How high school students learn grammar
Longitudinal study of Dutch high school learners acquiring the English possessive construction

By Johan Kobben
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Johan Kobben
0605808

First Supervisor: Prof. Dr. Helen de Hoop
Second Supervisor: Prof. Dr. Roeland van Hout
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Chapter 1
Introduction

In the instruction in modern day Dutch textbooks on English as a foreign language the instruction of the English possessive construction is divided into three types of possessive relations: persons, objects (or things) and time adverbials as possessors. In the written English of my high school students I noticed a gradual development over the years and it seemed that the students were developing according to a fixed path of acquisition. The errors seemed to decrease according to a pattern and in a specific order on the basis of the three types of possessors mentioned above. This led me to the hypothesis that the type of possessor, a person, an object or a time adverbial, had a significant influence on the level of acquisition of the students. The more a student conforms to native speaker preferences, the higher their level of acquisition.

At first I hypothesized that the reason for this specific order of acquisition had to be sought in the differences between the L1 (Dutch) grammar and the L2 (English) grammar. In order to confirm this I studied the English (1a and 1b) and Dutch possessive (1c and 1d) constructions.

(1) a. Sally’s book
     b. the book of Sally

     c. Piets boek
     d. het boek van Piet

For English I used the work by Rosenbach (2002; 2004) and for Dutch I based my conclusions on the dissertation by van Bergen (2011). These works give insights into the actual
preferences native speakers have in the distribution of the prepositional and the genitive possessive construction. Chapter 2 presents this contrastive analysis and reveals the differences in pattern distribution between Dutch and English. The chapter ends with clear predictions of how the pattern distribution of Dutch high school students would develop on the basis of L1 transfer.

In order to see whether these transfer effects could account for the acquisition path I originally noticed in the written English produced by my students, I set up a longitudinal study. I followed the development of the use of the possessive construction in English in two groups of students over four years and compared the pattern distributions and errors with the predictions formed on the basis of the L1 and L2 contrast presented in Chapter 2. In some cases the predictions on the basis of transfer effects were confirmed, indicating that L1 transfer does play a role, however in some cases the patterns attested in the data from the study were the exact opposite of the one expected.

(2) A: That is a beautiful coat in the window. B: The coat of Peter is exactly the same and I don’t like his coat so I don’t like the coat in the window.

It turned out that in (2) most students used the genitive possessive (Peter’s coat) whereas on the basis of L1 transfer the prediction was overuse of the prepositional possessive. A careful analysis of the study results, presented in Chapter 3, resulted in an adjustment of the initial hypothesis. Instead of the hypothesis that the specific path of acquisition was only caused by L1 transfer I found that the direct grammar instruction in the high school textbook caused a non-native
pattern distribution. So the students in the study show a specific acquisition path sample wide, however the reason for this pattern is not linguistic but can be traced back to the influence of the direct grammatical instruction.

The relationship between the direct grammar instruction and the pattern distributions found in the study is investigated in chapter 4. The influence of the instruction is clear from the study results and the grammar instruction actually influenced the students negatively in some cases. When combining the results from the study with the linguistic analysis of Chapter 2 a number of specific recommendations are presented in Chapter 4. These recommendations are aimed at improving the pattern distribution of Dutch high school learners by further diversification of the instruction in textbooks and adapting or even replacing parts of the instruction of the English possessive construction.
Chapter 2
Contrastive study of the English and Dutch possessive construction

2.1 Introduction
In order to find out whether the type of instruction influences the pattern of acquisition of Dutch high school students and whether the instruction as presented in textbooks today leads to native like pattern distributions we need to contrast the Dutch and the English possessive system. The start for this comparison is defining the different factors from the literature which influence the pattern distribution of the genitive and prepositional possessive construction. In the literature two factors can be distinguished as being of specific importance for the English pattern distribution and a third one plays an essential role in the Dutch pattern distribution. An influential study in determining the preferences for English native speakers is the experimental study by Rosenbach (2002). In her study she used three factors. In this study I have duplicated two of them: animacy and topicality. In her dissertation van Bergen (2011) defines the most important factor for Dutch: type of DP. The precise definition of these factors and the interaction of the factors in Dutch and English are discussed in Section 2.2.

After having defined the factors that influence the pattern distributions it is time to actually review the pattern distribution in English and Dutch. Section 2.3 presents an overview of the interaction of the factors per language and describes how native Dutch and English speakers arrive at the either one construction.

The final step is to contrast the English and Dutch pattern distributions and get an overview of what, linguistically, Dutch high school students have to learn and
change if they want to arrive at an English native like pattern distribution. Section 2.3.3 does just that.

This contrast is the basis from which the instruction in a Dutch high school English text book will be reviewed. Section 2.4 reviews the instruction that Dutch high school students receive, and combined with the contrastive data from the previous section predictions will be drawn up of what students will do if they a. follow the instruction or b. follow their L1 grammatical system. These predictions are the starting point to interpret the experimental data presented in Chapter 3.

2.2 Factors influencing the possessive pattern distribution

The possessive constructions in Dutch and English are very similar. English can encode the possessive relationship between the possessor and the possessee in two ways: the first is to form a genitive possessive construction and the second is the prepositional possessive construction. The genitive possessive construction is formed in the English language by adding a genitive marker (‘s) to the possessor immediately followed by the possessee. The prepositional construction is formed by inserting the prepositional of between the possessee and the possessor.

Dutch has three ways to encode the possessive relationship: the genitive possessive construction, the prepositional possessive construction and pronoun possessive construction (3a and 3b). In this construction a possessive pronoun is inserted between the possessor and the possessee.

According to Stassen (2009) the main typological difference between these possessive constructions is the order of the possessor and the possessee. In Dutch two possessive constructions have the same order, in both the
genitive and the pronoun possessive construction the possessor is followed by the possessee.

(3)a. Jan z’n auto
     Jan his car

b. Sarah d’r hond
   Sarah her dog

In her corpus study van Bergen (2011) comes to the conclusion that the pronoun possessive construction does not occur in Dutch very often. This insight combined with the typological similarity is the reason that in the rest of this study the Dutch pronoun possessive construction will be subsumed into the genitive possessive construction.

The two remaining constructions are very similar in English and Dutch.

(4)a. John ’s coat
     John GEN coat

b. Jans jas
   Jan. GEN coat

(5)a. the pages of the book
     the pages of the book

b. de pagina’s van het boek
   the pages of the book

In (4) and (5) we see two types of possessive. In example (4) we see that in both English and Dutch the possessor followed by a genitive marker with the possessee in final position is possible. The only difference Dutch learners have to acquire in order to form this construction is the spelling rule that
requires the insertion of the apostrophe between the possessor and the genitive marker in English.

The second possessive construction that can be used in English is also present in Dutch. Both Dutch and English have a prepositional possessive construction. When we compare (5a) and (5b) we can see that in this case the possessee is followed by a preposition, van in Dutch and of in English, with the possessor is in final position. These constructions are identical in English and Dutch.

2.2.1 Animacy

Animacy is a term widely discussed in the literature. Two aspects of animacy are very important: the nature and the order of the animacy hierarchy, and secondly the question whether animacy is a relative or an absolute characteristic. Most simply put animacy refers to the distinction between living and non-living entities. Within linguistics, however, the term is much more diffuse. Silverstein splits up the dichotomy between merely living and non-living into eight categories and creates a hierarchy in which each category is placed ranging from most animate to least animate.

\[
(6) \quad 1^{st} \text{ person} > 2^{nd} \text{ person} > 3^{rd} \text{ person} > \text{ pronoun} > \text{ proper name} > \text{ human} > \text{ animate} > \text{ inanimate}
\]

(Silverstein 1976:122)

With this hierarchy Silverstein is the first to treat animacy as a gradual scale. Instead of the mere biological binary distinction one living entity can be more animate than another living entity. The category human, for instance, is more living in this hierarchy compared to animals. With this hierarchy
Silverstein claimed that the position of the constituent in the hierarchy has linguistic consequences.

Croft (1990) claims that the animacy hierarchy by Silverstein does not only treat the linguistic factor animacy, but also person (first, second and third person) and topicality (pronoun and proper noun) (Croft 1990; Ortmann 1998). Croft and Ortmann agree that animacy highly interacts with both person and topicality, but that these factors should be treated separately. Croft divides Silverstein’s animacy hierarchy into:

(7) Person hierarchy: $1^{st}$ person $> 2^{nd}$ person $> 3^{rd}$ person

Topicality hierarchy: pronoun $> $ proper name $> $ common noun

Animacy: 
  
a. animate $> $ inanimate
  
b. human $> $ non-human

This hierarchy of Croft again treats animacy as a bipolar issue which interacts with the other factors.

Given the problems with Silverstein’s animacy hierarchy identified by Croft and the over simplistic nature of animacy in Croft’s model we need a different animacy hierarchy which does not confuse the factors that are split up by Croft but still gives animacy different layers. Hawkins (1981) proposed the following hierarchy:

(8) human $> $ human attribute $> $

Mary

leg

non-human animate $> $ non-human, inanimate

cat

basked

(Hawkins 1981)
This animacy hierarchy only treats animacy. There are no person or topicality elements in the hierarchy. One problem with the assumptions of Hawkins is that he concludes that the influence of this hierarchy is categorical. This means that, according to Hawkins, when animacy is a linguistic factor in a situation the effect should always be the same and categorical. In reference to the possessive construction he predicted that a noun ranked high in the hierarchy should receive a genitive possessive construction.

A problem with this categorical interpretation of the influence of animacy is that corpus data has revealed a more mixed picture. Sorheim (1980) noted:

“It is clear that the s-genitive is being used with types of nouns where it has been said not to occur, and that this expansion seems to develop faster i[n] present day American English than in British English.”

(Sorheim 1980:147)

With this quote Sorheim claimed that a categorical influence of factors as proclaimed by Hawkins, Croft and others is not found in corpus data because the genitive possessive construction occurs with nouns where it is not expected on the basis of the intrinsic animacy properties of the possessor.

