Y3 (Chapter 5). Further (longitudinal) studies on the decline of the L1 influence on the L3 are needed. The second finding showed no significant increase of the L2 influence in the first three years of L3A. More research on L2 influence should be undertaken with other constructions. In future research, it would also be interesting to compare L3 learners with L2 learners of French to investigate to what extent it is English rather than L3 knowledge that plays a role. Finally, other language combinations could provide more insights into the interplay between L1 and L2 in L3A. We will look into this in the next chapter (Chapter 7).
Chapter 7

The role of the L3 in L3A:
Comparing L3 French to L3 German

Abstract
With the present study, we aim at investigating to what extent the L3 affects transfer from background languages. To this end, we investigate two L3s – L3 German and L3 French – while keeping the L1 (Dutch) and the L2 (English) constant. To examine the two L3s in contrast, we compare data from Chapters 2 and 5 on third-year Dutch/English bilingual stream students (L3 French) to new data gathered amongst the same type of learners taking German as an L3. Data were gathered by means of a gap-filling task and a grammaticality judgement task. The results indicate significantly more L2 English influence on L3 French than on L3 German. We argue that this is due to perceived typological and structural resemblance between L1 Dutch and L3 German.

7.1. Introduction
In the field of morphosyntactic third language acquisition (L3A) research, studies are generally focused on investigating the role of the first language (L1) vs the role of the second language (L2) in L3 learning. In the last decades or so, various language combinations have been studied and empirical evidence has been found for different scenarios, including preferred influence of the L1 (L1 transfer scenario, Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b) or the L2 on the L3 (L2 status factor hypothesis, Bardel & Falk, 2007, 2012; Falk & Bardel, 2011) or

1 A slightly modified version of this chapter was submitted as: Stadt, R., A. Hulk & P. Sleeman (accepted). L2 influence in L3 acquisition: The role of the L3. In A. Trotzke & T. Kupisch (eds), Formal Linguistics and Language Education: New Empirical Perspectives. Dordrecht: Springer.
transfer from either the L1 or the L2 into an L3 as a result of general typological grouping (Typological Primacy Model [TPM], Rothman, 2011, 2013, 2015), or on (abstract) structural resemblance between one of the background languages and the L3 target language (Linguistic Proximity Model [LPM], Mykhaylyk et al., 2015; Westergaard et al., 2016). However, in morphosyntactic L3 studies on transfer, the research focus is generally on comparing the influence of L1 transfer and/or L2 transfer in relation to one and the same L3. With the present study, we aim at investigating to what extent transfer from similar background languages will be the same with a different L3. To this end, the research goal of this study is to compare two L3s – L3 German and L3 French – while keeping the L1 (Dutch) and the L2 (English) constant.

This study derives from previous chapters in which we both compared the role of L1 Dutch and L2 English in L3 French and investigated development with respect to the influence of Dutch (L1) and English (L2) in L3 French. Data were collected in the first four years of a secondary school in the Netherlands offering both a Dutch/English bilingual stream and a mainstream programme. In the bilingual stream programme, students receive at least 50% of their subjects in English whereas in the mainstream programme students follow the Dutch curriculum: classes are taught in Dutch, and English is taught as a subject. Results of these studies suggested that transfer occurs from both L1 Dutch and L2 English depending on the amount of L2 vs L1 exposure in the daily context (Chapter 2) and on the developmental stage the L3 French learner is in (Chapter 6). Even though in these studies different variables have been the object of investigation, the L3 (French) remained constant. We did not investigate what happens when we look at a different L3 with the same L1 and L2. By comparing the data on L3 French to new data on L3 German while keeping other variables as constant as possible, we aim at learning more about the interplay between background languages and different target L3 languages.

A remarkable result from two of our previous studies (Chapters 2 and 5) was the substantial role of L2 English in L3 French, especially in

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2 The TPM builds on Kellerman’s idea on the influence of unconsciously perceived similarity between background and target language in SLA (Kellerman, 1983, 1986).
third-year bilingual stream students, when learners are exposed to a great deal of English in the daily school context and have been exposed to English through the years. The purpose of this chapter is to investigate whether this strong L2 influence that we found in the third-year bilingual stream context in the language combination L1 Dutch–L2 English–L3 French, also applies to the language combination L1 Dutch–L2 English–L3 German. To examine the two L3s in contrast, we therefore decided to investigate the extent to which the same type of intermediate L3 learners (in the same secondary school) transfer from English into German. To this end, the research question we address is: To what extent does L2 English play a similar role in L3 German as compared to L3 French?

The chapter is structured as follows. Considering that we build on previous chapters, we start in Section 7.2 by presenting the linguistic description of the word order in declarative root clauses in the languages involved (Dutch, English, French, and German). In Section 7.3, we will address our previous research findings (7.3.1) and will discuss some other studies that have been conducted on the acquisition of German as an L3 (7.3.2). In Section 7.4 we first present the context of study (7.4.1) followed by the design of the present study: first, the research question and the prediction relevant to this study (7.4.2), followed by the participants (7.4.3), the experiments (7.4.4), and the procedure (7.4.5). In Section 7.5, we present the results of the L3 German group and compare them to the results from our previous studies on L3 French. This is followed by a discussion of the findings (Section 7.6) and some concluding remarks (Section 7.7).

7.2. Linguistic description: V-to-T movement

As the present study builds on our previous findings, in which transfer from the L2 was studied using the same construction, viz. verb placement construction in the language combination L1 Dutch–L2 English–L3 French, in this section we first concentrate on the linguistic description of verb placement with respect to all languages involved in the present study and earlier studies.

The position of the adverb in Dutch, English, French, and German main clauses depends on whether the verb moves out of the VP (to T) (Pollock, 1989). The asymmetry between English and Dutch, German, and French is due to a difference with respect to this type of verb movement: in German, Dutch, and French declarative main clauses, the verb moves to T,
which results in the adverb appearing post-verbally (Verb-Adverb word order) in the surface structure (as illustrated in 1, 2, and 3). In English there is no such verb movement (as illustrated in 4), which results in the adverb appearing preverbally (Adverb-Verb word order) in declarative root clauses (Pollock, 1989).

(1)  *Manon geht manchmal in den Zoo.  (German)
     'Manon sometimes goes to the zoo.'

(2)  *Manon gaat soms naar de dierentuin.  (Dutch)
     'Manon sometimes goes to the zoo.'

(3)  *Manon va parfois au zoo.  (French)
     'Manon sometimes goes to the zoo.'

(4)  *Manon manchmal geht in den Zoo.
     *Manon soms gaat naar de dierentuin.
     *Manon parfois va au zoo.
     'Manon sometimes goes to the zoo.'

Concentrating on this type of verb movement offers two advantages to our study: 1) English differs in this respect from all the other languages involved, and 2) the students under investigation are intermediate L3 learners who have already received a great deal of L3 exposure (see section 7.4.3 for more detailed information). By concentrating on errors in the L3 – that is, on negative transfer – we avoid the risk that transfer is simply increased L3 knowledge. In Table 7.1, verb placement in declarative root clauses is illustrated in all four languages.
Table 7.1. Dutch, English, French and German word order in declarative root causes.

<table>
<thead>
<tr>
<th>Verb movement</th>
<th>Word Order</th>
<th>Dutch</th>
<th>English</th>
<th>French</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-to-T movement</td>
<td>Verb-Adverb</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

In the next section, we will give a summary of the results of our previous studies followed by other studies on L3 German conducted in the L3 field of research.

7.3. Background

7.3.1. Results of our previous studies

In previous chapters, we considered syntactic transfer both from L1 Dutch and from L2 English in L3 French in various stages of acquisition. Data were gathered by means of two offline tests: a grammaticality judgement test (GJT) to measure receptive knowledge and a gap-filling test (GFT) to measure guided production. Transfer from the L2 was detected via English Adv-V word order errors in French (as described above in section 7.2), while transfer from the L1 was detected via negative transfer of the Dutch V2 rule, i.e. XVS(O) word order in French. In Dutch declarative root clauses with a sentence-initial adverb, the verb appears in the second position of the clause (in sentences such as Vandaag doet Manon haar examen *Aujourd’hui passe Manon son examen, *Today takes Manon her exams ‘Today Manon takes her exam’). The tests were very easy to take for all students, and the students were familiar with the vocabulary because we aimed at avoiding L3 proficiency being a variable. In what follows, we will summarise the main findings from previous chapters in order to set the starting point of this study.

In Chapter 2, we compared the acceptance of Dutch (L1) and English (L2) word order in French (L3) in 16 third-year bilingual stream students and in 11 third-year mainstream students by means of a GJT. The bilingual stream students accepted the English (L2) Adv-V word order more often than the Dutch (L1) XVS(O) word order (42.4% vs 24.6%, $p=0.005$). In mainstream students, however, we found an equal proportion of Adv-V and XVS(O) errors in French (34.4% vs 37%, $p=0.742$). L2 was thus found to have a substantial role in L3 French learning only in the bilingual stream students, who were exposed to and used the L2 to a greater extent in their day-to-day school environment. Additionally, findings of the same study
also demonstrated a significant difference between mainstream and bilingual stream students with regards to transfer from the L1, i.e. the mainstream students accepted the Dutch (L1) word order significantly more often than their bilingual stream counterparts (37% vs 24.6%, p=0.033).\(^3\) We interpreted these results by stating that in a bilingual stream context (as compared to a mainstream context), when the L2 is more activated in the daily school context, the L1 is suppressed to a greater extent than in the mainstream group. In a bilingual stream context, L2 English thus seems to have an important influence on L3 French in intermediate learners. To give a clear overview, we repeat the results of Chapter 2 in Table 7.2.

**Table 7.2. Results of Adv-V and XVS(O) constructions in GJT for third-year bilingual stream and mainstream students.**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Adv-V errors</th>
<th>XVS(O) errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y3 bilingual group</td>
<td>16</td>
<td>95/224 (42.4%)</td>
<td>55/224 (24.6%)</td>
</tr>
<tr>
<td>Y3 mainstream group</td>
<td>11</td>
<td>53/154 (34.4%)</td>
<td>65/154 (37%)</td>
</tr>
</tbody>
</table>

\(^p=0.261\) \(^p=0.033\)

In a cross-sectional study (Chapter 5), we compared the number of Adv-V errors in first-year bilingual stream students (who were in the first regular week of secondary school and were therefore on the threshold of being enrolled in the bilingual programme) to those of third-year bilingual stream students by means of a GFT. In that study, we found significantly more L2 English influence in intermediate stages than in initial stages of L3 French acquisition in the bilingual stream context: third-year bilingual stream students displayed more Adv-V errors in French than first-year bilingual stream students (p=0.003). We repeat the results of Chapter 5 in Table 7.3.

\(^3\) The difference between mainstream and bilingual stream students regarding transfer from the L2 was not significant. Nonetheless, the bilingual stream students did show a tendency to misjudge the English word order more often than the mainstream students (42.4% vs 34.4%, p=0.261).
Table 7.3. Results of Adv-V constructions in GFT for first- and third-year bilingual stream students.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Adv-V errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year bilingual group</td>
<td>21</td>
<td>10/168 (6%)</td>
</tr>
<tr>
<td>Third-year bilingual group</td>
<td>16</td>
<td>41/192 (21.4%)</td>
</tr>
</tbody>
</table>

In a longitudinal study (Chapter 6), we focused solely on bilingual stream students. In this study, in which we were also concerned with XVS(O) errors (L1 transfer) and Adv-V errors (L2 transfer) in L3 French, we tested the students three times: at the start of the first, second, and third years. The data were gathered by means of a GJT and a GFT. The results of the first-year students – in the initial stages of L3 acquisition – suggested that the L1 is the most popular source of transfer (which is in line with Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b). The first-year students incorrectly used and misjudged the XVS(O) word order in L3 French significantly more often than the second-year students (in the GJT: 65.9% vs 32.5%, p=.002 and in the GFT: 79.9% vs 13.2% p<.001). We explained the decrease in L1-errors in the students by stating that they ‘unlearned’ the V2 rule. Since English and French display the same word order in this type of sentence (XSV(O) word order), we also interpreted the decrease of XVS(O) errors as due to an increasing (positive) influence on English (L2) in French or to an increased L3 proficiency. The findings of this study showed that in bilingual stream secondary school students, in the language combination L1 Dutch–L2 English–L3 French, the L1 plays a substantial role in the initial stages of L3 acquisition. However, the L2 remains stable in later stages of acquisition (when students are surrounded by English in the daily context). In Tables 7.4 and 7.5, we summarise the main points that we discussed with respect to the longitudinal study.

Table 7.4. Results of Adv-V and XVS(O) constructions in GJT for first- and second-year students.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Adv-V errors</th>
<th>XVS(O) errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year group</td>
<td>18</td>
<td>34/98 (34.7%)</td>
<td>83/126 (65.9%)</td>
</tr>
<tr>
<td>Second-year group</td>
<td>18</td>
<td>32/98 (32.7%)</td>
<td>41/126 (32.5%)</td>
</tr>
</tbody>
</table>

p=0.68 p<.001
Table 7.5. Results of Adv-V and XVS(O) constructions in GFT for first- and second-year students.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Adv-V errors</th>
<th>XVS(O) errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year group</td>
<td>18</td>
<td>21/144 (14.6%)</td>
<td>115/144 (79.9%)</td>
</tr>
<tr>
<td>Second-year group</td>
<td>18</td>
<td>22/144 (15.3%)</td>
<td>19/144 (13.2%)</td>
</tr>
</tbody>
</table>

\[ p = 0.88 \quad p < 0.001 \]

In summary, data from our previous studies suggested that in the language combination L1 Dutch–L2 English–L3 French, L2 transfer was found especially in bilingual stream students who were in intermediate stages of L3 acquisition. In what follows, we address some studies in which transfer from the L1/L2 into German (L3) was the object of investigation.

7.3.2. Other studies on L3 German

In the field of syntactic L3A, several studies have been conducted on L3 German. For instance, Falk and Bardel (2011) tested 44 intermediate level L3 German learners with either L1 French and L2 English as background languages \((n = 22)\) or L1 English and L2 French as background languages \((n = 22)\) on the acquisition of object-pronoun placement in main clauses (‘je le vois’, ‘I see him’, ‘Ich sehe ihn’ – L1/L2 French ≠ L1/L2 English = L3 German) and subordinate clauses (‘You know that I see him’, ‘Tu sais que je le vois’, ‘Du weisst dass ich ihn sehe’ – L1/L2 English ≠ L1/L2 French = L3 German) (Falk & Bardel, 2011:60). Data were gathered by means of a judgement and correction task (GJCT). Half of the German sentences were grammatical, while the other half were ungrammatical. The results of this study showed that the judgements were most influenced by the L2s.