An innovation to counter this criticism was formulated by Quirk et al. (1985). They note that the use of the genitive possessive is also influenced by the lexical noun-class of the possessor and the possessee. They adapt the animacy hierarchy by Silverstein by inserting new noun classes into the hierarchy. They predict a decreasing frequency of the genitive possessive along the following scale:
personal nouns > collective nouns >
Dad        colleagues
higher animals > lower animals > inanimate
dog        fly        mug

(Quirk et al. 1985)

The main break between Quirk et al’s study and the earlier literature is that the hierarchy gives a decreased chance, not a categorical preference, for the genitive possessive. Even though the genitive possessive is infrequent with inanimate nouns, it is still possible. There are a number of inanimate nouns taking the genitive possessive construction, such as geographical nouns (Europe’s finances, Birmingham’s football club) locative nouns (the baker’s shop, the continent’s south side), temporal nouns (today’s news, this years’ production), and a category with nouns associated with human attributes (my arms’ injury, my brain’s activity).

So far animacy is defined as intrinsic property of a constituent. The animacy of different constituents is ranked on the following ranking:

personal nouns > collective nouns >
Dad        colleagues
human attribute > higher animals >
leg        dog
lower animals > inanimate
fly        mug

The intrinsic property does not categorically predict the alternation of the possessive construction, but it represents a preference. The higher the possessor is in the hierarchy the higher the chance of the genitive possessive construction.
This definition leaves one problem when trying to predict the alternation between the two possessive constructions: there is no explanation for the cases when the preference is ignored. It simply predicts a larger or a lesser chance of finding a genitive possessive construction. Rosenbach (2002) has investigated the English possessive construction thoroughly on the basis of corpus data and experimental study. The experimental study will be discussed in more detail in Section 2.3.1, the corpus element confirmed the insight of Sorheim (1980) that animacy is not actually an intrinsic property of the possessor, but a relative factor between the possessor and the possessee. Corpus data suggests that the lexical noun class of an object or entity has linguistic consequences. Many studies of the genitive possessive and prepositional possessive variation in English discuss animacy as a very dominant factor. The standard assumption expressed in most of these studies is that the genitive possessive is used with human possessors while the prepositional possessive is used with inanimate possessors (cf. Biber et al. 1999). The variation we see in corpus data (Anschultz 1997; Rosenbach, 2002) tells us that it is not that simple. There seems to be a clear pattern in the variation of the possessive construction. Rosenbach checked the corpus frequencies of specific constructions to see if there was a pattern. Consider the following constructions:

(11)  a. the dog ’s house  
     the dog GEN house  
  b. the house of the dog  
     the house of the dog

The difference between both phrases is the choice between the genitive possessive or the prepositional possessive.
Rosenbach found a strong preference for (11a). When we considered animacy an intrinsic property of the possessor the conclusion would be that the chance of a genitive possessive construction with a higher animal as the possessor is very high. Now consider the following two constructions:

\[(12)\quad \begin{array}{ll}
    a. & \text{the dog ’s walker} \\
    & \text{the dog GEN walker} \\
    b. & \text{the walker of the dog} \\
    & \text{the walker of the dog}
\end{array}\]

On the basis of the previous example and the animacy hierarchy we would expect that English speakers should prefer (12a). The possessor is still a higher animal, the only difference is the type of the possessee. However in the corpus Rosenbach (2002) found a preference for \textit{the walker of the dog}. From this outcome Rosenbach draws the conclusion that the possessee also influences the choice of the possessive construction.

The influence of the possessee can be explained by assuming that it is not the absolute animacy of the possessor, but rather the relative animacy of the possessor and the possessee. Animacy can be reformulated as a factor which prefers the most animate constituent (in the possessive construction either the possessor or the possessee) to be put in front of the utterance. In other words, when the possessor is more animate than the possessee English speakers have a preference for the genitive possessive because this construction puts the possessor in front. In our previous case that would mean that between \textit{dog} and \textit{house}, \textit{dog} is higher in the animacy hierarchy than \textit{house} so the genitive possessive should be preferred, while between \textit{dog} and
walker, walker is higher in the hierarchy which would predict a preference for the prepositional possessive.

The advantage of Hawkins’ animacy hierarchy is that he adds the category human attribute. This addition explains the English preference for the utterance my arm’s hair over the hair of my arm. This is the reason for using the animacy hierarchy as presented in (10), which adds this category to Quirk’s animacy hierarchy.

2.2.2 Topicality

Topicality is a widely used term and yet not everyone means the same thing when they use it. What unites most definitions of topicalization is that it stands for the tendency of the topic to come first in a linear order of the constituents in a sentence. In other words, the topic is mentioned first. A problem arises when we compare definitions of topic.

The different accounts of topicality involve different definitions of a topic. De Swart and de Hoop (2000) give an overview of different accounts of topicality and topics. In the discussion section they combine and collapse several accounts of topicality into the distinction between what the interlocutors are talking about (topic, theme) and what the interlocutors say about the topic / theme (comment, rheme). In this collapse given information does not necessarily always constitute a topic. A topic is concerned with aboutness.

Other accounts of topicality revolve around a distinction between salient information and background information. As noted by Givón (1988) this salient information tends to be new information. He defined this as the principle of actuality. Definitions in which topicality is defined in terms of salient / new information versus given information usually involve common ground, or grounding theories (Lambrecht, 1994).
In her experimental study Rosenbach used the dichotomy between given and new in her definition of topicality. In most literature givenness refers to the assessment of the speaker of the receiver’s knowledge. In the definition used for this study, given information is not only information previously mentioned in the text or conversation, but all information which can be reasonably regarded by the speaker as known to the addressee. New information is defined not only as information which is not mentioned before in the text or conversation, but also information which is new from a pragmatic standpoint. As an example:

A: Is that your book?

B: No, that book is hers.

In the last sentence, her refers back to a given discourse referent. When speaker did not expect the interlocutor to be unaware of who she was than the speaker would have used her name. Yet the information that the book belonged to her is new, so hers is treated as new information even though it refers to a given discourse referent. The issue of discourse information and givenness is discussed in further detail by Vallduví (1990).

When we combine these views on topicality a topic can be defined as the subject of discussion while the rest of the sentence is background to this topic. It specifies what the interlocutors are saying about the topic. This background information may actually be more salient than the topic because this is the new information regarding the topic. Please note that this use of background is opposed to the definition of background used by Givón earlier on. When we capture these definitions of topic and background in
Rosenbach’s distinction of given and new, given information is defined as the topic and new information as the background. On the basis of this definition of given and new information the following predictions for the use of the genitive possessive and the prepositional possessive construction can be formulated:

Given possessor – new possessee → genitive possessive
Given possessee – new possessor → prepositional possessive
Given possessor – given possessee → both equally likely
New possessor – new possessee → both equally likely
(taken from Rosenbach, 2002 : 55)

The reason for these predictions is very simple: in the genitive possessive the possessor is mentioned earlier than the possessee. At the beginning topicalization was defined as the tendency for the topic to be realized first. So when the possessor is given the topicality condition is met with the genitive possessive. Exactly the opposite holds when the possessee is given. When both the possessor and the possessee are either new of given the order does not matter topicality wise.

Earlier studies into the English possessive have shown that the givenness of information has a clear influence on the type of possessive construction. Rosenbach’s predictions (2002) based on topicality retrospectively fit the corpus findings of Sorheim (1980). So the predictions made regarding the possessive pattern distribution follow the pattern described above, however, when other factors such as animacy come into play the preferences on basis of topicality are weakened. In other words, topicality is an important factor; however animacy has a greater influence in English.
2.2.3 Type of DP
The third factor which influences the variation between genitive possessive and prepositional possessive is the type of DP of the possessor. There are three types of nouns which can act as a possessor, namely: a pronoun, a proper noun and a full noun phrase. The possessive relationship between John and a cup can be expressed with John as a proper noun, pronoun, and full DP:

(14) John’s cup
(15) his cup
(16) that man’s cup

In (14) the possessor is realized as a proper noun, John. In (15) John has been reduced to a possessive pronoun, while in (16) the possessor is realized as a full DP (that man). Van Bergen (2011) shows that the way the possessor is realized has a very strong influence on the choice of possessive construction. In the Dutch corpus CGN she found that when the possessor was realized as a pronoun or a full DP the preference for either the genitive possessive (with pronouns) or the prepositional possessive (with full DPs) is almost categorical.

This factor does not only influence the Dutch genitive alternation. The preferences found in Dutch are also, to a lesser extent, present in English. The difference between Dutch and English is that the preferences in Dutch on the basis of type of DP of the possessor are a lot stronger. For Dutch there is only one category for which the preference is not clear: proper nouns. Interestingly enough this is the very category for which English has the strongest preference.
English has a strong preference for the genitive possessive construction when the possessor is expressed by a proper noun.

2.3 Possessive pattern distribution in English and Dutch

2.3.1 Pattern distribution in English

As discussed in the previous section there are three main factors influencing the choice between the genitive and the prepositional possessive. In English the pattern distribution of the constructions differs from Dutch. Several corpus studies have shown that in a regular situation native English speakers will have a preference for the genitive possessive, as in (17a), in comparison to the prepositional possessive, as in (17b) (Rosenbach 2002):

(17)   a.   Peter’s pet

   b.   the pet of Peter

Corpus studies have shown that for this construction native speakers have a strong preference for (17a). Using the prepositional possessive is not grammatically incorrect, English grammar allows for the use of the prepositional possessive in this case, however using it will be perceived as odd. The prepositional possessive construction is marked and only used for specific reasons, such as emphasis, topicality or other.