Bohnacker (2006) examined verb placement in L3 German and concentrated on the use of the XVS(O) word order in an oral production task. The participants in this study were six Swedish (+V2 language) initial-state learners of German (+V2 language), three of whom had prior knowledge of English (–V2 language) as an L2 and three who did not.\(^4\) The learners were old-age pensioners and elementary learners of German. The data suggested that although learners did positively transfer the XVS(O)

\(^4\) The +/- indicates whether a feature is present (+) or not (–).
word order from Swedish into L3 German, L2 knowledge of a non-V2 language (English) did influence transfer negatively.

The studies of Rutgers (2013) and Rutgers and Evans (2015) also focus on L3 German, and these studies were – just as the present study – conducted in a partially L1 Dutch/L2 English bilingual school in the Netherlands. Amongst other things, Rutgers (2013) investigated the effect of L1 Dutch/L2 English bilingual education on the acquisition of L3 German in fourth-year secondary school students (15/16 years old). The results of her study suggested that in both the bilingual stream and non-bilingual stream group, Dutch took on a strong role with regards to the pupils’ processing of German and in relation to their (implicit and explicit) understanding of the structure of the German language. English, on the other hand, provided a considerably smaller role in the processing of German than Dutch did. However, it had a bigger role in the bilingual stream than in the non-bilingual stream group. For instance, in the bilingual stream the students’ writing skills were influenced by the English bilingual stream lessons, that is it affected word order, resulting in errors in the target language. In a longitudinal study, Rutgers and Evans (2015) focused on language processing and the role of metalinguistic skills in L3 German learning. Six bilingual stream and six mainstream stream fourth-year students (15/16 years old) were followed over a period of six months. They were interviewed, observed during their German classes, and monitored during think-aloud tasks in L3 German. Although it was difficult to measure levels of metalinguistic awareness, the findings did show a difference between bilingual stream and mainstream students with respect to L3 processing. With regards to transfer from the L2, this study found that the bilingual stream students used their more advanced L2 English writing skills and strategies in L3 German to a greater extent than the mainstream students.

In essence, these studies all show that L2 English can affect L3 German acquisition (Bohnacker, 2006; Falk & Bardel, 2011; Rutgers, 2013; Rutgers & Evans, 2015), especially in a bilingual stream context (Rutgers, 2013; Rutgers & Evans, 2015). Before we proceed to our research question and prediction, let us describe the educational environment, which is relevant to set the context of the present study.
7.4. Design of this study

7.4.1. Context of study

The data used in the present study were collected at the same partially bilingual secondary school as in previous studies. At this school, students can opt for a four-year bilingual L1 Dutch L2 English educational programme – the Middle Years Programme (MYP) of the international baccalaureate – in which several school subjects, such as ‘Sciences’, ‘Humanities’, ‘Technology’, ‘Physical Education’, and ‘Performing Arts’ are taught in English. The MYP students receive over 50% of the school subjects in English. In the third year of the programme, this even rises to approximately 58%. After three years of bilingual stream education, students have received approximately 1,942 hours of input in English.\(^5\)

The students in this school have homogeneous socioeconomic backgrounds (SES). In the region in the Netherlands where we collected our data, SES scores are high compared to other regions. Moreover, the students’ overall learning ability is more or less the same because of the Dutch school system, in which students are divided into three different main tracks after elementary school: a four-year pre-vocational programme (VMBO), a five-year intermediate track (HAVO), and a six-year pre-university track (VWO). At the end of most Dutch elementary school programmes, students take a nationwide standardised test to measure their overall learning ability. On the basis of this test and in accordance with the recommendation of the primary school teacher, the pupils are placed in one of the three tracks in secondary school. To enter this school’s Middle Years Programme, students need to be placed in either of the two more academically oriented tracks (HAVO or VWO).

7.4.2. Research question and prediction

Several studies on L3 German have found a substantial role for the L2 in L3 learning (Bohnacker, 2006; Falk & Bardel, 2011) and more L2 influence in

\(^5\) Considering that a school year consists of about 35 weeks per year and that a class takes 45 minutes, the bilingual stream students have received 1,627 hours of instruction in English after three years: 17 classes per week (446 hours) in the first year, 21 classes per week (551 hours) in the second year, and 24 classes per week (630 hours) in the third year. Additionally, the students also receive four 45-minute classes of English as a subject in each year (315 hours by the end of Y3).
bilingual stream students than in mainstream students (Rutgers, 2013; Rutgers & Evans, 2015). The general conclusion we drew from our previous results in which we examined the language combination L1 Dutch–L2 English–L3 French is that the L2 may take on a strong role in the L3 in intermediate bilingual learners (Chapters 2 and 5). The goal of the present chapter is to further extend our knowledge of the L2 status in L3A by examining whether the L2 transfer that we found in the language combination L1 Dutch–L2 English–L3 French also occurs in the L1 Dutch–L2 English–L3 German combination. To this end, we repeat the research question of this chapter here: To what extent does L2 English play a role in L3 German similar to the one it plays in L3 French? Based on previous studies in which we found L2 transfer into L3 French in third-year bilingual stream students (Chapters 2 and 5) and based on other studies in which L2 English transfer into L3 German was found (Bohnacker, 2006; Falk & Bardel, 2011) we predict a comparable number of Adv-V word order errors in L3 German as in L3 French in bilingual stream L1 Dutch/L2 English secondary school students.

7.4.3. Participants
The participants consist of 22 Dutch third-year secondary school students learning German. These students are compared to the L3 French third-year bilingual stream students from Chapters 2 and 5, in which data were gathered on 16 students (see Tables 7.2 and 7.3). The L3 German students are enrolled in the bilingual MYP educational programme and are therefore exposed to the same amount of English as the third-year L3 French students. German is taught in a formal school environment. German as a school subject starts in the second year of secondary school. By the end of year three, the students have received 131 hours of L3 input and their level of German is approximately A2 according to the European Framework of Reference (CEFR). French is also taught in a formal school environment.

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6 It is also important to bear in mind that English is ubiquitous in the Netherlands; all youngsters also receive a great deal of English input outside the school context due to music, films, television, the Internet, social networks, and apps on smartphones and tablets (Verspoor et al., 2007; Verspoor et al., 2010).
Although French is taught from the first year on, the students do not necessarily have a higher level in French than in German at the end of year three; their CEFR level in French level at the end of their third year is approximately A2 (Council of Europe, 2001).

To be included in the analysis the students had to meet several criteria. Dutch had to be their only L1, and English the subsequent L2. We therefore excluded all simultaneous bilinguals. Furthermore, we also excluded students with French/English families, and students who were near native in a language other than Dutch.

7.4.4. Experiments
To gather data, we used the same type of offline tasks as in the L3 French studies: a GJT and a GFT. Since we wanted to keep the dependent variables as constant as possible as compared to previous studies, the German tasks were based on the content of the French tasks. We used offline tasks so that we could gather our data during regular school hours and because reaction time was not the main interest of this study. It was more important that the students did not feel too much pressure. For both tasks the test items were simple, and consisted of short sentences with vocabulary that the students were familiar with. We handed out a vocabulary list before testing and used a lot of cognates so that we were absolutely sure that the vocabulary would not stand in the way of comprehending the test.

The number of items was kept constant in comparison to our previous studies on third-year students. The GJT contained 45 items, of which 14 were test items testing the Adv-V word order. Half of the test items were grammatical, and the other half were ungrammatical. However, in the German experiments, we only looked at Adv-V word order in German whereas in the French tests, we looked at both Adv-V word order and at XVS(O) word order. Since German and Dutch are both V2 languages, we did not take this construction into account. The students had to indicate whether they deemed a sentence correct or incorrect. When they judged a grammatical sentence incorrect or an ungrammatical sentence correct, they got a ‘miss’, and when they judged an ungrammatical sentence incorrect or a grammatical sentence correct, they got a ‘hit’. The GFT contained 36 items, of which 12 items tested the Adv-V word order. The students had to fill in the given verb in one of the two gaps. In both tasks, distractors were used to check whether the students understood the test and whether they had taken it
seriously. Just as with the test items, the fillers in both tests were simple constructions with a subject, a finite verb, and a direct and/or indirect object. For a complete overview of all the items in the GFT and the GJT, see Appendices A.5. and A.6. According to the curriculum, the students had not received explicit instruction on verb placement in declarative root clauses with a manner/frequency adverb.

Example from the German GJT:
(5) Wir essen wirklich viele Bonbons! c/i
*Wir wirklich essen viele Bonbons! c/i
‘We really eat a lot of bonbons.’

Example from the German GFT:
(6) Susan und Jan ……..oft ……… eine Serie. schauen
‘Susan and Jan often watch a serie.’

To be able to detect transfer from this specific English Adv-V word order construction, it was essential that the students be familiar with verb placement in these types of English sentences. Therefore, after the German tests, we also presented them with an initial English gap-filling task (as illustrated in 7).

Example English gap-filling task:
(7) John……………… often ……………too much sugar. eats
‘John often eats too much sugar.’

The students had to fill in the gap while using the given verb. The English gap-filling task contained 24 items, eight of which tested the English Adv-V word order. We excluded all students who made >3 errors in the gap-filling task. We started out with 30 students taking German. On the basis of this test and a background questionnaire containing language related questions, we had to exclude eight L3 German students.

7.4.5. Procedure and analysis
The testing took place during school hours. The German data were collected at the end of May 2017, and the French data had been gathered in May 2015. We started out with the German tests (GJT and GFT respectively) followed
by the English GFT because we did not want to bias the students with respect to influence from English. After the linguistic tests, the students filled in the background questionnaire. Since reaction time was not the focus of this study, we stressed that there was no need to hurry. However, we also instructed them that concentration was very important, and we emphasised that they should not hesitate too much and that there were no ‘wrong’ answers.

All data were controlled for normality using a Shapiro–Wilk test. Since the samples were small, we used a non-parametric Mann–Whitney U test to calculate the difference in Adv-V errors in French and in German. The dependent variable was the number of errors.

7.5. Results

In this section, we present the results. To be able to compare the L1 Dutch–L2 English–L3 German group to the L1 Dutch–L2 English–L3 French group, we also repeat the data from the French grammaticality judgement task (Chapter 2) and the French gap-filling task (Chapter 5).

Before presenting the statistical analysis, we will first examine the distribution of the number of Adv-V errors, in boxplots representing the distribution of the number of Adv-V errors in German and in French in the GJT (Figure 7.1) and in the GFT (Figure 7.2). The L3 German and L3 French boxplots are presented in the same figure. In both figures, the left boxplot (1.00) represents the German distribution of the data, and the right boxplot (2.00) represents the French distribution of the data. On the y-axis, the number of Adv-V errors are listed. The lower the boxplots, the fewer Adv-V errors the students made.
Figure 7.1 shows that with respect to the Adv-V judgement errors in German (the left boxplot), the median – i.e. the centre of the data – is one. The interquartile range box – the tinted area that represents 50% of all the scores – shows that half of the scores fall between zero and three errors and the top quartile of scores – representing the highest 25% of the scores – shows that the highest 25% fall within the range between three and seven errors. 25% of the students (the lowest quartile of scores) did not make any errors. The upper and lower whiskers show that minimum value is 0 and the maximum value is 7.

The right boxplot revealing the distribution of the Adv-V errors in French shows that the median number of errors is six. It also reveals that 50% of the scores – the interquartile range box – fall between four and seven and a half errors and that the highest 25% of the scores (the top quartile of scores) fall within the range between seven and a half and eleven errors. The boxplot also shows that the lowest 25% of scores (the lowest quartile of scores) fall within the range of two and four and a half errors. The upper
The role of the L3 in L3A

whisker shows that the maximum value is eleven, while the lower whisker shows that the minimum value is two.

Figure 7.2 presents the boxplots of the gap-filling task. The left boxplot (1.00) represents the number of Adv-V errors in German. The boxplot shows that there is one outlier: one student (participant number 1) made 8 Adv-V errors in German. It also reveals that 75% of the scores (the interquartile range box and the lowest quartile of scores) fall between zero and one error. The boxplot also shows that the top quartile of scores – i.e. the highest 25% – falls within the range between one and two errors and that the median is zero. The boxplot revealing the distribution of the Adv-V errors in French (right boxplot in Figure 7.2) shows that 50% of the scores fall between one and four errors and that the highest 25% falls within the range between four and seven errors. The lowest quartile, i.e. 25% of scores, falls between zero and one error. The median, however, is two.

In Table 7.6, we display the results of the GJT: the total number of Adv-V errors and the corresponding percentages in both French and German, the standard deviation (SD) and the accuracy scores. In Table 7.7,
the same information is given with regards to the GFT. As the boxplot that represents the distribution of the Adv-V errors in the GFT showed, one student in the German group was an outlier. Therefore, this student is not considered in the statistical analyses.

Table 7.6. Results of Adv-V errors in French and German in the GJT.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Adv-V errors</th>
<th>mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>French group</td>
<td>16</td>
<td>95/224 (42.41%)</td>
<td>5.94</td>
<td>2.24</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>German group</td>
<td>22</td>
<td>44/308 (14.29%)</td>
<td>2.00</td>
<td>2.23</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 7.7. Results of Adv-V errors in French and German in the GFT.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Adv-V errors</th>
<th>mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>French group</td>
<td>16</td>
<td>41/192 (21.35%)</td>
<td>2.56</td>
<td>2.19</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>German group</td>
<td>21</td>
<td>10/252 (3.97%)</td>
<td>0.48</td>
<td>0.75</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

To calculate the difference between French and German, we used a non-parametric Mann–Whitney U test. The results of the GJT revealed a significant difference between the number of Adv-V errors in French and German (U = 39.00 z = −4.08, p < .001). The same non-parametric Mann–Whitney U test also revealed a significant difference between the number of Adv-V errors in French and German in the GFT (U = 63.50 z = −3.40, p < .001).7

7.6. Discussion

7.6.1. Interpretation of the results

The research question we addressed was: In L1 Dutch students, to what extent does L2 English play a role in L3 German similar to the one it plays in L3 French? We predicted a comparable number of English Adv-V word order errors in both L3 groups based on previous results in which we found substantial L2 influence in L3 French bilingual stream students (who receive a considerable amount of L2 exposure through the years and in the bilingual stream daily context) and based on our other studies in which syntactic

7 Including the outlier in the GFT, the mean rises to 0.82 and the SD rises to 1.76. The difference between the number of Adv-V errors in French and German in the GFT including the outlier is also significant (U = 79.50 z = −3.01, p = 0.003).
transfer from L2 English on L3 French was found in different types of learners. The experimental data in this study, however, suggest that third-year bilingual stream secondary school students transfer English (L2) significantly more often into French (L3) than into German (L3): from the results presented in Tables 7.6 and 7.7 (GJT and GFT respectively), we can conclude that Adv-V errors are more easily made in L3 French than in L3 German. In other words, we did not find evidence for the prediction that the role of L2 English is the same in both L3s.

The fact that English is an important source of negative transfer into L3 French and less so in L3 German could be explained by various factors. Keeping in mind that other variables important to this study – such as the experimental conditions, the construction tested, the school context, and the amount of L2 exposure – were kept as constant as possible, we claim that the (amount of) L2 effect depends on the L3 and more specifically on the typology of the language combinations involved. With regards to our results, we argue that the fact that German (L3) is less affected by English (L2) than French (L3) is due to the influence of Dutch (L1); that is, the (typological) relation between the L3 and the L1 is a relevant factor for (the amount of) L2 transfer. The low number of Adv-V errors in German is due to the strong (positive) influence of Dutch in the language combination L1 Dutch–L2 English–L3 German. The Typological Primacy Model [TPM], Rothman, 2011, 2013, 2015), claims that L3 transfer can occur from either the L1 or the L2 depending on perceived typological resemblances between background and target languages. This model accounts for the initial stages of L3 transfer. The L3 learner copies the full grammar of the background language that is perceived to be the most similar to the L3. The results of the present chapter show heavy influence of L1 Dutch in L3 German in intermediate learners, two languages that are typologically very closely related. Therefore, we could argue that the TPM may predict transfer in later stages of L3 development in the language combination L1 Dutch–L2 English–L3 German. However, since the students under investigation in this study are intermediate learners and not learners in the initial stages of acquisition, and since it is difficult to measure ‘wholesale transfer’ in these stages of acquisition, it would be rather ambitious to state that the results of this study are in line with the TPM. Furthermore, results from a previous study revealed that in the initial stages of L3 French acquisition students massively use the Dutch word order (Chapter 4).
Dutch and German are similar at a structural level and with respect to overall typological grouping (both belonging to the Germanic language family), which is not the case in the language combination L1 Dutch–L2 English–L3 French (French being a Romance language). Not only do Dutch and German share the V-to-T word order (as Dutch and French do as well), they generally display more structural similarity, i.e. they share the same word order (V2) in other main clause constructions as well. As such, these results could be explained by The Linguistic Proximity Model [LPM], (Mykhaylyk et al., 2015; Westergaard et al., 2016). According to this L3 model, similarity of (abstract) linguistic properties may cause transfer into the L3. When there is structural overlap between one of the background languages and the L3, transfer occurs. Since according to the LPM, transfer is ‘property by property’, the model also predicts transfer in later stages of acquisition. Apparently, in this case, the L3 German students – who are intermediate learners of German – are aware of these structural resemblances in main clauses and perceive Dutch as similar to German and therefore the most suitable language for transfer. Consequently, they copy the Dutch V-to-T word order onto L3 German at the same time avoiding Adv-V errors. However, they copy the Dutch V-to-T word order onto L3 French less often, which could explain why in the language combination L1 Dutch–L2 English–L3 French, Adv-V errors are avoided significantly less often. Thus, L1 Dutch does not get overruled by L2 English in the acquisition of L3 German in intermediate learners, contrary to what happens in the acquisition of L3 French, in which we found that in bilingual stream learners the L1 is more suppressed in third-year students than in their first-year counterparts.

The results of the present study scarcely showed any Adv-V errors in German (in 10/252, 3.97% (GFT) and in 44/308, 14.29% (GJT) of the cases). Therefore, the findings of the present study do not support the L2 status Hypothesis (Bardel & Falk, 2007, 2012; Falk & Bardel, 2011). Our results are not in line with studies on L3 German that have found substantial influence from L2 English on L3 German (Falk & Bardel, 2011; Bohnacker, 2006; see Section 2.4). Falk and Bardel (2011) found both positive and negative transfer from the L2 on L3 German regardless of the ‘nature’ of the L2 (L1 Swedish–L2 English–L3 German or L1 Swedish–L2 French–L3 German). In Bohnacker’s study (2006), negative L2 English influence on L3
German was found in the language combination L1 Swedish–L2 English–L3 German. For future research, it would be interesting to compare syntactic transfer with different L1’s while keeping the L2 (English) and L3 (German) constant, such as with L1 Swedish and L1 Dutch.

Our findings are in line with Rutgers (2013), who also found that L3 German bilingual stream students transferred more Dutch (L1) than English (L2) into German (L3). In Rutgers’ (2013) study, students use Dutch as a preferred background language over English in L3 German processing and in the understanding of the structure of the German language. The findings in Rutgers’ study also suggested more L2 English transfer on L3 German in the bilingual stream group than the mainstream group. Future research could compare the findings of the present study to learners in mainstream Dutch education.

In summary, considering all our studies conducted in different groups of learners while focusing on the language combinations involved, we found that L3 language transfer from previously acquired languages (L1/L2) is a complex matter and that various factors are involved. Neither transfer based on general typological grouping nor transfer based on structural similarities can fully explain all our results. In earlier work, we found that in the initial stages of L3 processing, learners preferred the L1 as a suitable language for transfer even though Dutch (L1) and French (L3) show no resemblance in general typological grouping and show little structural resemblance. A substantial role for the L2 was found in later (intermediate) stages of acquisition, but only in the language combination L1 Dutch–L2 English–L3 French and only amongst learners enrolled in a bilingual educational programme, i.e. when learners are sufficiently exposed to the L2 in the daily context and when they have (had) enough L2 exposure. In other words, we did find a special L2 status in intermediate learners, but only when the L1 is not a more suitable language for transfer (as is the case in the language combination L1 Dutch–L2 English–L3 German). Therefore, in general, it seems that transfer depends on the combination of the L1-L2

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8 Regarding the findings of Bohnacker (2006), we have to stress that the differences could also be due to proficiency in L3 German: the participants in Bohnacker’s study were elementary learners of German, while our participants were intermediate learners.
and L3 and that there is no unique answer with regards to the role of background languages in L3A.

### 7.6.2. Implications for third language teaching

With respect to implications for third language teaching, it is clear that both background languages can serve as transfer languages in intermediate learners in L3A and that in some language combinations this is more so than in others. In this chapter, we concentrated on negative transfer: to investigate the secondary school students’ behaviour, influence was measured by the number of errors they made in the target language. Nonetheless, L2 influence can just as well be positive. For future research, it would be relevant to investigate to what extent secondary school students can also benefit from the fact that they have more languages available for transfer in third language learning. In the Netherlands, where English is more and more ubiquitous as an L2 and where students are more or less bilinguals, a suggestion for third language teaching could be a more multilingual approach in language learning. In the daily (traditional) Dutch school practice of foreign language learning in secondary schools, the foreign languages in school are approached as separate subjects and are always taught from the mother tongue (in the Dutch curriculum as well as in the MYP curriculum). If language students were made aware of resemblances (and differences) between languages, such as with respect to word order constructions, this could lead to advantages in L3 learning.

### 7.7. Conclusion

The present article examined the extent to which language combinations can affect language transfer from the L2 into the L3. To this end, findings from our previous studies – which suggested a strong supportive role for L2 English in L3 French (when there is enough L2 exposure) – were compared to another L3, viz. L3 German, while other variables were kept as constant as possible (the background languages remained Dutch (L1) and English (L2)) and data were gathered in a comparable context amongst third-year bilingual stream students in the intermediate stages of L3 learning. Influence from the L2 was detected using the V-to-T movement construction found in Dutch, French, and German, but not in English. Our research question was: To what extent does L2 English play a role in L3 German similar to the one
it plays in L3 French? We found that L2 English plays a significantly smaller role in intermediate learners in L3 German as compared to its role in L3 French.

On the basis of the present data, as well as data from previous studies, we conclude that the supportive role of L2 English depends not only on the amount of L2 exposure the students receive in the daily context and through the years (as we found in Chapters 2 and 5), but also on the combination of all three languages involved. Our suggestion as to why the L2 plays a more significant role in L3 French than in L3 German is related to both the typological relatedness and the strong overall structural similarity between L1 Dutch and L3 German.

The findings of this study shed new light on how cross-linguistic influence works and how empirical findings should be analysed. In future L3 research, empirical findings should be evaluated while bearing closely in mind the influence of the language combination involved. In other words, it is relevant to emphasise the importance of language combinations with regards to L3 processing, which leads to the recommendation to always include the L3 as a possible variable. Furthermore, in the L3 debate a clear distinction should be made between general typological groupings and structural resemblances: the combination of the two seem to be of importance with respect to L1/L2 transfer in intermediate stages of L3 learning.

The results of this study raise many new questions for future research. The findings are not in line with our predictions or with Falk and Bardel (2011) and Bohnacker (2006), according to which L2 English can play a substantial role in L3 German. In our group of L3 German learners, there is too much L1 influence for the L2 to play a role. Therefore, more studies are needed, including on elementary learners of German, to investigate to what extent the role of L2 English in L3 German changes over the years in L3 learning. A longitudinal study should be undertaken to learn more about language transfer in different stages of L3 German development. Another relevant question concerns the difference between bilingual stream and mainstream students with respect to transfer from L2 English in L3 German. It would be interesting to examine whether in this context, mainstream students transfer even less from English than bilingual stream students, as Rutgers (2013) has suggested.
Chapter 8
Discussion and conclusion

8.1. Introduction
The English language has come to play an increasingly large role in Dutch society, and it is safe to say that for most Dutch citizens English functions as a second language. This has significant consequences for the Dutch educational system. To what extent does English as a second language influence learning a third language? This dissertation investigated the respective roles of L1 Dutch and L2 English as sources of syntactic transfer in L3A in the first four years of the Dutch/English bilingual programme and mainstream Dutch secondary programme. The central question in this dissertation was whether L2 English (in addition to L1 Dutch) plays a role as a background language in L3A and, if so, what factors further L2 transfer into the L3. To this end, six different syntactic empirical studies were carried out in different groups of secondary school students. By means of comprehension tasks, i.e. grammaticality judgement tasks and guided-production tasks, that is, gap-filling tasks, I and my co-authors on the individual substudies (Aafke Hulk and Petra Sleeman; see ‘Author contributions’) examined to what extent Dutch XVSO and English Adv-V word orders are accepted and used in French (L3) and German (L3) declarative sentences. The context in which our studies took place allowed us to perform a wide-scale investigation: we examined students within the first four years of a secondary school with two different school programmes and where different L3s are taught. Consequently, we were able to investigate L1/L2 influence in L3A amongst students in different stages of secondary education, with varying amounts of L2 exposure and in two different language combinations (L1 Dutch–L2 English–L3 French and L1 Dutch–L2 English–L3 German). The general goal of this dissertation was to investigate how the increased importance of English in today’s Dutch society affects foreign language learning in Dutch secondary schools. Moreover, we aimed to expand on previous findings in the field of L3 research.
Notably, this dissertation shows that there is no clear-cut answer when it comes to regularities in L1/L2 influence on L3 learning. The role played by L1 Dutch and the L2 English in L3 French/L3 German learning turns out to be a dynamic one, with the degree of influence greatly depending on various factors, such as the type of education the learner is enrolled in (and, related to that, the activation of the L2, i.e. L2 exposure in the daily context), the developmental stage the learner is in, and the language combination being studied. Evidence for considerable L2 influence was found, but only under certain circumstances: after enough exposure to English and only in the language combination Dutch–English–French, and not in the language combination Dutch–English–German. Influence from the L1 was mostly found in the initial stages of French, as well as in intermediate learners of L3 German.

L3A is a complex field of research. Since many factors play a role in explaining L1/L2 transfer in L3A, especially when data are collected in different years of a secondary school with two distinct programmes, we approached L1/L2 transfer in L3A from three different perspectives. In what follows, the main findings of this dissertation are discussed from these three different perspectives: 1) the educational perspective, 2) the developmental perspective and 3) the cross-linguistic perspective. We also address what questions still remain open and formulate some implications for foreign language teaching and future research.

### 8.2. The educational perspective

The first perspective concerned the effect of type of education on the role of L1 Dutch and L2 English in L3 acquisition of French. To this end, we tested the L2 status factor hypothesis (according to which the L2 is more important than the L1 in L3A) by comparing Dutch XVSO and English Adv-V judgement errors in L3 French in third-year bilingual stream and mainstream students, the first group of students receiving an increased L2 exposure in the daily context (Chapter 2). To disentangle the effects of L2 exposure and L2 proficiency, we also studied the relationship between the third-year bilingual stream and mainstream students’ individual L2 proficiency and the role of the L2 in L3A (Chapter 5). From an educational perspective, we expected to find more influence from English than from Dutch, especially in the bilingual stream, as well as an effect of L2 proficiency on L3A. Most notably, the results revealed that exposure to English furthers the role of the
L2 as a background language in the learning of L3 French whereas proficiency in English did not. Moreover, the findings also showed that the L1 and the L2 appear to play relative roles depending on L1 vs L2 exposure received by the students. In what follows, we will explain these findings in more detail and discuss the factors of L2 exposure, L2 proficiency and the role of the L1 (as compared to the role of the L2) in L3A separately.

8.2.1. L2 exposure in the daily school context
The study presented in Chapter 2 that looked into L1 vs L2 transfer in bilingual stream and mainstream students at the end of their third year of French education revealed that whereas in the mainstream group L1 Dutch and L2 English appeared to be almost equally important sources of transfer, the bilingual stream students preferred L2 English over L1 Dutch in the learning of L3 French, the latter result being in line with the L2 status factor hypothesis. We argued that these findings may be due to type of education, suggesting that increased activation of English in the bilingual programme enhances the relatively stronger role of the L2 as compared to the L1 in L3 French acquisition. The two types of learners presented in this study included both bilingual stream students and students who during school hours only receive English as a school subject. Although all students had grown up in the Netherlands, where English is ubiquitous, there are important differences between the two with regards to the amount of English they use and hear in the daily school context. The bilingual stream students receive considerably more input in English than students enrolled in the mainstream context. Some students even use English as a working language outside the classroom because they are, for instance, motivated to use the language to communicate with classmates or because their classmates are simultaneous bilinguals (see Mearns et al., 2017). Students in the mainstream context do not necessarily have this preference for English. Therefore, the use of English in further language learning can be expected to be higher in the bilingual stream students. Several studies suggest that English as a background language in foreign language learning is affected by either the amount of L2 exposure or frequency of L2 use in the daily lives of language learners. The L2 exposure factor has been suggested as an important factor in prior L3A studies at a lexical level (e.g. Hammarberg, 2009; Tremblay, 2006). Wide-scale studies on L3A in bilingual education are, as yet, limited, probably because it is only over the past two decades or
so that bilingual education has been increasing so much in popularity. Nevertheless, some recent studies that we know of also found an effect of bilingual education on the role of the L2 as a background language in L3 learning (Rutgers, 2013; Rutgers & Evans, 2015; Sánchez, 2015b).