In her experimental study Rosenbach (2002) has investigated the influence of each factor on the pattern distribution while corpus studies have shown the preferences in natural language. She presented native English speakers with small pieces of text and asked the informants to strike out the possessive construction they would not use.
‘The boy must have known his father intended to push forward with the divorce. And he spoke to his father that same afternoon. He may have known where Fleming was headed. The way I see it, Fleming had hurt [the mother of the boy / the boy’s mother], he’d hurt the boy himself, he’d hurt [the boy’s brother / the brother of the boy], he’d made promises he wasn’t willing to keep.–’

Example item taken from Rosenbach, 2002.

All items were carefully balanced for the factors of animacy, topicality and possessive relation. These three items resulted in 8 experimental conditions. The choice the participants made in her experiment between the genitive and the prepositional possessive construction gave the following distribution over the experimental categories:

*Graph 1: the pattern distribution of the genitive and prepositional possessive taken from Rosenbach (2002)*
In this graph we can see that the factors strongly interact. In the 4 +animate conditions the percentage of the prepositional possessive construction rises as the topicality and type of possessive relation changes. In the graph the +animacy and +topicality condition indicate that the possessor is more animate or more topical than the possessee.

From this data Rosenbach comes to the conclusion that animacy is the most important factor in English. The second factor is the topicality of the possessor or the possessee. The graph indicates that when the possessor is +topical the chance of a native English speaker preferring the genitive possessive construction increases. The factors animacy and topicality show that in English the most important factors are relational. The choice between the prepositional and the genitive possessive construction is mainly influenced by the interaction of factors which depend on a relational assessment of the speaker. In English there is no clear preference for either possessive construction on the basis of intrinsic properties such as type of DP of the possessor. The speaker assesses which is the most animate and topical and prefers to name the +animate and +topical element first. When the possessor is +animate and +topicality then the speaker has the preference to express that constituent first which results in a genitive possessive construction, while if the possessee has those properties a prepositional possessive construction gives the speaker the possibility to express the possessee first.

The two cases in which the preference for either construction is the strongest is when all factors are + or -. When we accept Stassen’s (2009) definition of the most prototypical possessor as being a human owning an object it gives rise to the argument that in Rosenbach’s study (2002)
the +animate, +topical and +possessive relation is the most prototypical possessor and the –animacy, -topical and – possessive relation is the least prototypical possessor.

_Graph 2: the overlap between the genitive possessive and the prepositional- possessive in English_

![Diagram of the overlap between genitive possessive and prepositional possessive]

In all other cases: relative evaluation animacy, topicality and type of DP

The pattern distribution in English can be summarized as in Graph 2. When the possessor is most typical (a human owning an object) the preference for the genitive possessive is very strong, while the preference for using the prepositional possessive construction with the least prototypical possessor is very strong as well. In all other cases (situation in which factors are mixed) a relative assessment of the speaker is required and animacy is the most important decider in this process.

When we combine the predictions from Rosenbach’s study and the system illustrated in Graph 2 the predictions for the pattern distribution would be accordingly:
Table 1: overview of the preferences found by Rosenbach (2002) with the factors animacy and topicality

<table>
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<th></th>
<th>+animacy</th>
<th>-animacy</th>
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<tr>
<td></td>
<td>+topicality</td>
<td>-topicality</td>
</tr>
<tr>
<td>Gen. poss.</td>
<td>89,3%</td>
<td>10,7%</td>
</tr>
<tr>
<td>Prep. poss.</td>
<td>22,2%</td>
<td>77,8%</td>
</tr>
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</table>

In the conditions of the two factors animacy and topicality the preferences of native speakers would be as in the table above. We can see clearly that in both the +animacy conditions the English native speakers have a strong preference for the genitive possessive construction. In the -animacy conditions this is opposite. This is a clear indication of the strength of the animacy constraint.

2.3.2 Pattern distribution in Dutch

In Dutch the situation is a little different. Dutch can also express the possessive relation between Jan and his car in two ways:

(18) a Jan's auto
     Jan GEN car

b. de auto van Jan
    the car of Jan

In Dutch the corpus distribution between the two forms is different. Van Bergen found that in Dutch both constructions are more or less equally frequently used in Dutch. So the Dutch prepositional construction is not marked while in English it is.
Van Bergen investigated the relation between the type of possessor and the type of possessive construction. She found that in Dutch the type of DP determines for a large part which possessive construction is used. She looked up every possessive construction in the Spoken Dutch Corpus, CGN with car as a possessee. She found 449 Dutch examples and grouped them together on the basis of the DP type of the possessor. She found 396 instances where a pronoun represents the possessor, 33 with a proper noun as a possessor and 20 with a full DP as possessor.

Graph 3: constructional variation in expressing the possessive relation between cars and their owners in Dutch

In the graph we see that the Dutch possessive construction is divided between two possessive constructions, prenominal possessive and the postnominal possessive. As explained earlier the Dutch z’n-possessive is subsumed in the genitive possessive because they share the same order, the possessor and the possessive marker precede the possessee.

Taken from van Bergen 2009
In the graph we see a very clear pattern in Dutch. When the possessor is expressed by a pronoun the use of a genitive possessive is most likely. Van Bergen (2011) mentions that the Dutch preference to use pronouns as possessors when expressing a genitive possessive construction is almost categorical.

The second clear preference in Dutch is that when the possessor is expressed by a full DP Dutch prefers the prepositional possessive. This category includes phrases like:

(19) de auto van mijn ouders
the car of my parents

In Graph 3 we can see that the preference for prepositional possessives in the case of full DPs is not categorical, nonetheless it is a very strong preference.

The only category that gives a mixed picture is the category of proper nouns. For this group van Bergen found no strong preference on the basis of the type of DP of the possessor. In these cases other factors determine the choice between the genitive possessive and the prepositional possessive.

For the alternation between the genitive possessive and prepositional possessive van Bergen argues that the factors animacy and topicality come into play for Dutch only when type of DP does not give a clear preference. In other words when the possessor is expressed by a proper noun.
Graph 4: The overlap between the genitive possessive and the prepositional possessive in Dutch

From Graph 4 we can conclude that with two types of possessors the preference is almost categorical and therefore unproblematic when trying to predict the preference for either construction. The alternation in Dutch is only present in a small part with one type of possessor: the proper noun. Only with a proper noun as possessor do speakers of Dutch alternate to a significant degree. (We have to keep in mind, though, that this graph is based on corpus findings and therefore does not represent the grammaticality of the constructions. However, corpus data shows that speakers do not actually use every grammatical option in spontaneous speech.)

2.3.3 Contrastive summary
There are many grammatical commonalities between the English and Dutch possessive construction, but the distribution patterns are very different.
According to van Bergen Dutch and English share a common preference to use the prepositional possessive construction with non-animate as possessor. The reasons for this common preference are very different and the result is different as well. In English using the genitive possessive constructions with inanimate possessors is marked, yet not ungrammatical. In Dutch using the genitive possessive construction is these cases can be ungrammatical:

\[(20) \quad \text{a. the tree 's branches} \]
\[\text{the tree GEN branches} \]
\[\text{b. *de boom s takken} \]
\[\text{the tree GEN branches} \]

In both languages the possessive relation between a tree and its branches would preferably be expressed by a prepositional possessive:

\[(21) \quad \text{a. the branches of the tree} \]
\[\text{b. de takken van de boom} \]
\[\text{the branches of the tree} \]

When both preferences were to be explained as an animacy effect we would have to conclude that in English trees are more animate than they are in Dutch. However when we consider the following constructions it becomes obvious that this argumentation does not hold:

\[(22) \quad \text{a. the cat 's bench} \]
\[\text{the cat GEN bench} \]
b. *de kat s bank
   the cat GEN bench

In English the preferred option in (22) would be (22a). Dutch, again, does not allow for the prepositional option, speakers of Dutch would produce (22c):

c. de bank van de kat
   the bench of the cat

Does this mean that cats are also less animate in Dutch than they are in English? In that case what to think of (22d)?

d. *de man s jas
   the man GEN coat

In this phrase the possessor is +animate and very prototypical. He is human and owns an inanimate object. For (22c) and (22d) it cannot be argued that in Dutch these possessors are less animate. The reason for their ungrammatical status is the fact that the possessor is expressed by a definite clause. So the ungrammatical status of this construction has nothing to do with animacy. According to the study by van Bergen (2011) Dutch has a preference for the prepositional possessive when the possessor is expressed by a full DP.

On the basis of the patterns of distribution in English and Dutch we can construct, compare and contrast the different preferences.
(23) English constraint ranking:
Animacy >> Topicality >> Type of DP
Dutch constraint ranking:
Type of DP >> Animacy >> Topicality

In this constraint ranking we see that both languages have a different ranking of constraints. English has animacy as the most important constraint, while Dutch has type of DP as the most important constraint. The main difference between these two constraints is that animacy is a relative constraint. The most animate constituent has to be mentioned first. This is not an intrinsic property of the possessor. For Dutch this situation is different. The most important constraint here, type of DP, is an intrinsic property of the possessor. In Dutch the preference for either possessive construction can already be determined solely on the basis of the possessor. So apart from acquiring a new constraint ranking, which changes the pattern distribution of the possessive construction, Dutch learners of English also have to learn to work with a system mainly relying on relative assessment instead of intrinsic properties of the possessor. Intrinsic constraints can be captured by clear rules: e.g. use prepositional possessive when X is true. Since the most important constraint in Dutch is absolute this would indicate that there is a smaller number of cases where the grammar allows two constructions for which the preference for either one has to be determined by the speaker.

What does this comparison mean for the acquisition process? Due to the relative similarity of the possessive constructions in Dutch and English you might expect that this similarity will speed the acquisition process. These processes of using information from your L1 when learning an L2, either positive or negative, are called transfer effects. Over the
years much research has been done on transfer effects or cross-linguistic influences. In the 60’s and 70’s transfer effects were investigated as interference, in recent years this term has been on the decline because people have been realizing more and more that the influence of an L1 (or even more than one language) is not only inhibitive, but can also have positive effects.