8.2.2. L2 proficiency

In light of what has been discussed so far, the question is whether the increased importance of the L2 is due to L2 exposure or to an increased L2 proficiency in the bilingual students. Various scholars have suggested that L2 proficiency has an impact on the occurrence of transfer in L3A (including De Angelis & Selinker, 2001; De Angelis, 2007; Bardel & Lindqvist, 2007; Jaensch, 2009a, 2009b; Sánchez & Bardel, 2017). In Chapter 5, we investigated the L2 proficiency factor by studying the correlation between the number of English Adv-V errors and the (bilingual stream and mainstream) third-year students’ L2 proficiency. L2 proficiency was measured by means of a standardised vocabulary size test (Meara, 2010). However, the non-parametric Spearman test revealed no correlation in either group. Therefore, the results suggest that for the L2 to play a substantial role in the L3, the ‘activation’ of English in the daily context is more important than L2 proficiency.

While these findings are in line with Tremblay (2006), who also found a more substantial role for L2 exposure than for L2 proficiency at a lexical level, further studies regarding the role of L2 proficiency in L3A in secondary school students would be worthwhile. L2 proficiency is a difficult factor to study because it is a broad term and to some extent arbitrary (see Council of Europe, 2001), especially in two groups of students that acquire English in different educational contexts (as is addressed in more detail in Chapter 5). Moreover, we only looked at the relation between L2 proficiency and L2 influence at one particular point in the developmental process, namely in the third-year groups. Therefore, based on these results we cannot rule out the possibility that overall L2 proficiency that increases over the years (according to the CEFR) somehow affects the influence of the L2 in L3A. We would suggest that a longitudinal study be conducted to assess in more detail the L2 proficiency factor in secondary schools over the years.
8.2.3. *What about the role of the L1?*

So far, we have especially focused on the role of the L2 (as compared to the role of the L1) in the third year of the two streams. We have seen that L2 exposure affects the role of the L2 vs the L1 in L3A. But what does this mean for the role of the L1? The pattern of L1 influence that we found is quite important to mention as well: the findings reported in Chapter 2 also reveal that third-year mainstream students lean significantly more on their L1 Dutch than the bilingual stream students, which is interesting because this points to the idea that the type of education influences not only transfer from L2 English but transfer from the L1 as well. In a learning environment where there is no increased exposure to English in the daily school context, and in spite of the ubiquity of English in the Netherlands, Dutch still appears to be an important source of transfer in intermediate learners, whereas in the bilingual programme context, this is significantly less so. The findings of this study therefore suggest that increased L2 exposure in the daily school context affects not only transfer from the L2, but also transfer from the L1, suggesting that the roles played by the L1 and the L2 are relative rather than independent.

To conclude, the findings of the study amongst third-year students provide a new understanding of how background languages affect language learning in both bilingual and mainstream Dutch secondary schools. Most importantly, the findings show that students do not only use their first language when learning French, but that both background languages play quite a substantial role in the learning of L3 French (including in the mainstream group). Yet, L2 input vs L1 input in the daily school context does affect the extent to which the background languages are used. While the results confirmed our prediction that third-year students – and especially bilingual stream students – for whom English is present as an L2 in their daily lives lean more on their L2 than on their L1, another important finding is that the type of education also affects the extent to which the L1 is used: in the bilingual programme – where English is more present than Dutch in the daily school context of the students – the L1 is used significantly less than in the mainstream programme. The results furthermore suggest that L2 exposure furthers English as a background language to a greater extent than does L2 proficiency. A longitudinal study can provide more insight into the complex dynamics between exposure and proficiency within the framework of L3A.
As our analysis is based on third-year secondary school students, a logical follow-up question is: How does transfer from L1 Dutch and L2 English develop over the years in the learning of L3 French? For this reason, the next section discusses L1/L2 transfer in the first four years of secondary school.

8.3. The developmental perspective
The second perspective approached the question of L1/L2 influence in L3A in relation to different stages of L3 development. Most essentially, the combined results from the developmental perspective revealed that L1 transfer develops very differently from L2 transfer: while L1 transfer occurred especially in the initial stages, followed by a major decrease, L2 transfer generally remained stable over the years. However, after the third year of instruction in French, the influence of English decreased as well. In the subsections below, we first consider L1/L2 transfer at the onset of L3 French learning in the bilingual context, followed by the L1/L2 developmental patterns in the first three years of L3 French instruction in the bilingual context. In the final subsection, we address L1/L2 transfer after the third year of instruction.

8.3.1. L1/L2 transfer in initial stages of L3 French acquisition
Chapter 4 compared possible L1 and L2 influence in L3 French in students who – at the time of testing – had just entered the bilingual programme. The findings revealed massive transfer from the L1 in the initial stages of L3 French, a result that matches the L1 transfer scenario suggesting an ‘L1 effect’ in the initial stages (Hermas, 2010:358). We argued that the massive transfer of the L1 in the initial stages may be due to the lack of syntactic input in French at the time of testing. The testing took place in the first regular week of school. As the French classes had not yet started, the students had not yet received any syntactic input in French. It is likely that students were therefore not yet able to make assumptions about word order in French because they could not yet compare French word order to their L1/L2, which made them resort to their L1 as a default language.1 However,

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1 See L2A theories such as Full Access, Full Transfer (Schwartz & Sprouse, 1996) and the Representational Deficit Hypothesis (Hawkins & Franceschina, 2004),
while much more transfer from Dutch than from English is shown, English influence is not absent. Although almost no L2 guided production Adv-V errors were made, students did make quite a few judgement Adv-V errors in the initial stages of French, a number of errors comparable to the number of errors made at the start of the second and third year (on which we will further reflect in 8.5).

8.3.2. L1/L2 transfer in the first three years of L3 French acquisition

Chapter 6, which (longitudinally) investigated L1/L2 influence in L3 French learning in the first two years of bilingual stream education, sheds more light on the L1/L2 developmental pathways. After one year of education, L1 influence (as tested by the XVSO construction) decreased remarkably in L3 French. Two possible explanations come to mind that may account for the decrease in the L1. First, the decrease could be explained by an increasing overall L3 proficiency. At the second time of testing, students had received one year of instruction in French and thus of L3 syntactic input, allowing them to make predictions about word order in French (and to compare French word order to that of the background languages). Another explanation for the L1 decrease is an increase in L2 influence: since English and French both share the XSVO word order, the decrease in XVSO errors after the initial stages may also be interpreted as an increase in English influence in French.

This interpretation fits well with the results of the cross-sectional study presented in Chapter 5, in which we found an increase in English influence from first- to third-year bilingual stream students in the guided production data, which pointed to an effect of L2 exposure on L2 transfer in L3A. The idea that a certain level of L2 development is needed to transfer syntactic structures was found earlier (see, e.g., Bardel & Falk, 2007 and Bardel & Lindqvist, 2007). Section 8.2, too, argues that L2 exposure potentially affects L3A when we compared the role of the L2 to the role of the L1 in L3A in two types of education. Taken together, the research findings therefore suggest that the role of English as a background language in L3 French is affected by both the amount of L2 exposure the L3 learner receives in the daily school context and over the years.

which suggest that the L1 grammar is fully transferred to the L2 initial state grammar.
However, while evidence for increased L2 influence was found in the guided production task (Chapter 5), the combined results of this dissertation mainly show that L2 influence – as measured by Adv-V errors – remains stable in the first three years of the bilingual school programme. The longitudinal data (Chapter 6) showed no significant change with regards to L2 influence in the first two years of L3 French learning in either task. Moreover, when we (cross-sectionally) compare the judgement data from third-year bilingual stream students (Chapter 2) to initial stage learners (Chapter 4), we see no increase or decline. Nevertheless, it is important to note that L2 transfer remains stable over the first three years despite an increase in L3 French proficiency, which is relevant because one would expect that an increasing overall L3 proficiency would result in fewer errors in the target language. Since L2 influence remains stable in spite of an increasing L3 proficiency, the stable role of the L2 over the years points to a rather substantial role for the L2.

8.3.3. What happens after the third year of French?
The final relevant result that we address in the developmental perspective concerns the role of the L1 and the L2 after the third year of French education. In Chapter 3, we studied transfer in mainstream and bilingual stream fourth-year students. As we have seen up until the third year, the L1 and the L2 show different patterns in L3 French. However, after the third year, both L1 influence and L2 influence decrease – L1 more than L2 – with the consequence that in both streams there is still significantly more influence from the L2 than from the L1. Apparently, after a certain point in the L3 learning process – in this case at the end of the fourth year of instruction in French – when students have reached a certain level of L2 and L3 proficiency, there is a turning point in L3 development that seems to trigger a fall in the rate of L1/L2 transfer. This idea is also pointed out by a recent study (Sánchez & Bardel, 2017), which found a sudden drop of L2 transfer after intermediate L2 and L3 proficiency levels.

To conclude, the data presented in Chapters 3 to 6 revealed that the L1 and the L2 evolve differently as background languages in the learning of L3 French. We argued that the educational context and the stage that the learner is in play important roles in explaining L1/L2 transfer in L3 French and that the results may also partially be explained by L3 proficiency. However, it is
interesting to see that L3 proficiency appears to have a smaller effect on English (L2) than on Dutch (L1): the number of XVSO errors decreases enormously, whereas the number of Adv-V errors remains stable. In future research, it would be relevant to conduct more elaborate measurements with regards to L3 proficiency and to investigate more closely the interaction between L2 exposure or L2 proficiency and L3 proficiency. Furthermore, while the L1/L2 show different patterns, at the start of the second and third years (Chapter 6) and at the end of the mainstream third year (Chapter 2), the influence on L3 learning exerted by the two linguistic systems (which De Angelis, 2007, refers to as combined cross-linguistic influence) is equal.

Altogether, the combined findings in these first two sections suggest that L1 influence and L2 influence differ and that the interaction between the two is very dynamic. It appears that students pool their resources from their L1 and L2, depending on different factors, until they have enough resources in the L3 so that they no longer use their background languages. So far, we have discussed the L1 Dutch and L2 English transfer in one and the same L3. In the next section, the importance of language combinations in L3A will be considered.

8.4. The cross-linguistic perspective
The cross-linguistic perspective concerned the effect of language combinations on language transfer from the L2 in L3A. In Chapter 7, we compared L2 transfer in two L3s – French and German – while keeping the L1 (Dutch) and the L2 (English) constant. Interestingly, the results of L3 German shed an entirely different light on our findings so far. Most notably, the L2 exposure effect that we found in the language combination L1 Dutch–L2 English–L3 French in third-year bilingual stream students does not apply to the language combination L1 Dutch–L2 English–L3 German. In the following paragraphs we reflect on the underlying cause of these differences with regards to L2 transfer in two L3s (French and German).

We set out to establish whether the bilingual stream third-year students show different behaviours in L3 French as compared to L3 German with regards to L2 transfer. Transfer was measured with the same English Adv-V constructions by means of a GJT and GFT. Chapter 2 (see Section 8.2) revealed a strong supportive role for L2 English in L3 French in third-year bilingual stream students. This particular group of learners received almost three years of increased L2 exposure in the daily context. The
German L3 learners who are also enrolled in the third year of the bilingual school programme and received the same amount of L2 exposure were therefore hypothesised to make a comparable number of Adv-V word order errors. However, our study discussed in Chapter 7 could not confirm this and found that L2 English played a significantly smaller role in L3 German than it did in L3 French. Apparently, the role of L2 English in L3A depends not only on the activation of English – the amount of L2 exposure the students receive in their daily context and throughout the years – but also on the language combination under investigation. We can identify at least two possible reasons for the smaller role of English when learning German. First, L3 German could be less affected by L2 English than L3 French due to the (typological) relation between L3 German and the L1 Dutch. Although all three languages under investigation are Germanic, Dutch and German display more structural similarities, which may result in more transfer from Dutch (see Westergaard et al., 2016). Furthermore, French may be more affected by English because the learners perceive fewer resemblances between French and Dutch than they do between French and English. This may be caused by the more extensive lexical resemblance between English and French (see Rothman, 2015; Algeo, 2010). In short, the cross-linguistic perspective presents a number of compelling directions for further research. To develop a full picture on the development of L1 Dutch and L2 English in L3 German, we will need additional (longitudinal) studies in different stages of language development.

To conclude, the three perspectives together have shown that influence from background languages in secondary school is particularly dynamic and that it depends on various factors. When we combine the results of our studies, we see three main factors that are decisive for the use of background languages in secondary school students. First of all, the type of education (and related to that L1 vs L2 input in the daily school context) affects the role that is played by both the L1 and the L2 in L3A. In this respect, the most essential findings are the role of the L2, which is more important than the L1 in the bilingual school programme, and the role of the L1, which is to a greater extent suppressed in the bilingual programme. Secondly, the developmental stage is of great importance when it comes to transfer. The most striking result in this respect was a massive L1 transfer in the initial stages followed by a highly significant decline and a mainly stable role for the L2 (despite an
increasing L3 proficiency). And finally, the cross-linguistic factor is important. Apparently, influence from the L1 and the L2 in L3 learning greatly depends on the language combination under investigation: whereas English is a substantial source of influence in French students in secondary school, and especially in the third-year bilingual group, less transfer occurs from English into German. A credible reason for this is that students recognise German and Dutch as very similar languages, which makes them prefer Dutch as a background language. Taken together, the findings show that many factors play a role in explaining L1/L2 transfer in L3A. While the two tasks showed the same tendencies with regards to the roles that are played by the L1 and the L2, some developmental differences might be explained by the effect of task. For that reason, in what follows, we will briefly address possible task effects.

8.5. Task effects

Three chapters in this dissertation – Chapters 4, 6 and 7 – reported on the data of both a comprehension task (GJT) and a guided production task (GFT). Altogether, students tend to make more judgement errors than guided production errors in this dissertation, both with regards to Adv-V errors and XVSO-errors. Only the first-year students (as reported in Chapters 4 and 6) made more guided production errors than judgement errors on XVSO/XSVO word order.

How can we explain the fact that students generally make fewer (guided) production than judgement errors? The most straightforward explanation for the tendency of making more errors in the GJT would be a ‘yes’ bias, but we did not find one (e.g. 51% yes vs 49% no in the German test, 47.9% yes vs 52.1% no in the second-year French test; 57.6% yes vs 42.4% no in the third-year French test). Some scholars, like Ellis (2005, 2009), suggest that untimed grammaticality judgement tasks tap more into explicit knowledge than do production tasks, which tap more into implicit knowledge. Another possible explanation for the difference between tasks could then be that students judge both word orders to be correct, because they are to a greater extent encouraged to explicitly reflect on the sentences presented in the GJT. It could be the case that they would then experience more difficulties in the GJT deciding whether to reject or accept an item. In other words, they perceive both the XVSO/XSVO and the Adv-V/V-Adv word orders as possibly correct, which results in more errors (due to both
acceptance of incorrect word orders and rejection of correct word orders). It should be emphasised here that the gap-filling task we used was a guided production task. Nevertheless, the degree of awareness differs between tasks, with the GFT tapping slightly less into competence than the GJT.

What are the consequences of the task differences for the results? First of all, with respect to L2 transfer, we found a difference between tasks. Whereas the GJT showed that L2 influence remains stable over the years, the cross-sectional guided production data comparing first-year to third-year students showed an increase in L2 influence, because fewer Adv-V errors were made in the initial stages in the GFT as compared to the GJT. Secondly, with regards to L1 influence, the GFT showed a greater linear decrease in L1 errors over the years and thus a clearer pattern: massive transfer in the initial stages, i.e. XVSO-errors in 83% of the cases (as compared to 67.3% in the GJT) and almost no errors at the start of the third year, viz. XVSO-errors in 1.8% of the cases (as compared to 25.5% in the GJT). However, this difference did not affect the results because in both tasks the decrease in XVSO-errors was only significant from the first to the second year.

8.6. What about the L3 models?

So far, this discussion has provided an overview of factors that affect L1 and L2 transfer in L3 learning in the first four years of secondary school. Considering the multiplicity of factors that impact L1/L2 transfer in L3A, it is not surprising that no L3 model can fully explain our findings. In the paragraphs below, we consider our results within the framework of four prevailing L3 models: 1) the L2 status factor hypothesis; 2) the L1 transfer scenario; 3) the Typological Primacy Model; and 4) the Linguistic Proximity Model.

As already mentioned in Section 8.2, partial support was found for the L2 status factor hypothesis, that is, in third-year bilingual stream learners and in fourth-year bilingual and mainstream students. No evidence for the L2 status factor was found in the language combination L1 Dutch–L2 English–L3 German or in the first two years of the learning of L3 French.²

² In ‘The L2 status factor hypothesis revisited’ Bardel and Sánchez (2017) propose a nuanced view of the L2 status factor hypothesis by emphasising the importance of explicit metalinguistic knowledge for L2 transfer.
As such, this dissertation supports the idea that in Dutch secondary school students, not only the activation of English is a prerequisite for the L2 to have a substantial effect, but the language combination under investigation as well.

Since L1 influence on L3 French has especially been found in initial state learners, our results in the initial stages of L3A are in line with the L1 transfer scenario. L1 influence occurs in the initial stages of L3 French, even though Dutch and French are not typologically related, pointing to a special L1 status in the initial stages. The vast majority of the year-one students both accepted and produced the Dutch word order in sentences such as *Aujourd’hui vais-je à l’école, *Today go I to school, ‘Today I’m going to school.’

The Typological Primacy Model (TPM) predicts that transfer in the initial stages of L3A from either background language is based on overall perceived typological similarity. In the language combination L1 Dutch–L2 English–L3 French, first-year students may have perceived overall resemblance between English and French due to great resemblance in the lexicon (Algeo, 2010; Bielenia-Grajewska, 2009; Cenoz, Hufeisen & Jessner, 2001), leading one to expect transfer from English in the initial stages. Since we found massive L1 Dutch transfer in the initial stages of L3 French acquisition, we can interpret these results as evidence against the TPM. In the language combination L1 Dutch–L2 English–L3 German, the TPM would predict that the German learner resorts to the background language Dutch because Dutch and German are perceived to be more similar than English and German, which is in line with our results. It could therefore be argued that the TPM predicts transfer in later stages of L3 development in the language combination L1 Dutch–L2 English–L3 German. However, explanation of the results in the light of the TPM must be approached with caution. First of all, the TPM is explicitly proposed for L3 learners in the initial stages of L3 acquisition and not for intermediate L3 learners. Moreover, interpreting perceived typological resemblance between background language and target language is somewhat difficult: strictly speaking, Dutch, English and German are all Germanic languages and thus belong to the same language family.

Finally, the Linguistic Proximity Model (LPM) relates linguistic transfer to structural resemblance between either background language and the target language. It proposes that transfer occurs when a linguistic
property receives supporting evidence in the target language from the L1 or the L2. In this model, transfer might occur independently of the developmental stage of the learner, and since L3 input is a crucial factor, the model seems to especially account for transfer in later stages of acquisition. At least two of our findings on L3 German vs L3 French accord with the LPM. First, in our study presented in Chapter 7 the learner could have received supporting structural evidence between background language Dutch and target language German, and therefore use the Dutch V-Adv word order (correctly) in L3 German. Secondly, in Chapter 6 we found a large decrease in XVSO word order errors after the initial stages, when the learners could have received supporting evidence from the English XSVO word order. The students could then correctly transfer this into French, leading to fewer errors at the start of the second year. It is somewhat unclear, however, how the LPM accounts for negative transfer. It seems possible that a learner receives ‘misleading’ evidence from the background languages and therefore applies it incorrectly in the L3, which could explain the Adv-V errors in L3 French.

8.7. Implications for foreign language teaching
The main goal of this dissertation was to linguistically investigate whether English as an L2 (in addition to Dutch as an L1) affects foreign language learning in secondary schools in a society where English is ubiquitous in the daily lives of adolescents. Although Dutch secondary school students can be considered sequential bilinguals, thus actually making other foreign languages the students’ L3s rather than their L2s, French and German are generally approached as second languages in the current Dutch secondary education. However, the findings in this dissertation show that today’s secondary school students in the Netherlands use both background languages in learning another foreign language. Although the influence of English (L2) alongside Dutch (L1) depends on the year the student is in, the type of education being received and the foreign language being learned, both the L1 and the L2 serve as background languages for these learners. It is an important finding that especially in intermediate stages of secondary school and in Dutch/English bilingual stream education, the L2 plays a substantial role in L3 French learning. Consequently, one implication for foreign language learning in secondary schools should be the desirability of a more multilingual approach in the foreign language classroom. Foreign language
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teachers should be made aware of the fact that foreign language instruction in the today’s Dutch secondary school means teaching a third language (after English) rather than a second language.

To measure transfer throughout this dissertation, we focused on negative transfer, i.e. on errors based on the Dutch and English word order. Nevertheless, the effect of English on French can at the same time also be positive. It would be interesting to examine how secondary school students could benefit from the fact that they have more than one language to transfer from. If language students were made more aware of resemblances and differences between background languages and target language, this could lead to advantages in learning a subsequent third language.

The idea of raising language awareness in secondary education is also in line with Curriculum.nu, a Dutch organisation comprised of scientists, teachers and school leaders that engages in curriculum innovation for future secondary education in the Netherlands. The general goal of Curriculum.nu is to improve and renew secondary education by giving more importance to meaningful education, which – when it comes to foreign language practice – basically entails more focus on ‘language and culture’ in the foreign language classes. With respect to language, this involves more language awareness in the curriculum, i.e. teaching students about language as a system, similarities between languages, how languages are used and learned and how language changes. Paying attention to the comparison of languages, to multilingualism and to ‘learning how to learn’ a language could not only enrich the practice of foreign language learning, it could also help students to learn a new language. In line with Curriculum.nu, a further study could focus on the influence of language awareness, or metalinguistic knowledge, on the L1 and the L2 as background languages in L3A. A relevant question could be whether an L3 learner with more metalinguistic knowledge about languages uses their background languages more consciously and, as a result, to a greater extent and with more success. Earlier studies in other countries have already found influence of metalinguistic knowledge in the L1/L2 on the role of the L1/L2 in L3A (Falk et al., 2015; Bardel & Sánchez, 2017). It would be relevant, especially considering the importance of language awareness in the future of Dutch secondary education, to investigate whether and how language awareness might affect foreign language learning in secondary schools.
8.8. Future directions

Several questions remain open for future research. The focus in this dissertation was on comparing L1/L2 transfer in different types of education, different stages of development and in different language combinations. For this reason, we kept the conditions as constant as possible. We used the same type of tests throughout the whole project and concentrated on only two word order constructions. Although the consistency in tests and constructions was a strength of this dissertation, the scope of this dissertation was for this same reason limited. The patterns found could also especially concern these particular word order constructions. To get a more complete picture of L1/L2 influence on secondary school students learning an L3 in the Netherlands, the study should be repeated using other word order constructions.

A further study with more focus on production data such as writing and speaking skills is also suggested so as to get a better picture of L1/L2 transfer in L3A and to learn more about the differences between acceptance and production. While judgement and guided-production tasks are of crucial importance in linguistic research because they provide evidence about the grammaticality of utterances that do normally not occur in natural language production (Schütze & Sprouse, 2014), it would also be relevant for future research to use tasks that tap into knowledge of a more implicit nature, such as tasks with a focus on fluency and meaning such as written or oral narrative tests (Ellis, 2005, 2009). Conducting these types of experiments allows us to learn more about the difference between implicit and explicit knowledge regarding the L1/L2 transfer in L3A.

Moreover, the study should be repeated while also using the data from simultaneous bilinguals, i.e. students with two L1s (e.g. Dutch and Turkish, or Dutch and Arabic). While the combined data in this dissertation are quite valuable, because all bilingual students were excluded to avoid a bias caused by influence from other dominant background languages, much of the data went unused. It would, however, be very relevant to also analyse data from simultaneous bilingual students, because students with two L1s are in an even more complex situation. It would be interesting to investigate whether English is an L3 for these students, and as a consequence, whether they use English to a different degree than students for whom English is the L2. Furthermore, the question as to how Dutch and their (other) native language would affect L3 learning in secondary school is also worth looking
into in future research. Besides the linguistic interest of a similar study, it would also better represent today’s Dutch society, in which nearly 4 million inhabitants (out of 17 million total) have a first- or second-generation migrant background (Centraal Bureau voor Statistiek, 2019) and are accordingly bilinguals.

Moreover, further research should be carried out to better understand how the different linguistic backgrounds of the first-year students have affected transfer in the initial stages. Although English is ubiquitous in the Netherlands, students have different primary school backgrounds, which makes them a less homogeneous group (as compared to, for instance, the second-year students). The quality and quantity of instructions in English—and thus contact with the English language—in primary schools depends largely on school policy and the teacher. It could therefore be the case that for some students, English as a background language is not ‘activated’ at all when they enter secondary school. It is only in secondary school that students receive at least a steady three hours of instruction in English per week. The massive L1 transfer in the initial stages raises the question as to whether the first-year students who have just finished primary school are indeed sequential bilingual learners of an L3, as we proposed in the introduction. De Angelis (2007: 6) points out that it is important for L3 research to explore ‘who is a monolingual learner of an L2, and who is a bilingual learner of an L3.’ Although in most primary schools, English is still only taught for approximately one hour a week from the penultimate year, more than 1150 primary schools in the Netherlands offer early foreign language education, mostly in English, and the first research projects into bilingual primary education are underway (Mearns & de Graaff, 2018). It would be interesting to consider English language backgrounds and the type of L2 education of the students in primary school in future investigations.

Finally, it would also be relevant to consider language-external variables such as motivation or linguistic affinity. The data from some studies in this dissertation (Chapters 2 and 3) were gathered in the third and fourth year of a single secondary school, where students might have a comparable age, share homogeneous socioeconomic backgrounds (SES) and have a comparable overall learning ability (because of the Dutch secondary school system that is divided into different tracks), but have different linguistic interests. In other words, when comparing mainstream to bilingual stream students, we have to keep in mind that the bilingual students are a
specific group of learners. It could be the case that primary school students (and their parents) that opt for a bilingual secondary school programme have more affinity with language (learning) in general or with English in particular (see Mearns et al., 2017). It would be interesting to investigate how affinity with a language and motivation to use a language affects the use of this language in further language learning.

8.9. Conclusion

This dissertation has provided an investigation of L1/L2 transfer in L3A in Dutch bilingual stream and mainstream secondary school students. The central question was whether L2 English (in addition to L1 Dutch) plays a role as a background language in L3A and what factors further L2 transfer into the L3. The findings have shown that both English and Dutch can play a substantial role in L3 learning, and, more importantly, that these roles are very dynamic and many different factors play a role in explaining L1 and L2 transfer in L3A. The educational perspective demonstrated that roles played in L3A by the L1 and the L2 are relative rather than independent. Comparing the bilingual and mainstream programmes showed that the degree of L2 activation in the daily school context affects both L1 and L2 influence. From the developmental perspective we studied L1/L2 transfer throughout the years. We concentrated on the independent patterns of L1 Dutch and L2 English in the learning of L3 French. The data concerning L1 Dutch influence demonstrated that L1 transfer especially occurs in the initial stages of L3A, followed by a major decrease in the bilingual programme. L2 English influence, however, generally remained stable over the years. However, the cross-linguistic perspective sheds new light on our findings. Our results showed that transfer also crucially depends on the combination of languages being studied. Considering the many factors that affect L1/L2 transfer in L3A, it is not surprising that no L3 model can fully explain our findings.

The findings of this wide-scale study have shed new light on how cross-linguistic influence works in secondary school students and how empirical findings in L3 research should be interpreted. The findings show that it is difficult to make general claims about regularities in transfer. This dissertation also shows that it is essential to approach L3 learning in relation to both the L1 and the L2. In future L3 research, we would therefore like to suggest that when analysing empirical findings, one needs to bear the many
different variables closely in mind. Let us in conclusion stress that this dissertation has been conducted in a secondary school context, making this research of a unique kind. Schools are ideal contexts for research, providing researchers with a great amount of useful data. Conversely, L3 research can help the school practice, especially in a changing society where young people are increasingly multilingual. L3 research can provide more insights on how language learning works and under which circumstances background languages are active in L3 learning. The most important message the reader should take home after reading this dissertation is that secondary school students use both background languages in foreign language learning and that the extent to which this happens depends on various factors. It would be a great step forward if language teachers in Dutch secondary schools were aware of their students’ linguistic competence so that they can help the students apply their linguistic knowledge in learning new languages.
References


References


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Appendix A

Linguistic tests

A.1. French grammaticality judgement task year 1, year 2, year 3

Opdracht: Geef van de volgende zinnen aan of ze goed of fout zijn door ‘g’ of ‘f’ te omcirkelen.