For our data the relative similarity of the possessive constructions in Dutch and English may make it relatively easy for Dutch learners to form grammatically correct possessive constructions. The fact that these constructions are very similar in both languages gives rise to positive transfer effects. According to Ringbom (2007) relevant knowledge of an L1 can accelerate the acquisition of a certain construction in the L2. He presents a study in which he followed Finnish and Swedish L1 speakers in their acquisition of English as an L2. Because all his participants lived in Finland the cultural background was highly comparable and both groups spoke each other’s language. The Finnish L1 speakers also spoke Swedish and the Swedish L1 speakers also spoke Finnish. The results were that Swedish L1 speakers were considerably faster in acquiring English as an L2 compared to the Finnish L1 speakers, the intermittent stages of the two groups were the same though. So Ringbom (2007) concluded that because all participants did show the same stages of acquisition positive transfer effects of Swedish were limited to the rate of acquisition, not the overall success.

The positive transfer effects give the idea that transfer only happens when constructions can simply be translated from one language into another. However this is not the case. The relative similarity can also inhibit the full native acquisition of the L2 construction. Wode (1967) discovered that similarities between the L1 and L2 can be
misleading and cause non-native like pattern use. He coined this principle the Crucial Similarity Measure.

For our data this principle means that the relative closeness of the two languages Dutch and English, particularly when it comes to the possessive construction, leads to unwanted and subtle transfer effects. The problem lies in the fact that the two grammatical constructions which are present in both languages are grammatically correct in almost all cases. Compare the following English phrases:

(24) a. John’s car
    John GEN car

    b. the car of John
    the car of John

When we accept the Crucial Similarity Measure and directly compare the two systems of assigning the possessive construction we see that the type of possessor has a direct influence on the type of possessive construction. We have seen that these preferences are different in English than in Dutch. When we combine the two we can try to predict what possessive construction will be favoured by Dutch high school learners of English on the basis of transfer effects.

Table 2: pattern predicted for Dutch high school learners of the English possessive construction

<table>
<thead>
<tr>
<th>Possessive relation</th>
<th>overuse</th>
<th>En. native pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possessor &gt; possessee</td>
<td>overuse</td>
<td>prep. Possessive</td>
</tr>
<tr>
<td>human &gt; non-human</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>non-human &gt; non-human</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Time adverbial &gt; non-human</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

In possessive relationships with a human possessor of a non-human possessee Dutch learners are expected to overuse the
prepositional possessive construction. The reason is that in Dutch both the genitive possessive and the prepositional possessive are used to encode this possessive relationship. The choice depends on the type of DP in which the human possessor is realized. In English all instantiations of human possessors will evoke a strong preference for the genitive possessive construction.

In the cases where a non-human possessor possesses a non-human possessee the Dutch learners will have an English native like pattern. This is because non-human objects are usually referred to with a full DP. Because the type of DP is very regular the preference for the prepositional possessive construction will overlap, even if the motivation for the preference is different.

The final category is where a time adverbial acts as the syntactic possessor. Here the prediction is that Dutch learners will overuse the prepositional possessive construction as well. The reason for this overuse is that the genitive possessive construction is ungrammatical in Dutch where it is used in specific contexts in English. The final prediction is that possessive constructions with a time adverbial as the possessor will be very hard for Dutch learners because the genitive possessive with time adverbials is truly ungrammatical in Dutch, while it is the preferred option in English.

2.4 Instruction of the English possessive construction in Dutch high school text books
Now that we have seen what the differences in the pattern distribution and preferences of the two possessives are from a linguistic standpoint, it is interesting to see how the second language textbooks try to teach this difference to Dutch L2 learners. The textbook which the students in this study used
was the first edition of *Goforit!* In order to see how the textbook tries to teach the students the English possessive construction we need to first analyse the instruction given in the textbook and secondly we have to see how the factors animacy, topicality and type of DP are integrated into the instruction.

### 2.4.1 *The instruction in the textbook*

In *Goforit!* the instruction regarding the English possessive construction is repeated three times. The general underlying idea is that repeating the instruction every year in cycle helps students store the system better. In the textbooks one academic year is taken as a cycle. When you want to repeat all themes once a year starting in year one it is impossible to immediately cover all materials thoroughly. It will take a first year student longer to absorb the entire system compared to that same student in year two who only has to repeat the system. In order to ensure that all materials can be covered in each year the writers decided to cover the same rules in year one, two and three, but to expand the rules for each construction year by year. For the possessive construction this means that it is taught every year for the first three years of *havo*, but that the instruction is adapted and expanded every year.

In the first year the students are taught an absolute rule system in which the two alternations are divided across three types of possessors:

*Table 3: the rules in Goforit 1hv textbook for the English possessive*

<table>
<thead>
<tr>
<th>Type of Possessor</th>
<th>Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person as a possessor:</td>
<td>Use the genitive possessive construction.</td>
</tr>
<tr>
<td>Time adverbial as possessor:</td>
<td>Use the genitive possessive construction.</td>
</tr>
<tr>
<td>Object as a possessor:</td>
<td>Use the prepositional possessive construction.</td>
</tr>
</tbody>
</table>
The alternative constructions are deemed ungrammatical and the students are taught to use this system as an absolute system. All other instantiations are treated as exceptions, such as locative nouns, geographical nouns etc. The interesting thing here is that the actual realisation of the type of possessor does not play a role in the instruction. So the instruction makes no differences in definite expressions like the boy, or common noun man, or names like Mary. The question the students are asked to ask themselves is: “is the possessor a person or not?” In all these cases the answer should be yes. This is a massive simplification of the interaction of factors we have identified earlier.

In the second year textbook the absolute rule system as sketched in Table 3 is adapted and expanded. The students are taught that when a person is the possessor it is possible to use the prepositional possessive, e.g. the coat of John, but that it is not used that often.

Table 4: the rules in Goforit! 2hv textbook for the English possessive

<table>
<thead>
<tr>
<th>person as a possessor:</th>
<th>You can use both the prepositional possessive and the genitive possessive.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>John’s coat</td>
</tr>
<tr>
<td>genitive possessive emphasizes possessor</td>
<td>the coat of John</td>
</tr>
<tr>
<td>time adverbial:</td>
<td>Use the genitive possessive construction.</td>
</tr>
<tr>
<td></td>
<td>tomorrow’s newspaper</td>
</tr>
<tr>
<td>object as a possessor:</td>
<td>Use the prepositional possessive construction.</td>
</tr>
<tr>
<td></td>
<td>the keys of the piano</td>
</tr>
</tbody>
</table>

Expanding the instruction to a system in which the students can actually make a choice between the two different possessive constructions is much more like the actual system in English where speakers have the grammatical ability to use both constructions in the vast majority of cases. The
motivation for using either construction is, in the second year instruction, based on emphasis on the possessor or the possessee. The students are taught that when the possessor is emphasized they should use the genitive possessive construction, while when the possessee is emphasised the prepositional possessive construction should be used. In essence the rules say: ‘put the emphasised constituent first’. The instruction says that in normal sentences the person or time adverbial is stressed. Only in sentences where the possessee contrasts with the expectation of the interlocutor does the possessee receive stress. Overt contradiction is also given as a reason for using the prepositional possessive. In situations such as:

A: Peter borrowed Gemma’s book, didn’t he?
B: No, he borrowed [the notes]\(^F\) of Gemma.

C: Jamal did London’s night tour, didn’t he?
D: No, he went on the [day tour]\(^F\) of London.

*Example taken from Goforit! 2HV textbook*

These examples are used in the textbook (without the focus markers) as an example on how the emphasized constituent should be spelled out first. The instruction tells students to use the prepositional construction because the expectation of the speaker A is contrasted by sentence B. Speakers C and D show how the direct contrast between speaker C and D should trigger the use of the prepositional construction by speaker D. So stress is completely dependent on the context of the sentence and the use of the prepositional construction with a person or time adverbial as a possessor involves an evaluation of the interlocutor’s expectations.
The problem with this instruction lies in the fact that it will result in non-native pattern distribution. In sentence B the topicality constraint would predict the use of the genitive possessive for the simple reason that *Gemma* is given and *the notes* is new. In a situation with a given possessor and a new possessee topicality would predict the use of the genitive possessive. Moreover the animacy constraint would also prefer the genitive possessor. The chance that a native speaker would use a prepositional possessive in this context is small. The same goes for the example in C and D. This shows that topicality is different from emphasis as used in the textbook.

The final instruction in year three recapitulates the system sketched in table 4, but focuses primarily on the expression of time adverbials. This instruction is mainly aimed at showing the students that, contrary to Dutch, time adverbials have both the prepositional and the genitive possessive construction.

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**Table 5: the rules in Goforit 2hv textbook for the English possessive**

<table>
<thead>
<tr>
<th>Person as a possessor:</th>
<th>You can use both the prepositional possessive and the genitive possessive.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>John’s coat</strong></td>
<td><strong>the coat of John</strong></td>
</tr>
<tr>
<td>Genitive possessive emphasizes possessor</td>
<td>Prepositional possessive emphasizes possessee</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Time adverbial as possessor: You can use both the prepositional possessive and the genitive possessive.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>today’s news</strong></td>
<td><strong>the news of today</strong></td>
</tr>
<tr>
<td>Genitive possessive emphasizes possessor</td>
<td>Prepositional possessive emphasizes possessee</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Object as a possessor: Use the prepositional possessive construction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>the keys of the piano</strong></td>
<td></td>
</tr>
</tbody>
</table>
In this method of instruction the students move from an absolute rule based system in which the alternation is explained on the basis of intrinsic properties of the possessor, to a relative system. As we have seen earlier in Dutch the type of DP determines, for a large part, which construction is used. In the first year instruction the alternation of the English possessive construction is reduced to determining whether the possessor is a person, object or time adverbial. This system may be easy to learn at first, but it results in non-native like English.

In year two the students move towards a system in which they have to evaluate the relative importance of the possessor and the possessee because the year two instruction includes that the element receiving the most emphasis needs to be mentioned earlier. This may cause problems for students when they are faced with the challenge to adapt the system they already acquired.

2.4.2 The factors animacy, topicality and type of DP in the textbook instruction
A large difference between the English and Dutch systems is that the most influential factor in the choice between the two systems is different. In Dutch the type of DP of the possessor is very influential while in English the relative animacy between the possessor and the possessee is highly important. In the textbook the authors choose to give the students absolute rules that highly interact with animacy. As we have seen in Figure 1 in the previous section only applying animacy correctly already leads to a fairly native like pattern. Persons as possessor should receive the genitive possessive construction, while objects should receive the prepositional possessive. The examples given of objects are all prototypical –animate and –topical. Persons can be all kind of realizations.
They are all +animate, but they can be + or – topical. Also the type of DP can vary from definite descriptions to pronouns. This system is very similar to the original interpretation of animacy by Hawkins (1981). Persons rank higher on the hierarchy than objects so the chance of a possessive construction with a person as the possessor is formed using the genitive possessive is much higher than it is when an object is the possessor.

This interpretation does not lead to native like pattern distribution, as argued by Sorheim (1980). He defined animacy as relative animacy between the possessor and the possessee. However, much can be said for interpreting animacy this way in the first year instruction. Students are new to the English possessive construction and the most important thing is to get them to use animacy as the most important factor when forming either one construction. The most improvement in the distribution of both possessive constructions will be gained by getting the students to make this adjustment. English prefers the genitive construction in most cases, also with definite descriptions. Forming a genitive possessive with definite descriptions is ungrammatical in Dutch. By generalising animacy into a simple absolute rule system the authors try to make students use the English genitive construction in a vast majority of the cases, especially with definite descriptions.

In the second year this simple distinction based on animacy is expanded and both possessive constructions can be formed with a person as a possessor. In itself this expansion is more like the actual English system. It is grammatical to use the prepositional possessive with a +animate possessor. The problem with the year two instruction lies in the explanation given for this expansion of the possibilities and how the factor influencing the
distribution is actually formulated. Instead of explaining the relativity of animacy and adding topicality into the mix, the textbooks use emphasis as the main determiner for the alternation. At first glance the emphasis offers the opportunity to introduce a version of topicality, but as mentioned earlier, the definition of emphasis does not overlap with the factor topicality.

When we combine the insights gained from the contrastive analysis in section 2.2.4 with the methodology of the textbook we can form the following expectation of the pattern distributions students will end up with when they completely adhere to the system taught in the textbooks on the basis of the trinary distinction person, object or a time adverbial as a possessor:
<table>
<thead>
<tr>
<th>Person</th>
<th>object</th>
<th>time adverbial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>native</td>
<td>overuse</td>
</tr>
<tr>
<td>+a, +t, proper noun</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>+a, +t, pronoun</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>+a, +t, full DP</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>+a, -t, proper noun</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>+a, -t, pronoun</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>+a, -t, full DP</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>-a, +t, pronoun</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>-a, +t, full DP</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>-a, -t, proper noun</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>-a, -t, pronoun</td>
<td>x (gen)</td>
<td>x</td>
</tr>
<tr>
<td>-a, -t, full DP</td>
<td>x (gen)</td>
<td>x</td>
</tr>
</tbody>
</table>

*Table 6: expected pattern distribution of Dutch high school learners of English*
Table 6 indicates what kind of pattern distribution Dutch high school students are expected to have on the basis of the instruction in the textbook and L1 transfer effects. The categories on the top (person, object and time adverbial) represent the trinary division made in the textbook. The row below marks the kind of pattern distribution the students will show: either native, overuse of the genitive possessive (gen), or overuse of the prepositional possessive (prep). The left column shows the three linguistic constraints discussed earlier on, animacy (+a or – a), topicality (+t or – t) and the type of DP (proper noun, pronoun or full DP). The table is not complete because not all three categories have possessors which those factors. For instance an object can only be – animate, so because there are no –animate items there is no prediction what students would do with items possessing these factors. The same goes for proper nouns. The most prototypical use of proper nouns is when they are used for people or pets, which can only be +animate. The experimental items of the study presented in Chapter 3 are presented in the same table. Example sentences of each type of construction can be looked up in Appendix C.
2.5 Conclusion
In order to see whether the instruction in English as a second language textbooks used in Dutch high schools influences the pattern distribution of the genitive and prepositional possessive construction the first order of business is to identify the linguistic factors that influence the pattern distribution in native speakers. Rosenbach (2002) identified three main factors: animacy, topicality and prototypicality. In this study we only examined two of these factors: animacy and topicality. Animacy is defined as the relative animacy between the possessor and possessee along the hierarchy given in (10). Topicality is defined as the distinction between given and new information. Given information is defined as the topic of conversation. In other words: given information is the topic of earlier conversation, new information are new aspects to the topic of conversation.

A third factor was introduced in this study on the basis of the Dutch native speaker preference. Dutch native speakers mainly use the type of DP of the possessor to determine which possessive construction is applied.

When we contrast the pattern distributions of Dutch and English the predictions are, purely on the basis of L1 transfer, that Dutch learners of English overuse the prepositional possessive construction with a human possessor and with a time adverbial as the possessor. For a non-human possessor the Dutch learners ought to have an English native pattern distribution.

Aside from the linguistic factors I also analysed the instruction and the influence of the instruction on the pattern distribution of Dutch learners of English. We saw in Section 2.4.1 that the instruction changes over the years. In year one a very simple rule based system is taught. This oversimplified instruction results in non-native pattern distributions and
actually refers to perfectly grammatical sentences as ungrammatical. In the second year a more full-fledged system is explained in which both the genitive and prepositional possessive are at last regarded as grammatical with a human possessor. There is still a large gap between how the English system actually works and the system students are taught in year two.

The instruction in year three comes as close to the actual system native speakers of English are using as it is going to get. The option to use the genitive and prepositional possessive with objects as a possessor at least reflects almost all the grammatical options that English has. In other words all options which are regarded as grammatical by native speakers of English are also characterized as grammatical by the instruction.

The problem is that the factors which are actually responsible for the pattern distribution in English (animacy, topicality and type of DP of the possessor) are still not used in the instruction. In other words: the instruction in the textbooks does not match the linguistic differences between the Dutch and English possessive construction. For some differences between the actual language use and the textbook instruction there might be clear reasons, for others the textbooks need to be adapted.

To answer the question whether Dutch high school students arrive at a native like pattern distribution, contrary to the theoretical expectations of this chapter, an experimental study is presented in the next chapter.
Chapter 3
Study of Dutch high school learners acquiring the English possessive construction

3.1 Introduction
In order to see what kind of acquisition patterns students show when acquiring the English possessive construction I tested a number of Dutch high school students repeatedly over 3 years. The initial aim was to investigate whether high school students end up with a native pattern distribution. In the test I found three interesting effects. The comparison between the individual acquisition paths and the group wide tendencies revealed a gradual development, as predicted by Tomasello (2003) and Boersma (1999). I also found that structural influences and L1 transfer effects played a role, as expected on the basis of the discussion in Chapter 2. Finally, in the individual patterns I found that one deviant pattern occurred twelve times in the sample. After I correlated the general intelligence scores of the students with their acquisition paths it turned out that there was a strong correlation between general intelligence and this recurring deviating acquisition path.

Section 3.2 presents the methodology of the experiment. In Section 3.3 the results and statistical analyses are discussed. Section 3.4 gives an interpretation and discussion of these results.

3.2 Methodology
3.2.1 Participants
The participants were followed during their first three years of high-school. Each year around October the participants received instruction in how to form a correct possessive construction in English (e.g. *the branches of the tree* and
John’s hat). The participants were 41 monolingual havo students at a Dutch high school in the south of the Netherlands. Their age was between 11;1 and 15;4. A further five were tested but excluded from the study either because participants missed one or more test moments and completed the test at a different time (2) or participants had to retake the class (1) or participants came from a primary school where the English instruction in the final two years was absent (1) or because there was no television at the participant’s home (1). All participants had roughly the same exposure to English as an L2. They received two years of English training at primary school, and had the same English teacher during their first three years at high school where they had three hours of English per week.

Apart from the students’ background and high school training I also had access to two general intelligence measures of all participants. General intelligence proved to be an important variable in the specific acquisition path the students follow. In order to test general intelligence we used the scores on the CITO test which was taken by almost all students in their final year of primary school. This test is used in the Netherlands to, partly, decide which high school level the student will go to. Since this test is used to place students at high school we can expect that the scores within the havo level are fairly similar. We found that this was the case since all scores were between a bandwidth of 529 and 546. In the CITO test scores below 500 are highly unusual in regular high schools.
Even though these scores are fairly similar, it needs to be noted that the scores are more diverse than is usually the case for a group of students of the same level of high school education. This is the result from the school policy to give children a chance to try a higher level, even if they do not qualify completely based on their CITO score. This policy has recently been changed and from academic year 2012 – 2013 the accepted bandwidth by the school for placement in the havo groups is between 539 – 544, which is more representative for other schools.

3.2.2 Test design
The students were presented with a little piece of text in which a possessive relation was present in both the genitive and the prepositional possessive construction. The participants were asked to strike out the answer they
believed to be incorrect. In most experimental studies language is the independent variable, while in this study the use of the possessive construction is treated as the dependent variable. The response of the participant, usually measured in response times, reading times etc., is not what we want to know, I want to ascertain the distributional pattern of the two possessive constructions. The upside of the questionnaire is that participants are forced to either use a genitive possessive or the prepositional possessive construction on the basis of the manipulation of the possessor - possessee relationship and the linguistic context, + and – topicality.

Table 7: Four test items. Items 1 and 2 are in +a, +t condition, items three and four are in –a, +t condition

1) His mother told John to clean up his room. The boy’s room / the room of the boy was a complete mess.