1. Manon souvent regarde un film. g/f
2. Jean a visité Amsterdam. g/f
3. Aujourd’hui mange Jean les frites. g/f
4. Manon aime vraiment les biscuits. g/f
5. Jean a un film regardé. g/f
6. Ma mère aime le Zoo. g/f
7. Manon toujours mange un bonbon. g/f
8. En France Manon mange une crêpe. g/f
9. Jean a mangé une tarte. g/f
10. Manon une crêpe mange. g/f
11. Aujourd’hui Jean visite la Tour Eiffel! g/f
12. Manon mange parfois une pizza. g/f
13. Jean adore le chocolat ! g/f
14. Manon a mangé 5 crêpes ! g/f
15. Manon regarde toujours un film. g/f
16. Manon visite Le Rijksmuseum ! g/f
17. Jean a La Tour Eiffel visité. g/f
18. Manon adore Justin Bieber. g/f
19. Jean les frites mange. g/f
20. Manon a une série regardé. g/f
21. Aujourd’hui va Jean à Paris g/f
22. Manon parfois va au cinéma. g/f
23. Mon chat a mangé une tarte ! g/f
24. En France mon frère mange une crêpe. g/f
25. Jean vraiment aime les séries ! g/f
26. Jean a une pizza mangé. g/f
27. Ma mère adore mon chat. g/f 
28. Manon mange souvent une banane. g/f 
29. Jean une pizza mange. g/f 
30. Aujourd’hui Manon va au Zoo ! g/f 
31. Mon père a un scooter. g/f 
32. En Hollande regarde Paul un film. g/f 

A.2. French grammatical judgement task (end of) year 3, year 4

Opdracht: Geef van de volgende zinnen aan of ze goed of fout zijn door ‘g’ of ‘f’ te omcirkelen.

1. Manon va parfois au Zoo avec ses amis. g/f 
2. À Bruxelles les gens mangent beaucoup de frites. g/f 
3. Mes parents aiment le café. g/f 
4. Mon frère joue beaucoup de jeux-vidéo ! g/f 
5. Jean vraiment adore les biscuits. g/f 
6. Manon fait avec son ami du sport. g/f 
7. Pendant les vacances cherche Jean un boulot. g/f 
8. Nous avons retrouvé les livres de géo ! g/f 
9. Les élèves vont tous au cinéma. g/f 
10. Manon parle dans la classe beaucoup. g/f 
11. En Italie Jean mange plus de glaces ! g/f 
12. Manon clairement voit les montagnes. g/f 
13. Jean aime regarder avec des amis des films. g/f 
14. Manon facilement marche 15 kilomètres ! g/f 
15. Demain Manon partira en vacances pour un mois. g/f 
16. Jean est en France et en Espagne allé. g/f 
17. Ma mère lit beaucoup de livres. g/f 
18. L’année prochaine organisera Jean un match de foot. g/f 
19. Jean regarde souvent la télé. g/f 
20. Dans une heure va Jean à Paris. g/f 
21. Nous des problèmes parlons en Syrie. g/f 
22. Ils tous prenaient leur petit-déjeuner au restaurant. g/f 
23. A Paris visite Manon le Notre-Dame et la tour Eiffel. g/f 
24. Manon a une piscine et un grand jardin. g/f
25. Jean parfois va à la piscine.  
27. Le vendredi Jean va au yoga.  
28. Manon parle facilement de ses problèmes.  
29. L’année prochaine Jean organisera un match de foot.  
30. Jean préfère à la plage aller.  
31. Manon des frites mange au restaurant.  
32. En Espagne mangent les gens des tapas.  
33. Manon mange vraiment trop de bonbons !  
34. Tu préfères la viande ou le poisson ?  
35. Pendant l’hiver Manon regarde des séries.  
36. Les parents viennent tous pour les profs.  
37. Aujourd’hui va Jean au Zoo.  
38. Jean va à la salle de sport pour jouer au tennis.  
39. Mes parents ont une belle voiture !  
40. Jean souvent joue de la guitare.  
41. En France Manon mange toujours des crêpes.  
42. Jean parfois mange des frites.  
43. Nous allons à la piscine avec Paul.  
44. Jeudi organise Manon une fête.  
45. Manon aime clairement son nouvel ordinateur.  

A.3. French gap-filling task year 1, year 2, year 3

Opdracht: Zet de woordjes op de juiste plek in de zin. Gebruik hiervoor de stippellijntjes.

1. Jean …… souvent …… une banane.  
2. Aujourd’hui …… Jean …… un film.  
3. Manon a …… une tarte …… .  
4. Jean …… parfois …… au cinéma.  
5. En France …… Jean …… la Tour Eiffel.  
6. Jean a …… une fête …… .  
7. Manon …… vraiment …… les bonbons.  
8. En Hollande …… Jean …… le Rijksmuseum.  
9. Manon a …… La Tour Eiffel …… .  
10. Manon …… toujours …… une crêpe.  

mange  
regarde  
mangé  
va  
visite  
organisé  
adore  
visite  
visité  
mange
Aujourd’hui …… Manon …… une fête. organise
Jean a …… une pizza …… mangé
Manon …… souvent ……un dîner. organise
En France …… Jean …… la Tour Eiffel. visite
Manon a …… une banane …… mangé
Jean …… vraiment …… le chocolat. adore
Aujourd’hui …… Manon …… une série. regarde
Jean a …… New York …….. visité
En Hollande …… Jean …… des frites. mange
Manon a …… un film …….. regardé
Jean …… toujours …… les biscuits. mange
Aujourd’hui …… Manon …… une pizza. mange
Manon a …… la Tour Eiffel …….. visité
Jean …… parfois …… En France. va

A.4. French gap-filling task (end of) year 3, year 4

Opdracht: Zet de woordjes op de juiste plek in de zin. Gebruik hiervoor de stippellijntjes.

1. Les enfants …… tous …… un téléphone utilisent
2. Ce soir …… mes parents …… une fête. donnent
3. Ils ont …… une tarte au chocolat …… mangé
4. Jean …… parfois …… au cinéma. va
5. Mon frère a …… pendant l’hiver …… fait du ski
6. Pendant l’été …… Jean …… travailler. veut
7. Manon …… facilement …… son examen. fait
8. A Amsterdam …… Jean …… beaucoup d’amis. avait
9. Mon prof a …… une solution …… trouvé
Jean …… vraiment …… trop de sucre. prend
11. Aujourd’hui …… Jean …… un dîner. organise
La cocaïne est …… aux Pays-Bas …… vendue
13. Les parents …… tous …… un plat du jour. choisissent
A Londres …… Jean …… le Tate Modern. visite
15. L’examen est …… par 50 élèves …… fait
Jean …… souvent …… au cinéma. va
17. Vendredi ….. Jean ….. une voiture. achètera
18. Les drogues sont ….. le soir ….. vendues
19. Je ….. facilement ….. 5 sandwiches. mange
20. Samedi ….. Jean ….. un marathon. organise
21. Les enfants ont ….. ce film ….. regardé
22. Jean ….. parfois ….. trop. parle
23. En France ….. les enfants ….. à l’école le samedi. vont
24. Tout le monde a ….. des frites ….. pris
25. Mon père ….. vraiment ….. beaucoup. mange
26. Cet après-midi ….. Manon ….. un film. regarde
27. J’ai ….. des cadeaux ….. acheté
28. Les profs ….. tous ….. des dangers de l’alcool. parlent
29. Jeudi ….. Jean ….. avec le prof. parlera
30. Manon a ….. la douche ….. utilisé
31. Ce matin ….. nous ….. un examen ! avons
32. Jean ….. le film « Les Intouchables » ….. adore
33. Ma sœur ….. souvent ….. sous la douche. chante
34. Tu ….. au Zoo ….. avec moi ? vas
35. A Laren ….. les gens ….. la nature. aiment
36. Jean ….. parfois ….. un kilo de bonbons ! mange

A.5. German grammaticality judgement task (end of) year 3

Opdracht 1: Geef van de volgende zinnen aan of ze goed of fout zijn door ‘g’ of ‘f’ te omcirkelen.

1. In Berlin Susan besucht Check Point Charlie g/f
2. Susan geht manchmal in den Zoo. g/f
3. Meine Eltern lieben Kaffee. g/f
4. Mein Bruder spielt viele Videospiele. g/f
5. Morgen organisiert Jan ein Fußballspiel. g/f
6. Susan immer macht einen guten Apfelstrudel. g/f
7. Wir haben die Bücher gefunden! g/f
8. Heute geht Susan ins Kino. g/f
9. Die Schüler gehen nach Berlin. g/f
10. Susan und Jan oft schauen eine Serie. g/f
11. Jan geht mit Susan nach Düsseldorf. g/f
12. In Spanien essen Leute gute Tapas.  
13. Sie essen wirklich 20 Pizzas!  
15. In Frankreich die Kinder gehen in Schule am Samstag.  
16. Susan hat ein Fest organisiert.  
17. Susan manchmal redet viel.  
18. Meine Mutter liest viele Bücher.  
19. Freitag geht Susan nach Yoga.  
20. Susan läuft oft 15 Kilometer.  
23. Jan geht in die Sportschule mit seinen Freunden.  
24. Sie alle nehmen ihr Frühstück ins Restaurant.  
27. Jan isst immer zwei Bananen!  
29. Wir essen oft 5 Sandwiches!  
30. Heute Jan organisiert ein Abendessen.  
31. Wir machen drei Pizzas.  
32. Die Eltern manchmal nehmen eine Pizza.  
33. In Berlin Susan geht ins Museum.  
34. Die Kinder haben diesen Film gesehen.  
35. Wir nehmen alle einer Bratwurst.  
36. In Amsterdam kauft Jan ein Auto.  
37. Meine Mutter hat Pommes Frites genommen.  
38. Heute Jan organisiert ein Marathon.  
40. Heute kauft Jan eine Serie.  
41. Susan liebt den Film „Lola Rennt“.  
42. Gehst du in den Zoo mit mir?  
43. Meine Schwester immer nimmt ein Kiwi.  
44. In Laren die Leute lieben die Natur.  
45. Mein Vater redet wirklich viel!
A.6. German gap-filling task (end of) year 3

Opdracht: Zet de woordjes op de juiste plek in de zin. Gebruik hiervoor de stippellijntjes.

1. Die Lehrer …… alle …… ihr Frühstück ins Hotel. essen
2. Morgen …… Jan …… eine Party. organisiert
3. Dirk hat …… ein schönes …… Auto. gekauft
4. Die Eltern …… manchmal …… ein Bier. nehmen
5. Die Kinder haben …… drei Apfelstrudel …… gegessen
6. Donnerstag …… Susan …… ins Museum. geht
7. Susan und Jan …… oft …… eine Serie. schauen
8. In Texas …… Leute …… 2 Beefsteak! essen
9. Jan hat …… die Geschenke …… gekauft
10. Jan …… wirklich …… viel Zucker. nimmt
11. Heute …… Susan …… ein Abendessen. organisiert
12. Wir haben …… ein Pizza …… gegessen
13. Dirk und Jan …… immer …… ein Fußballspiel. spielen
15. Das Examen ist …… sehr gut …… gemacht
16. Jan …… oft …… nach Berlin. geht
17. Morgen …… Susan …… ein Auto. kauft
18. Die Eltern haben. …… 2 Films …… gesehen
19. Wir …… manchmal …… 5 Sandwiches. essen
20. Heute …… Jan …… ein Marathon. organisiert
21. Die Kinder haben …… 2 Series …… gesehen
22. Susan …… wirklich …… viel! redet
23. In Deutschland …… die Kinder …… früh ins Schule. gehen
24. Mein Vati hat …… 2 Bratwurstens …… gegessen
25. Jan und Susan …… immer …… Spaß. machen
26. In Berlin …… Jan und Susan …… ein Film. sehen
27. Ich habe …… ein Geschenk …… gekauft
28. Die Lehrer …… manchmal …… ein Bier. trinken
29. Donnerstag …… meine Eltern …… ins Kino. gehen
30. Susan hat …… ein Sandwich …… gegessen
31. Diese Morgen …… meine Schwester …… ein Examen! hat
32. Meine Tante hat …… 2 Geschenke …… gekauft
33. Meine Schwester oft nach Deutschland. geht
34. Heute Jan ein Party. organisiert
35. Wir immer nach Deutschland. gehen
36. Jan hat 2 Kilo Apfelstrudel gegessen!

A.7. English gap-filling task

Opdracht: Zet de woordjes op de juiste plek in de zin. Gebruik hiervoor de
stippellijntjes.