2) Does this bag belong to Peter? Yes, and that is Peter’s book / the book of Peter as well.

3) That book is very old. Look, the book’s cover/the cover of the book is damaged.

4) Have you read the paper yesterday? No, yesterday’s newspaper / the newspaper of yesterday was not delivered.

The participants were presented with thirty items like the ones presented above (the complete list of items can be found in Appendix A). The answers the students gave were then judged as being native like (correct) or non-native like (incorrect). This methodology is similar to the methodology
used by Rosenbach (2002) in her experimental study. However there are three major differences. Rosenbach’s study was designed to uncover the preferences of native English speakers on the possessive construction. This study is aimed at discovering whether the instruction given to Dutch high school students result in a native like pattern distribution. This difference in scope leads to different experimental conditions. In her study Rosenbach discriminates eight experimental conditions on the basis of the combination of three binary factors: animacy, topicality and prototypicality (for a complete list of conditions see Appendix B). In this study only three experimental conditions are used: person as a possessor, an object as a possessor and a time adverbial as a possessor. The reason for this difference is that in the direct instruction the participants receive in the textbooks, these three types of possessor are specifically treated and the grammatical rules given to the participants are based on this trinary division. In order to be able to conclude anything about the influence of the instruction sticking to this division seemed to be the most fruitful.

The second major difference is the type of participant. In our study the participants are second language learners and therefore the contexts are more basic and shorter not to confuse the participants.

The final major difference is the results that are generated. Rosenbach aimed at uncovering the pattern distribution of native speakers and this resulted in percentages. In the current study the question is whether the participants conform to the majority standard set by the native speakers. In order to do this, as mentioned earlier, the results were judged as being either native like or non-native like. This judgement was based on the expectations of Rosenbach’s study. All items used in the test were ranked in a
sub-selection of the experimental categories used by Rosenbach. The expectation of Rosenbach’s model on the basis of animacy and topicality was used as the native like pattern. Item 1 for example (repeated below for convenience)

1) His mother told John to clean up his room. *The boy’s room / the room of the boy* was a complete mess.

was judged to be +animate, +topical and Rosenbach’s study revealed that with these properties native speakers would have a massive preference (89.3 %) for the genitive possessive construction. As a result the genitive possessive construction was seen as the correct answer for this item. The complete list of the experimental items divided in Rosenbach’s categories can be found in Appendix C.

In the test only the categories of Rosenbach which had strong preferences were used. All items were +prototypical, only the animacy and topicality condition were manipulated. So the experimental items were divided accordingly:

*Table 9: relation between experimental items of Rosenbach and the conditions in my test*

<table>
<thead>
<tr>
<th>Persons</th>
<th>Objects</th>
<th>Time adverbials</th>
</tr>
</thead>
<tbody>
<tr>
<td>+animate</td>
<td>-animate</td>
<td>-animate</td>
</tr>
<tr>
<td>+topical</td>
<td>-topical</td>
<td>+topical-topical</td>
</tr>
</tbody>
</table>

The animacy and topicality conditions are not balanced because the items are balanced along the three categories used in the instruction in the textbook.

The tests consisted of thirty items divided over three conditions. Each test had ten items in each condition. The order of the individual items was changed in every version of
the test and the order in which the possessive constructions were presented was also randomized. In no case were more than two items in the same condition presented after each other.

### 3.3 Results

We tested two groups and followed each group for three years. In the table below the participants’ general statistics are listed:

<table>
<thead>
<tr>
<th>Table 10: General statistics of the participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>number</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Group 1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Group 2</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Group 1 is the first group used in the experiment. They were followed from academic year 2008 – 2009 until 2010 – 2011, the observations with Group 2 started a year later (2009 – 2010 until 2011 – 2012).

In the analysis I included within and between participant factors. There are two between participant factors I was able to test: the group the participant was in and the gender of the participant. Gender proved to be not significant. That left us with one between participant factor and two within participant factors, i.e. year (three years) and type of possessor (persons, time, objects). In the graphs below 3 factors are visualized. The group effect is visualized by the increase in the number of errors of the participants in Group 2 compared to Group 1. The decrease of the amount of errors per year in both graphs illustrates the year by year
learning effect, while the difference in performance on each type of possessor in both graphs shows the type effect.

*Graph 6: Average performance of participants in Group 1 per type of possessor over the three years*

<table>
<thead>
<tr>
<th></th>
<th>year 1</th>
<th>year 2</th>
<th>year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>persons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>objects</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In order to understand the effects of the factors indentified earlier which are present in the data I carried out an ANOVA with repeated measures. This analysis showed a significant group effect (F (1,39)=15,337, p=.000, $\eta^2_p = .282$). This significant group effect indicates that there is a difference between the two groups. In order to understand this group effect Graphs 6 and 7 show the performance of the two groups on each type of possessor per year.
There were two within participant effects which proved to be very influential on the performance of the participants: the year the students were in and the type of possessor. Both effects are very strong and also explainable. It stands to reason that when students receive English lessons and direct grammar instruction each year that the students will improve each year. This year by year improvement is already visible in the graphs above and also statistically highly significant (F(2,78)=58,292, p=.000, $\eta_p^2 = .599$).

The second main effect in the data was the effect of the type of possessor. The data shows that the type of possessor is also very influential on the number of mistakes the participants made (F(2,78)=98,558, p=.000, $\eta_p^2 = .717$). This type effect simply implies that the participants had more trouble with certain type of possessor constructions than with others. This is, again, also visible in Graphs 6 and 7. Both groups have more trouble developing a native possessive construction distribution with time adverbials as possessors than with persons or objects.

I also found two interaction effects between the within participant main effects and the group effect. The first one is the interaction between type and year. This interaction is significant (F(4,156)=23,772, p=.000, $\eta_p^2 = .379$). The interaction between type and year suggests that whether the participants are in year one, two or three has an influence on the amount of errors the students make on each type of possessor. This interaction is also visible in Graphs 6 and 7. We can see, for instance, that in both groups participants show the greatest improvement on the time possessive between year two and three. This illustrates the interaction between the two factors. As discussed in section 2.4 the instruction in each year is different. This difference in instruction may explain this interaction effect.
The type*group interaction is also significant (F (2,78)=8.394, p=.000, $\eta_p^2 = .177$). This effect can be interpreted as simply a result from the difference in performance of the two groups. This significance indicates that the type of possessor and the group the students are in influences the performance of the students. We see in Graphs 6 and 7 that Group 1 performs better on each type of possessor in each year. When Group 1 performs better with each type of possessor it stands to reason that the interaction between type and group would be significant. When we compare the group patterns in Graphs 6 and 7 we see that the patterns are very similar. The decrease in number of errors is large in both groups and even though Group 2 performs worse at each measurement it seems that the development the participants show during the years is similar with the difference that Group 2 is lagging behind. The significant type*group interaction can be explained with this lagging behind of Group 2. I would argue that in the end Group 2 would end up with a similar level of English when given further instruction.

Two further interactions were tested. First the year by group gave no significant result (F (2,156)=.135, p=.874, $\eta_p^2 = .003$). The second insignificant effect was the interaction between type, year and group (F (4,78)=171, p=.953, $\eta_p^2 = .004$).

In Graphs 6 and 7 we can see that the significant group difference is caused by the relative better performance of Group 1 compared to Group 2 over the years. The path of acquisition is the same in both groups: both groups improve over the years and the participants in both groups have the most trouble with time adverbials and find objects the easiest. Therefore I argue that the group effect does not stand in the way of treating both groups as similar.
So far I have only discussed the mean results of the group as a whole. When I break up the group score into the individual learning patterns three alternative learning patterns can be discriminated. One of the three acquisition patterns only occurs sporadically, namely pattern 3, while patterns 1 and 2 occur regularly. Table 10 shows the patterns and the number of occurrences of each pattern:

<table>
<thead>
<tr>
<th>Table 10: the three learning pattern attested in the data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern of acquisition</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Pattern 1:</strong> Improvement every year.</td>
</tr>
<tr>
<td><strong>Pattern 2:</strong> Decrease in performance year 2, massive increase in year 3</td>
</tr>
<tr>
<td><strong>Pattern 3:</strong> Increase in performance in year 2, decrease in year 3</td>
</tr>
</tbody>
</table>

Patterns 1 and 2 are more recurring patterns. The most expected pattern, and the pattern which is confirmed by the group wide tendencies, is pattern 1. The 27 participants which adhere to this pattern show a year by year increase in performance as is predicted by the significance of the year effect. The second pattern is very interesting; no less than 10
participants are showing this pattern in which there is a sudden drop in language performance in year two.

When I looked deeper into the participants showing the deviating pattern I discovered that 9 out of the 10 students showing the dip in performance in year two had an above average score on the Dutch general intelligence test CITO. This correlation between the level of intelligence and the deviation in the acquisition path led to the decision to divide the students of both groups into two categories: high intelligence and non high intelligence. The split between high and non high intelligence was made on the basis of the CITO scores.

All students with a test score of 542 and higher were categorized as highly intelligent and all students with scores of 541 and lower were categorized as non highly intelligent students. When we compare the acquisition patterns of the highly intelligent students with the non-highly intelligent group we clearly see the different patterns:

Graph 8: performance of all highly intelligent students in group 1 (top) and group 2 (bottom)
Graph 9: performance of all non highly intelligent students in group 1 (top) and group 2 (bottom)
The effects that were present in the data earlier are also present when we split the groups in a high-intelligence and non-high intelligence group. Both the type effect (F(2,74)=67.638, p=.000, $\eta_p^2 = .646$) and the year effect (F(2,74)=46.696, p=.000, $\eta_p^2 = .558$) remain significant. Also the interaction effects between type and year (F(4,148)=19.948, p=.000, $\eta_p^2 = .350$) and type and group (F(2,74)=7.842, p=.001, $\eta_p^2 = .175$) remain intact.

A new significant effect is the interaction between year and high intelligence (F(2,74)=6.488, p=.003, $\eta_p^2 = .149$). This interaction shows that high intelligence has an effect on the year by year development of the participants. The deviating pattern (pattern 2 in table 10) in the data which correlated strongly with the intelligence of the students (.868) can be directly linked with to interaction effect.

In order to further confirm the relation between high intelligence and the deviation in the pattern I correlated the level of intelligence (represented by their CITO score) with their performance each year.

<table>
<thead>
<tr>
<th>Level of intelligence</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.210</td>
<td>.009</td>
<td>.398*</td>
</tr>
</tbody>
</table>

From the correlation scores we can see that the level of intelligence does not have a very strong correlation with their performance overall. This is perfectly explainable because a number of other factors could influence their performance aside from general intelligence such as motivation, interest or other social influences. Nevertheless we can see that the correlation is not constant: it starts out as .210 in year one, drops dramatically in year two to a nearly negligible correlation and rises to a significant correlation of .398 in year
three. This drop in correlation in year two confirms the pattern in table 10: highly intelligent students do not perform better in year two, however they do end up with a better score at the end of year three where the correlation is highest.

When we combine the interaction effect between year and high intelligence with the correlations between level of intelligence per year I conclude that the level of intelligence does influence the eventual success a learner of English has to acquire a native pattern distribution, and that it influences the pattern of acquisition. The repercussions of this conclusion for language teaching and direct instruction will be discussed in the following chapter.

3.4 Discussion
From the analysis of the data and the previous theoretical discussions of the differences between the English and Dutch possessive construction there are two main effects that require further discussion: the L1 transfer effects in the data and the second acquisition path presented in table 10 above.

Section 3.4.1 will show that L1 transfer effects are present in the data and that their influence is visible in the results. It will argue that, especially with persons and object as possessors the students do not conform to the L2 grammar but use an L1 infused non-standard grammar.

Section 3.4.2 will discuss the relationship between general intelligence and the unexpected acquisition path number 2 in table 10. A group of 10 students performed worse in year two than they did in year one while performing very well in year three. When we correlated the students’ general intelligence scores it turned out that these students were the most intelligent in the group. Section 3.4.2 will
argue that the method of instruction actually hinders the development of highly intelligent students.

3.4.1 Transfer effects
In the data I found evidence for both positive and negative transfer effects. As Graphs 6 and 7 above show, the type of possessor has a significant influence on the number of errors. Moreover the type of possessor also influences the moment of acquisition. These patterns can be explained by L1 transfer effects.

In Section 2.3.3 the possessive constructions in Dutch and English were contrasted. It was argued that the distribution of the genitive and prepositional possessive construction varies between Dutch and English and that this difference is the result of different preferences on the basis of the factors animacy, topicality and type of DP of the possessor. Some preferences may be stronger than others. For a more detailed overview see the discussion in section 2.3. With objects, for instance, English does allow for the genitive possessive, but only when the possessing object is more animate in the animacy hierarchy. For instance objects which are associated with humans (human attributes in Rosenbach’s study) form a genitive possessive construction with other objects.

\[(23) \quad \text{the arm ’s colour}\]
\[(24) \quad \text{the arm GEN colour}\]

However in this possessive relationship the difference in animacy is small, both are objects, so the preference to use the genitive possessive is not very strong. This results in a relatively high frequency of constructions such as (24) in corpora.
(24) the colour of the arm
     the colour of the arm

Hundt (1998) found that with this category of human attributes the relative corpus distributions of both constructions are very close: 63% for the genitive and 47% for the prepositional possessive construction.

The scope of our study was too small to study topicality. For this reason in our study we did not test for the human attribute class because without a good topicality distinction the different preferences on the basis of animacy alone were too small to detect properly. Therefore we can simplify objects in English to preferring prepositional possessive constructions.

Why do students have trouble forming the possessive construction with time adverbials? The main reason is the negative influence of the student’s L1. As explained in Chapter 2, Dutch only allows for prepositional possessive constructions with time adverbials. English has a very strong preference for the genitive possessive construction. So with time adverbials the Dutch and English system are completely opposite. This opposition gives students who still (partly) rely on their L1 system a hard time to develop a native like pattern distribution.

So what about persons and objects as possessors? With objects and persons as possessor both the genitive and the prepositional possessive construction are grammatical in English. One small note has to be that because of the type of DP constraint Dutch has a strong preference for the genitive possessive when the person possessor is expressed by a pronoun (see section 2.3.2 for further discussion). With other DPs (both full DP and proper noun) expressing persons as the
possessor Dutch is more flexible, allowing both the prepositional and genitive possessive. Still learners acquire a native like pattern earlier with objects than with persons in our study.

The reason that learners have less trouble with objects is that English grammatically allows both constructions with persons and objects as possessors. However, the alternation between the two is very specific in English. Dutch is more flexible in applying either construction. This means that in Dutch the preferences are more evenly divided and the preference for either one is less strong. For a Dutch learner of English (25) is not very special compared to (26):

(25) the hat of Peter

(26) Peter’s hat

There has to be a very strong pragmatic reason, such as emphasis, dramatic effect or other, however, for an English native speaker to use the prepositional possessive construction with persons. As with the time adverbial, the use of the prepositional possessive with a person as the possessor is grammatical in English, so there is little chance for negative feedback, but the relative similarity will lead to Dutch learners to overuse the prepositional possessive construction and result in L1 infused language production.

So why are objects so much easier? The first major difference between objects and persons is that in English the preference for the prepositional possessive construction when an object is the possessor is a lot stronger than the preference for the genitive possessive when a person is the possessor. This means that when the system of relative
animacy is reduced to one simple rule the number of non-native like constructions will be lower for objects compared to persons. When you look at the animacy hierarchy, objects are the least animate and should therefore form a prepositional possessive. The only exception is when objects as possessors are associated more with humans. So an arm is an object, but because it is attributed to humans the preference for English native speakers is to form the genitive possessive:

(27) the arm’s colour

This is the only situation in which objects get a genitive possessive construction. The use of the genitive possessive construction is based on the intrinsic property of the object, its human connection. This can be taught by a simple rule.

In short there are two elements of transfer which influence the acquisition of the English possessive construction by Dutch learners: similarity and the difference of an absolute system compared to a relative one. The relative similarity of the Dutch and English possessive constructions causes learners not to receive negative feedback when using the Dutch system. The lack of negative feedback leads learners to L1 infused L2 language production. At the same time the transition from the Dutch L1 system, which is mainly based on absolute or intrinsic properties of the possessor, to the English relative system, which mainly depends on the relative animacy of the possessor and the possessee, is very hard for the learners to grasp.
3.4.2 General Intelligence
In our data 10 participants in the study had a decrease in language performance in year two. When we correlate the students’ general intelligence it appears that 9 out of those 10 students were the most intelligent students in the sample. This seems to indicate that general intelligence has an influence on the acquisition path of the students in our study.

For decades general intelligence has not been regarded as an important factor. For First Language Acquisition, Lenneberg (1967) makes the remark that ‘..in normal children L1 acquisition is related in terms of developmental stage to the ability to control bowels’. Even though this specific quote concerns first language acquisition, decoupling intelligence from language acquisition was continued in the Chomskyan way of thinking of the 70’s and 80’s when producing language was done using a schema of universals and constraints and everyone was equally equipped for language learning. White (2003) was one of the first to propose that first language acquisition and second language acquisition were different processes as far as universal grammar was concerned.

Long before White (2003), though, Gardner and Lambert (1972) published a book entitled: Attitudes and Motivation in Second-Language Learning. In one of the papers in the book they look specifically at intelligence as a factor in the acquisition of language. They report the language acquisition of 96 participants learning French in Louisiana. The final conclusion is that general intelligence has no significant effect because there is no strong correlation between intelligence and the acquisition of French.

In our data the vast majority (27 participants) had the same individual path of acquisition while 14 participants showed a different learning curve. Out of those 14
participants 10 showed a dip in their performance at year two. It seems odd that such a large group would perform worse in year two compared to year three. What is even more striking is that in the third year 8 out of those 10 performed flawlessly. Due to this high level of acquisition in year three I correlated their CITO test scores with the presence or absence of the dip in performance in year two and I found a very strong correlation (r = .70). The scatterplot below illustrates the correlation very clearly:

**Graph 10: A scatterplot of intelligence per participant**

In Graph 10 we can see the general intelligence per participant. I have marked the presence or absence of a dip in performance in year two by colour: the participants marked by a blue dot show no dip in performance in year two (dip: 0), while the participants marked with a green dot do (dip: 1).
Here we can see that of the 10 participants that show the dip in performance, 8 are the most intelligent students while participant 6 only has to tolerate participant 27 as more intelligent.

The intelligence of the students seems to influence whether the students have a dip in year two or not. The most intelligent students have a dip while the lesser intelligent do not. However, when we compare the first year and third year performances we see only an expected difference: more intelligent students perform slightly better compared to the other students:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligent students</td>
<td>3,9</td>
<td>4,2</td>
<td>0,9</td>
</tr>
<tr>
<td>With dip in year 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other students</td>
<td>5,3</td>
<td>4,4</td>
<td>1,5</td>
</tr>
<tr>
<td>Group wide mean</td>
<td>4,6</td>
<td>4,3</td>
<td>1,3</td>
</tr>
</tbody>
</table>

From this I conclude that general intelligence has an influence on the acquisition of the English possessive construction by Dutch high school students. It partly determines the path of acquisition learners follow since more intelligent students show a different path of development than the rest of the group. A possible explanation of why these students perform worse in year two is offered in Section 4.3.
3.5 Conclusion
In this chapter I have presented an experimental study illustrating the path of acquisition of Dutch high school students when acquiring the English possessive construction. We saw that students generally improve each year and that at the end of three years the students perform very well.