1. John often a banana. eats
2. Today John a movie. watches
3. Manon has a cake eaten
4. John sometimes to the movies. goes
5. In France John The Eiffel Tower. visits
6. John has a party organized
7. Manon really the cookies. adores
8. In Holland John the Rijksmuseum. goes
9. Manon has the Eiffel Tower seen
10. Manon often a pancake. eats
11. Today Manon a party. organizes
12. John has a pizza eaten
13. Manon often my dinner party. organizes
14. In France John the Eiffel Tower! visits
15. Manon has a banana eaten
16. John really chocolate. adores
17. Today Manon series. watches
18. John has New York seen
19. In Holland John fries. eats
20. Manon has a movie seen
21. John always cookies! eats
22. Today Manon a pizza. eats
23. Manon has the Eiffel Tower seen
24. John sometimes to France! goes
Appendix B

Individual results

B.1. Results of Adv-V errors in GFT for first-year bilingual stream students, third-year bilingual stream students and third-year control group

<table>
<thead>
<tr>
<th>Y1</th>
<th>N. of items (8)</th>
<th>Y3 (bilingual)</th>
<th>Y3 N. of items (12)</th>
<th>Y3 (control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1</td>
<td>0</td>
<td>L. 1</td>
<td>B1. 4</td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>2</td>
<td>B. 3</td>
<td>P1. 4</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>0</td>
<td>R. 3</td>
<td>M1. 1</td>
<td></td>
</tr>
<tr>
<td>N1</td>
<td>1</td>
<td>T. 1</td>
<td>C. 0</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>0</td>
<td>N. 4</td>
<td>M2. 3</td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>0</td>
<td>T. 1</td>
<td>R. 11</td>
<td></td>
</tr>
<tr>
<td>N2</td>
<td>2</td>
<td>S. 2</td>
<td>J1. 0</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>1</td>
<td>J1. 6</td>
<td>J2. 5</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>0</td>
<td>E. 5</td>
<td>B2. 0</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>0</td>
<td>J2. 7</td>
<td>F. 0</td>
<td></td>
</tr>
<tr>
<td>J2</td>
<td>0</td>
<td>J3. 0</td>
<td>P2. 0</td>
<td></td>
</tr>
<tr>
<td>J3</td>
<td>0</td>
<td>J4. 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M1</td>
<td>0</td>
<td>D. 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N3</td>
<td>1</td>
<td>G. 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>A. 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M5</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20/184 (10.9%)</td>
<td>41/192 (21.4%)</td>
<td>28/132 (21.2%)</td>
<td></td>
</tr>
</tbody>
</table>

Mean 0.8696 2.5625 2.5455
SD 1.51671 2.18994 3.4165
Summary

The Influence of Dutch (L1) and English (L2) on Third Language Learning: The Effects of Education, Development and Language Combinations

To what extent does English as a second language (L2) affect learning a third language (L3) for students in Dutch secondary schools whose first language (L1) is Dutch? This dissertation concentrates on this particular group of adolescents, so as to gain more insight on how background languages are used in learning a foreign language in Dutch secondary schools. We present six different empirical studies in which influence of Dutch and English is investigated in L3 acquisition. The studies examine two Dutch educational contexts, different stages of L3 development, and two L3s (L3 French and L3 German). L1/L2 transfer in L3A is measured amongst students who are in their first four years of secondary school and are enrolled in either a Dutch/English bilingual stream programme or in a mainstream Dutch programme. As such, L1/L2 influence can be tested in students who are exposed to English to various degrees and who have varying L2 and L3 proficiencies. Furthermore, the comparison between two different L3s – L3 French and L3 German – allows us to compare transfer in two different language combinations while the L1 and L2 are kept constant.

The third language acquisition (L3A) field is a relatively young field of research. In recent years, several L3 studies have been carried out to explain transfer from the L1/L2 in L3A. So far, these studies have presented conflicting results, a fact that underscores the complex nature of L3 acquisition. Some scholars propose a default role for the L1 (including Hermas, 2010) or the L2 (e.g. Bardel & Falk, 2007). Others see no preferred role for the L1 or the L2 and suggest that transfer occurs based on perceived typological resemblance (such as Rothman, 2015) or on structural resemblance (e.g. Mykhaylyk et al., 2015). Moreover, it has become increasingly clear that supplementary factors such as L2 and L3 proficiency, L2 exposure, and development also affect L1/L2 transfer in L3A (e.g. Hammarberg, 2009; Jaensch, 2009a, 2009b; Pajak et al., 2016). In this dissertation, the roles of L2 exposure, L2 proficiency and the developmental
stage in the L3-learning process are investigated in relation to L1/L2 transfer in L3A. We also investigate the effect of language combinations on L1/L2 transfer in L3A.

The effect of L1 Dutch and L2 English on learning L3 French and L3 German is examined on a syntactic level using two different constructions in which one of the background languages and the target language differ. To detect possible influence from Dutch on French, we look at V(erb)-to-C(omplementiser) movement (+Dutch, –French), leading to XVSO (V2) surface structures in sentences containing a sentence-initial adverb: *Vandaag eet Jan een appel* ‘Today eats John an apple’, *Aujourd’hui mange Jean une pomme* ‘Today John eats an apple’ and to detect transfer from English into French and into German, we look at V(erb)-to-T(ense) movement (–English, +French, + German) resulting in an V-Adv surface structure in sentences containing a manner/frequency adverb.

In English, there is no V-to-T movement, which leads to an Adv-V surface structure: ‘Manon sometimes goes to the zoo’ *Manon parfois va au zoo, *Manon manchmal geht in den Zoo. These two verb placement constructions are kept constant throughout the whole dissertation so as to be able to compare possible transfer in different groups of learners. In what follows, each chapter is summarised.

Chapter 1 introduces this dissertation and presents and explains its three different perspectives: an educational perspective, a developmental perspective and a cross-linguistic perspective. The educational perspective concentrates on the effect of type of education on the role of L1 Dutch and L2 English in L3 French acquisition. The developmental perspective approaches the question of L1 Dutch and L2 English influence in L3 French acquisition in different stages of L3 development. The cross-linguistic perspective concerns the effect of language combinations on language transfer from the L2 into L3A. The introduction also discusses several studies from the L3-field of research that are relevant to this dissertation, the secondary school context where the experiments are conducted and the constructions used to measure transfer. Finally, the introduction presents the outline of this dissertation.

Chapter 2 reports the findings of a grammaticality judgement task and focuses on the acceptance of Dutch XVSO word order and of English Adv-V word order in L3 French in third-year bilingual stream and mainstream secondary school students. As such, we compare two different
educational contexts. One of the L3-models – the L2 status factor hypothesis – is tested by comparing the number of XVSO vs Adv-V errors the students make in L3 French. Contributing a more important role to the L2, the L2 status factor hypothesis would predict more influence from English than from Dutch. The empirical study reveals that whereas in the mainstream group, the L1 and the L2 appear to be almost equally important sources of transfer into the learning of L3 French, the bilingual stream students prefer the L2 over the L1 as a source of transfer in the learning of L3 French, which is in line with the L2 status factor hypothesis. The data from the same study show that the mainstream students use their L1 Dutch to a greater extent than do the bilingual stream students, a fact we attribute to the larger role of the L1 as compared to the L2 in mainstream education. These findings imply that the type of L2 education (and related to that, the amount of L2 exposure in the daily school context) affects L1 and L2 transfer in the learning of L3 French.

The study presented in Chapter 3 builds on the study in Chapter 2. We compare the findings from the third-year students to new data from a grammaticality judgement task gathered amongst mainstream and bilingual stream fourth-year students. Again, the L2 status factor hypothesis is tested by comparing the number of XVSO vs Adv-V judgement errors in L3 French acquisition. The previous study found an effect of L2 exposure on the role of the L1 and the L2. Consequently, considering that both fourth-year groups have received one year more of L2 exposure than third-year students, we predict to find support for the L2 status factor hypothesis in both fourth-year groups, as well as an increased L2 influence and a decreased L1 influence as compared to both third-year groups. Although in both fourth-year groups – just as in the third-year bilingual group – students make more errors based on English than on Dutch (supporting the L2 status factor hypothesis), the results of this study do not provide evidence with respect to the increase of English influence from year three to year four: the number of Adv-V errors decreased slightly from year three to year four in both tracks. With regards to Dutch influence, we found a significant decrease in errors from year three to year four, to the extent that fourth-year mainstream students scarcely make XVSO errors any more. An increased L3 proficiency may explain the decrease in number of errors with respect to both constructions after the third year.
Summary

Since in the studies presented in Chapters 2 and 3 we found an effect of restricted L2 exposure in third-year mainstream students, entailing relatively more transfer from the L1, we decided to examine initial-state learners of French, who at the time of testing were not yet fully enrolled in the bilingual stream programme. Chapter 4 reports the results of a grammaticality judgement and a guided-production task. We look again at XVSO and Adv-V word order errors in French. The first-year students are found to both massively accept and produce the Dutch XVSO word order in French. Although in the grammaticality judgement task the L2 did play a role, the first-year students made almost no Adv-V mistakes in the guided production task. The massive transfer from the L1 is in line with the L1 transfer hypothesis (Hermas, 2010). In sum, the results indicate that students at the onset of learning French resort to their L1 more than to their L2.

The purpose of the study presented in Chapter 5 is twofold: it is a cross-sectional study in which we investigate the increase of the influence of the English Adv-V word order on French from first- to third-year bilingual stream and mainstream students. In addition, we study the relationship between the students’ individual L2 proficiency and the influence of the L2 in L3 French in both third-year groups: a factor that in previous studies has been found significantly associated to an increased L2 influence in L3A (Jaensch, 2009a, 2009b). Although the roles of L2 exposure and L2 proficiency are related, the relation between the two factors in L3A is unclear and often not sufficiently disentangled in L3 research. The students in the secondary school where we conducted our experiments receive different amounts of L2 exposure in the daily school context (depending on the type of education) and have varying L2 proficiencies depending on individual differences. Consequently, the context of study makes it possible to investigate the relation between the two variables. Influence from English is measured by means of a guided production task. The findings of this study show that in the bilingual stream the number of Adv-V errors increases significantly over the years, which is not the case in the mainstream group. This study shows that an increased L2 exposure in the daily context and over the years leads to more L2 influence in L3A. Moreover, this study demonstrates no correlation between L2 proficiency and L2 influence in L3A. Therefore, we tentatively conclude that L2 exposure — that is, the activation of the L2 — is more important than L2 proficiency for the L2 to play a role in the L3.
In Chapter 6, we extend our investigation on L3 development by presenting a longitudinal study in which we test the same students from the bilingual stream three times over a period of two years starting in the initial stages of L3 French acquisition. The findings show massive L1 transfer in the initial stages and a decrease of Dutch influence relatively quickly after the onset of L3 learning. Although in year two and year three, some judgement XVSO errors are still made, the decrease is highly significant and students barely make any XVSO guided production errors. Despite the increase in L3 proficiency, the role of L2 English remains stable across years. The results show an increasing tendency in the guided production data with respect to the number of Adv-V errors; however, these results are not in line with the results of the study presented in Chapter 5, where we did find a significant increase in English Adv-V production errors in the cross-sectional comparison between year one and year three. The cross-sectional third-year data were collected at the end of year three, whereas the longitudinal data were collected at the start of year three. We argue that it could take more time in the bilingual stream context for the L2 to present a group effect. In sum, the findings in this study underline that both background languages play a role in L3A depending on the developmental stage the L3 learner is in.

The study presented in Chapter 7 focuses on the role of L1 transfer and L2 transfer in relation to two different L3s, that is, German and French. To this end, we compare the number of English Adv-V errors in German and in French with a grammaticality judgement task and a gap-filling task in third-year bilingual stream students. The studies presented in Chapter 2 and Chapter 5 showed that the L2 can take on a strong role in L3 French acquisition, especially in the third-year of bilingual education. Since we found an L2 effect in L3 French, we decided to investigate to what extent the L2 remains stable as a background language when learning a different L3. The findings of this study show that L2 English plays a significantly smaller role in L3 German than in L3 French. We argue that this is probably due to the strong role of Dutch in L3 German.

Chapter 8 concludes this work with a discussion of when secondary school students make use of their background languages Dutch (L1) and English (L2) in L3A. We argue that taking different perspectives is essential in explaining L1/L2 transfer in L3A: a preference for either L1 Dutch or L2 English as background languages depends on the type of education the L3
learner is enrolled in, the developmental stage the L3 learner is in and the language pairing under investigation. The three perspectives make a meaningful contribution to the understanding of third language acquisition in secondary school students. More generally, the combined data show that taking perspectives in L3 learning is important. For one, L3 research in secondary schools would be less complete without considering the (non-)bilingual educational context of the L3 learner, since factors such as L2 (vs L1) exposure affect the use of background languages. For another, the developmental stage of the L3 learner appears to be of importance with regards to the use of background languages. Finally, the language combinations affect the way in which background languages are used. It is an interesting idea that both background languages are used in L3A. If secondary school teachers and students are made aware of this in language classes, this could result in advantages to L3 learning.
Samenvatting

De invloed van het Nederlands (T1) en het Engels (T2) op het leren van een derde taal: het effect van onderwijs, taalontwikkeling en taalcombinaties

Beïnvloedt Engels als tweede taal (T2) het leren van andere vreemde talen op de middelbare school? Dat is de hoofdvraag van dit proefschrift waarin is onderzocht in hoeverre het Engels naast de moedertaal Nederlands (T1) wordt gebruikt bij het leren van de derde talen Frans (T3) en Duits (T3). Het proefschrift bestaat uit zes verschillende studies waarin deze invloed van het Nederlands en het Engels is onderzocht. Het onderzoek is uitgevoerd in twee verschillende onderwijscontexten, namelijk in Nederlands/Engels tweetalig onderwijs en in regulier vwo-onderwijs en de leerlingen zijn getest in de eerste vier jaar van de middelbare school. Op deze manier kon worden onderzocht in hoeverre de invloed van het Nederlands en het Engels afhankt van de hoeveelheid blootstelling aan het Engels in de dagelijkse schoolcontext en in hoeverre deze invloed verschilt in opeenvolgende taalontwikkelingsstadia. Ook is de invloed van het Engels op de twee verschillende doeltalen (Frans en Duits) onderzocht.

Het derdetaalverwerwingsonderzoek (T3-onderzoek) is een vrij nieuw onderzoeksgebied. In de afgelopen jaren zijn er verschillende T3-onderzoeken uitgevoerd om meer te weten te komen over invloed van de T1/T2 op het leren van een T3. T3-studies laten tegenstrijdige resultaten zien, wat duidt op een vrij complex onderzoeksgebied. Er zijn onderzoeken die wijzen op een voorkeur voor transfer uit de T1 (bijvoorbeeld Hermas, 2010) of de T2 (bijvoorbeeld Bardel & Falk, 2007). Andere onderzoeken hebben laten zien dat zowel de T1 als de T2 de belangrijkste achtergrondtaal kan zijn, en dat T1/T2 transfer (gebruik van de T1 of de T2) afhangt van typologische overeenkomsten tussen achtergrondtaal (de T1/T2) en doeltaal (de T3) (bijvoorbeeld Rothman, 2015) of van structurele overeenkomsten tussen achtergrondtaal en doeltaal (bijvoorbeeld Mykhaylyk et al., 2015). Bovendien tonen verschillende onderzoeken aan dat andere factoren ook een rol kunnen spelen, zoals het niveau dat de taalleerder heeft in de T2/T3, hoeveel de taalleerder blootgesteld wordt aan de T2 (T2-input) en in welk stadium van
ontwikkeling de vreemde taalleerder zich bevindt (bijvoorbeeld Hammarberg, 2009; Jaensch, 2009a, 2009b; Pajak et al., 2016). In dit proefschrift hebben wij de invloed van T2-input, T2-niveau en T2-ontwikkeling onderzocht op de rol van zowel de T1 als de T2 in het leren van een T3. Daarnaast hebben we ook het effect van taalcombinaties onderzocht op de invloed van de T1 en de T2 bij het leren van een T3.

Dit T3-verwervingsonderzoek is uitgevoerd met behulp van twee verschillende syntactische constructies waarin de achtergrondtaal (het Nederlands of het Engels) en de doeltaal (het Frans of het Duits) van elkaar verschillen. We hebben onderzocht in hoeverre leerlingen de Nederlandse XVSO-woordvolgorde (T1) en de Engelse Adv-V-woordvolgorde (T2) – twee woordvolgordes die niet voorkomen in het Frans – accepteren en produceren in het Frans (T3). Invloed van het Engels op het Duits is ook onderzocht met de Adv-V-woordvolgorde. In alle experimenten in dit proefschrift zijn deze constructies constant gehouden om het effect van de onderwijscontext, de ontwikkeling en de taalcombinaties te onderzoeken. Hieronder vatten wij de verschillende hoofdstukken kort samen.

Hoofdstuk 1 is de introductie van het proefschrift. In dit hoofdstuk worden de drie verschillende perspectieven beschreven van waaruit we naar transfer hebben gekeken: het educatieve perspectief, het ontwikkelingsperspectief en het cross-linguïstische perspectief. Het educatieve perspectief betreft het effect van het type onderwijs op de rol van het Nederlands (T1) en het Engels (T2) bij het leren van het Frans (T3). Vanuit het ontwikkelingsperspectief is T3-verwerving onderzocht in verschillende ontwikkelingsstadia. Met het cross-linguïstische perspectief is de invloed van taalcombinaties op transfer uit de T1 en de T2 naar de T3 bekeken. In de inleiding wordt er ook ingegaan op verschillende onderzoeken uit het T3-verwervingsonderzoeksgebied. Daarnaast wordt besproken op wat voor middelbare school de experimenten zijn uitgevoerd en welke constructies er zijn gebruikt om naar invloed van de T1/T2 te kunnen kijken. Ten slotte beschrijft de inleiding de opbouw van het hele proefschrift.

Hoofdstuk 2 presenteert de bevindingen van de eerste studie. In deze studie wordt gekeken naar derdeklas middelbare scholieren. Met behulp van een grammaticaliteitstest is onderzocht in hoeverre leerlingen de Nederlandse XVSO-woordvolgorde (T1) en de Engelse Adv-V-woordvolgorde (T2) accepteren in het Frans (T3). Ook is er gekeken in hoeverre derdeklasleerlingen die Nederlands/Engels tweetalig onderwijs volgen de
achtergrondtalen Nederlands en Engels (bij het leren van het Frans) op een andere manier gebruiken dan reguliere vwo-leerlingen. In beide groepen is de T2 statusfactorhypothesen getest. Deze hypothese stelt dat de T2 (in dit geval het Engels) een grotere rol speelt bij het leren van een T3 (in dit geval het Frans) dan de T1 (in dit geval het Nederlands) omdat de T2 en de T3 allebei vreemde talen zijn. Deze hypothese is getest door het aantal XVSO-fouten (uit de T1 Nederlands) en het aantal Adv-V-fouten (uit de T2 Engels) in het Frans (T3) met elkaar te vergelijken. De resultaten van deze eerste studie hebben laten zien dat de reguliere vwo-leerlingen zowel de T1 als de T2 gebruiken bij het leren van het Frans (T3). De leerlingen die tweetalig onderwijs volgen gebruiken echter liever de T2 dan de T1 (wat gezien kan worden als bewijs voor de T2-statusfactorhypothesen). Dezelfde resultaten laten ook zien dat de reguliere vwo-leerlingen het Nederlands (T1) meer gebruiken dan de tweetalige leerlingen. Dit zou kunnen komen doordat het Nederlands in vergelijking met het Engels in het reguliere onderwijs een grotere rol speelt dan in het tweetalige onderwijs. Dit eerste onderzoek laat dus zien dat het onderwijs (en als gevolg hiervan in hoeverre de leerling wordt blootgesteld aan talen in de dagelijkse schoolcontext) invloed heeft op het gebruik van achtergrondtalen bij het leren van het Frans.

In hoofdstuk 3 worden de resultaten van een tweede studie gepresenteerd. Deze studie bouwt voort op de studie in hoofdstuk 2. Hier worden de resultaten van de derdeklasleerlingen vergeleken met die van vierdeklasleerlingen, die ook weer ofwel tweetalig ofwel regulier vwo-onderwijs volgen. Wederom is er met een grammaticaliteitstest de T2-statusfactorhypothesen getoetst door het aantal XVSO(O)-fouten (die gebaseerd zijn op de Nederlandse woordvolgorde) in het Frans te vergelijken met het aantal Adv-V-fouten (die gebaseerd zijn op de Engelse woordvolgorde). Daar we in de eerste studie hadden gevonden dat leerlingen die meer worden blootgesteld aan het Engels, deze taal ook meer gebruikten, hebben wij voor deze studie een hypothese geformuleerd die zegt dat ook de vierdeklas leerlingen – die meer input hebben gehad in het Engels dan de derdeklas leerlingen – het Engels meer zullen gebruiken dan het Nederlands. Hoewel in beide jaar vier groepen de leerlingen meer Adv-V-fouten maakten dan XVSO(O)-fouten, wat als bewijs voor de T2-statusfactor gezien zou kunnen worden, neemt de invloed van het Engels in beide groepen niet toe van jaar drie naar jaar vier. De resultaten laten ook zien dat het aantal fouten gebaseerd op de Nederlandse woordvolgorde afneemt van jaar drie naar jaar vier. De
reguliere vierdeklas-\ repeats\-

\mbox{mers}

zelfs \mbox{nauwelijks nog} XVSO-fouten. De afname van fouten in klas vier ten \mbox{opzichte} van klas drie zou \mbox{verklaard} kunnen worden door een toename van het niveau in het Frans.

Daar de eerste twee studies van dit proefschrift hebben laten zien dat invloed van het Engels en het Nederlands afhankt van blootstelling aan het Engels (en het Nederlands) in de dagelijkse schoolcontext, hebben we besloten ook eerstejaarsleerlingen te \mbox{testen} die nog niet zijn begonnen in het tweetalig onderwijs en dus nog niet veel zijn blootgesteld aan het Engels. In hoofdstuk 4 worden de resultaten van dit onderzoek gepresenteerd. Data zijn verzameld met een grammaticaliteitstest en een geleide productietask. Ook in dit experiment is \mbox{opnieuw} gekeken naar de XVSO- en Adv-V-\mbox{woordvolgorde}fouten in het Frans. De resultaten van deze studie laten zien dat eerste-\mbox{klas-\ repeats\-

lek-\mbox{mers}} – in tegenstelling tot leerlingen uit hogere klas-\mbox{sen} – massaal de (Nederlandse) XVSO-woordvolgorde accepteren en produceren in het Frans. Alhoewel de grammaticaliteitstest liet zien dat de T\mbox{\_\_2} wel een rol speelde, maakten de eerstejaarsleerlingen bijna geen Adv-V-fouten in de geleide productietask. De grote invloed van de T\mbox{\_\_1} is in overeenstemming met de hypothese van Hermas (i.a. 2010) die stelt dat in het begin van de verwerving van een T\mbox{\_\_3} de T\mbox{\_\_1} de belangrijkste transferbron is.

In de studie die gepresenteerd wordt in hoofdstuk 5 ligt de focus op transfer vanuit het Engels naar het Frans. In dit hoofdstuk is er \mbox{gekeken} naar mogelijke invloed van het Engels in een groep eerstejaars en derdejaars tweetalige leerlingen (weer met behulp van de Adv-V-constructie). Ook is er in deze studie gekeken naar de correlatie tussen het niveau van het Engels en de invloed van het Engels op het Frans in beide derdejaars groepen. In eerdere studies was bewijs gevonden voor meer invloed van de T\mbox{\_\_2} op de T\mbox{\_\_3} bij een \mbox{hoger} niveau in de T\mbox{\_\_2} (i.a. Jaensch, 2009a, 2009b). Alhoewel input in een vreemde taal en het niveau van een vreemde taal onlosmakelijk met elkaar verbonden lijken te zijn, is er toch nog niet veel onderzoek gedaan naar de exacte relatie tussen deze twee factoren. De leerlingen op de middelbare school waar de experimenten zijn uitgevoerd, worden in verschillende mate blootgesteld aan het Engels (T\mbox{\_\_2}), afhankelijk van het schooltype dat ze volgen. Daarnaast verschilt het niveau van het Engels tussen de leerlingen. Hierdoor was het mogelijk de relatie tussen deze twee variabelen – het niveau van het Engels en de input in het Engels – te onderzoeken. In deze studie wordt invloed van het Engels op het Frans gemeten met behulp van een geleide productietask. De resultaten tonen aan dat in de tweetalige groep het aantal
Adv-V-fouten (invloed van het Engels) in de loop van de jaren toeneemt, wat niet het geval is in de reguliere vwo-groep. Deze studie laat daarom zien dat input in een vreemde taal (in dit geval het Engels) in de dagelijkse context en door de jaren heen leidt tot meer invloed van het Engels op het Frans. Deze studie heeft geen bewijs gevonden voor een correlatie tussen het niveau van het Engels van de leerlingen en de invloed van het Engels op het Frans. Daarom hebben we op basis van deze resultaten geconcludeerd dat input in de T2 (dus activering van de T2 in de dagelijkse context) belangrijker is dan het niveau van de T2 om een rol te kunnen spelen in de T3.

Hoofdstuk 6 presenteert de resultaten van een longitudinale onderzoek. In deze studie zijn dezelfde studenten die tweetalig onderwijs volgen drie keer getest gedurende een periode van twee jaar. De eerste keer zaten ze net in de eerste klas, de laatste keer zaten ze net in de derde klas. De resultaten laten zien dat de grote invloed van de Nederlandse XVS(O) woordvolgorde in het begin van de T3-verwerving vrij snel afneemt, namelijk na het eerste jaar. Wat betreft de invloed van het Engels, blijkt dat ondanks dat het niveau van het Frans toeneemt, de rol van het Engels stabiel blijft: het aantal Adv-V-fouten neemt zelfs lichtelijk toe van jaar 1 naar jaar 3. In hoofdstuk 5 werd een significante toename gevonden van het aantal Engelse Adv-V-woordvolgordedefouten. In deze longitudinale studie vonden we slechts een lichte toename. Een verklaring voor het verschil in resultaten zou kunnen zijn dat in de longitudinale studie de resultaten verzameld werden aan het begin van jaar drie, terwijl de data voor de cross-sectionele studie verzameld werden aan het einde van jaar 3. Het zou dus zo kunnen zijn dat het meer tijd kost voordat er een groepsseffect is. Over het algemeen genomen laten de resultaten van het longitudinale onderzoek zien dat zowel de T1 als de T2 een rol speelt in het leren van het Frans (T3). Hoe groot deze invloed is, hangt sterk samen met de ontwikkelingsfase waarin de L3-leerder zich bevindt.

In hoofdstuk 7 worden de resultaten voor het Frans uit eerdere studies vergeleken met het Duits. We hebben weer naar het aantal Engelse Adv-V-fouten gekeken en we hebben gebruik gemaakt van een grammaticaliteitstest en een geleide productietest. De participanten waren derdeklasleerlingen uit de tweetalige onderwijscontext. De studies in hoofdstuk 2 en 5 toonden aan dat het Engels een sterke rol kan spelen bij het leren van het Frans, vooral wanneer de leerlingen tweetalig onderwijs volgen. In deze studie is de hoofdvraag in hoeverre de derde taal de hoeveelheid invloed van het Engels bepaalt. De resultaten van deze studie laten zien dat Engels een kleinere rol
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speelt in het Duits dan in het Frans. We vermoeden dat dit te maken heeft met de sterkere typologische en structurele overeenkomsten tussen de het Nederlands (T1) en het Duits (T3) dan tussen het Nederlands (T1) en het Frans (T3).

In hoofdstuk 8 worden alle resultaten bediscussieerd vanuit de drie verschillende perspectieven die gepresenteerd zijn in de inleiding. Dankzij de verschillende studies en de drie perspectieven die we hebben gebruikt om T3-verwerving te bestuderen, hebben we meer inzicht gekregen in het leren van (derde) vreemde talen op middelbare scholen. Meer in het algemeen laten de data van alle studies samen zien dat middelbare scholieren zowel het Nederlands als het Engels gebruiken bij het leren van een volgende vreemde taal. De invloed van de T1 en/of de T2 op de T3 is dus niet eenduidig te verklaren. Ten eerste is het belangrijk rekening te houden met de tweetalige educatieve context van de T3-leerling, aangezien factoren zoals blootstelling aan de T2 (versus T1) het gebruik van achtergrondtalen kan beïnvloeden. Ten tweede hangt de mate van invloed van de T1 en/of de T2 op het leren van een T3 sterk samen met de ontwikkelingsfase waarin de leerling zich bevindt, en ten slotte heeft de vreemde taal die geleerd wordt ook invloed op het gebruik van achtergrondtalen bij het leren van een derde taal. Als docenten die vreemde talen onderwijzen zich bewust zouden zijn van het gebruik van achtergrondtalen bij het leren van een doelstaal, zou dit kunnen leiden tot beter vreemdetalenonderwijs.
Rosalinde Stadt was born in Harlingen, in the province of Friesland, the Netherlands on 28 July, 1984. She completed her VWO secondary school studies in 2002 and started her bachelor's programme in French language and culture at the University of Amsterdam in 2003. In 2007, Rosalinde moved to Paris for a year to study art history at the Université Paris Sorbonne – Paris IV and to finish her master’s thesis. On her year abroad in Paris, she also worked as a computational linguist. She completed her master’s degree in French language and culture in 2008, after which she began working as a French teacher and got her master’s in teaching at the University of Amsterdam in 2009. She also worked as a computational linguist in the Netherlands for a period of time in 2010 before starting work as a French teacher at the Laar & Berg secondary school in Laren, Noord-Holland. In February 2014, Rosalinde began work on a PhD project entitled *The Influence of L1 Dutch and L2 English on L3 Acquisition* at the University of Amsterdam thanks to an NWO-funded ‘Doctoral Grant for Teachers’, under the supervision of Aafke Hulk and Petra Sleeman. She presented the results of this project at a large number of both national and international conferences. Rosalinde continues working as a French teacher at Laar & Berg and started as a teacher trainer in the Master of Teaching programme at the University of Amsterdam in September 2018. On 12 July 2019, Rosalinde also became the proud mother of a son, named David.