There was also evidence of the transfer effects sketched in Chapter 2. The path of acquisition showed that where the Dutch and English systems overlapped the students performed very well from the start. The most difficult to learn is when a time adverbial is the grammatical possessor. This is also explained as a transfer effect. This construction clearly differs from the L1 system of the students.

Apart from the expected transfer effects the study showed that general intelligence also has a very strong effect on the path of acquisition. In the sample 10 students showed a different path of acquisition in comparison with the rest of the group. They performed very well in year 1 and had a dip in performance in year two. This dip in performance correlated strongly with the general intelligence of the students. This does not mean that the dip in performance is caused by the higher level of intelligence. The explanation should be sought in the method of instruction, rather than in the higher level of intelligence.
The method of instruction seems to have a detrimental effect on the path of acquisition. Almost all learning moments and deviating patterns of acquisition can be explained when the specific instruction given in the year preceding the test are analysed. The instruction given to the students on the basis of Goforit! partly explains the learning moments of the different type of possessors and the steady increases in performance over the three years. The relation between the instruction and the acquisition pattern attested in the data is further discussed in Chapter 4.
Chapter 4
Transfer effects and Instruction

4.1 Introduction
So far we have seen what kind of non-native like pattern distribution students should have on the basis of their L1, and a study has been presented in order to see what students actually do. The question now remains how the pattern distribution of the students actually relates to the expectations formulated in Chapter 2. Section 4.2 presents an overview of the patterns found in the data and how they relate to native speakers’ preferences. These differences are discussed are analysed as L1 transfer effects or instruction effects.

The deviating acquisition path found in the study will be discussed and analysed in section 4.3. The main explanation is sought in the correlation with general intelligence and the effect of general intelligence on the second language acquisition process.

Finally Section 4.4 will combine the insights gained from Sections 4.2 and 4.3 and give clear recommendations on how the instruction and textbooks could be amended to diminish or even completely counter the influences discussed in Sections 4.2 and 4.3.

4.2 Transfer effects vs instruction effects
In Table 6 in Chapter 2 all the theoretical insights and instruction effects were combined to clear predictions on the distribution pattern of the two possessive constructions on the basis of transfer. Table 13 below has the same build up, but now with the actual patterns found in the study. This table compares the patterns students showed in the study with the native preferences found by Rosenbach (2002).
<table>
<thead>
<tr>
<th>Person</th>
<th>object</th>
<th>time adverbial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>native</td>
<td>overuse</td>
</tr>
<tr>
<td>+a, +t, proper noun</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>+a, +t, pronoun</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>+a, +t, full DP</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>+a, -t, proper noun</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>+a, -t, pronoun</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>+a, -t, full DP</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>-a, +t, pronoun</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>-a, +t, full DP</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>-a, -t, pronoun</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>-a, -t, full DP</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Table 13 is different than expected, and we can also see that Dutch high school students do not attain a native pattern distribution on the basis of the current high school instruction. In the table we see two forces at work: L1 transfer effects and instruction effects. The red crosses in the time adverbial category are caused by L1 transfer. As was discussed earlier, Dutch and English have contrasting preferences for the type of possessive construction used with a time adverbial. In Dutch the grammar only allows the prepositional construction whereas English native speakers have both options. Even though English speakers have both options available, Rosenbach (2002) found in her study that English native speakers do not actually use both options. English native speakers have a vast preference for the genitive possessive construction. The overuse of the prepositional possessive construction visible in the table can thus be attributed to L1 transfer.

The bold crosses in the table, where the students show a non-native pattern distribution, can be explained by the influence of the direct grammatical instruction. In Rosenbach’s study the preference for the genitive possessive construction in the +a, +t, +p (prototypical) condition was very high (89,3% gen. / 10,7% prep.). In the +a, -t, +p condition the preference was less pronounced (61,3% gen. / 38,7% prep.). In the instruction the factor topicality is not mentioned at all, and the year two introduction of emphasis does not correspond to topicality. This influence of topicality is not expressed in the instruction and therefore students will simply follow the rule to use the genitive possessive construction with persons, even when topicality increases the chance of the prepositional construction. The simple year one rule resonates throughout the instruction. In the +a, +t condition this leads to a native like pattern distribution. The
students get it right in 89.3% of the cases and they always make some ‘mistakes’ and do not apply the rule correctly which results in some sporadic use of the prepositional possessive. In the –t condition, where the preference for the prepositional possessive is less strong, this leads actually to overuse of the genitive possessive construction. This can only be a result from the instruction since on the basis of Dutch, which allows both constructions equally well, the students were expected to have an overuse of the prepositional possessive.

The second instruction effect we see in the table is in the object category. In both the –a, +t, full DP and the –a, +t, full DP conditions there was an overuse of the prepositional construction. This overuse can be the result of both L1 transfer and instruction. Dutch only allows the prepositional construction, therefore this could account for part of the overuse. On the other hand: the instruction also specifically instructs students to use the prepositional construction with objects as a possessor in year one. The overuse of the prepositional construction remains fairly stable throughout the three years. I would expect that an L1 transfer effect would decrease over the three years because the students get more exposure to the L2. For this reason I argue that the instruction also causes the overuse of the prepositional possessive with objects as the possessors. However, it is impossible to precisely analyse the interaction of transfer and instruction in this case. The reason for marking it as an instruction effect is that the instruction can be amended and the instruction effect can be diminished, while the L1 influence will always remain.
4.3 Instruction and general intelligence
Section 4.2 leaves the question why more intelligent students would perform worse in year two compared to the other students. The method of instruction may give further insights into the dip we found in year two for the more intelligent students.

As we saw earlier there is a strong correlation between general intelligence and the dip in performance in year two. As we have seen, students have to adapt the system they learned when the instruction is repeated and expanded in year two. In year one the student is taught a very simple system. It is unambiguous in the sense that the type of possessor is the only variable in determining the type of possessive construction. In year two, after working with the simple system for a year, the textbook suddenly amends the system taught in year one. Instead of basing the decision on which possessive construction to use on the type of possessor (as illustrated in Table 3), the learner now gets taught that with person and time as the possessor both constructions are correct. The alternation between the two is said to hinge on emphasis. In crude terms the learner gets taught that the genitive possessive stresses the possessor and the prepositional possessive stresses the possessee. This very basic idea causes some confusion with the more intelligent students. The introduction of topicality in the instruction offers the opportunity to improve instruction and reduce the confusion.

This possible improvement does not answer the question why the more intelligent students are affected so much stronger than the other students. Previous research has pointed out that more intelligent learners of a second language are more susceptible to grammatical instruction (Skehan, 1998; Sternberg, 2002). If this is the case then the
simplified grammatical system will be more entrenched and used more extensively by more intelligent learners. So far this dip has only been discussed as the learning pattern students show, not the absolute scores of the students. Yes, the more intelligent students perform worse in year two than they did in year one, but when we compare the absolute number of mistakes of the more intelligent students with the number of mistakes of the other students we see that the average ‘dip’ scores of the more intelligent students are higher (see Table 12). The better performance in years one and three of the more intelligent group can be explained with the relatively more receptive nature of the more intelligent learners to grammar instructions. At the end of year one these students apply the hampered year one system more. The higher degree of application of the rules gives them a better score in the year one test. The more intelligent students scored almost 89% of the items which could be answered native like on the basis of the rules given in year one correctly. The average score of the rest of the group was only 76%. This can be interpreted as a sign that more intelligent students use the simple rule system more efficiently. Moreover these percentages show that in order for more intelligent students to keep improving they have only 11% they can improve on items they can answer correctly on the basis of the rules while less intelligent students have 24% left. In other words, less intelligent students can simply ignore the relative system which is taught in year two and still improve quite dramatically, while more intelligent students have to understand the new relative system in order to improve in year two.

This might explain why more intelligent students would not improve as much as less intelligent students, but why would they actually perform worse? When in year two
the students are faced with the second instruction, the more intelligent students are more familiar with the system than the less intelligent ones. So when the system is adapted this may cause more confusion with the more intelligent students than with the less intelligent students. Since the less intelligent students can still book substantial improvement by simply applying the simplified rule based pattern from year one less intelligent students will focus on learning the rules, even in year two. In the preparatory assignments before the test the less intelligent students make more mistakes they can mend by applying the rules correctly. The negative feedback they get on their work revolves around understanding and applying the system. The more intelligent students understand the system and primarily get negative feedback on the new relative system of emphasis. This may cause more confusion with the more intelligent students because they do not improve by simply following the rules; they have to apply the relative system in order to improve further. This negative feedback starts the more intelligent to think about the relative emphasis of the possessor and the possessee. In some cases more intelligent students may start thinking about the relative emphasis when they should simply follow the simple rules. This pattern was confirmed when I analysed the answers of the more intelligent students. Instead of answering 89% correct of the items they can solve by applying the rule based system that percentage dropped to 78%. This drop in performance on the rule based items can explain why students have a worse overall score in the test in year two compared to year one.

How do these conclusions relate to the earlier conclusion drawn by Gardner and Lambert (1972) that general intelligence does not have a significant influence on second language acquisition? A number of studies have
pointed to the fact that general intelligence and second language aptitude have a strong correlation (Wesche 1981). Skehan (1998) analysed these outcomes and concluded that there was a partial overlap between second language aptitude and general intelligence. This overlap, however, was limited to grammatical sensitivity. He concluded that second language learners with a high general intelligence have a larger grammatical sensitivity. Other areas of second language acquisition, such as semantic word learning and pronunciation, do not benefit so much from a higher general intelligence. When we compare the studies by Gardner and Lambert with the current study it seems that this study specifically focuses on the acquisition of one particular grammatical construction, while Gardner and Lambert (1972) investigate all facets of second language learning. Even though our findings seem in contradiction with the claims made by Gardner and Lambert when it comes to the influence of general intelligence, the arguments put forward by Skehan (1998) offer a valid explanation. Because Gardner and Lambert take all facets of second language acquisition into consideration and do not split up the factor general intelligence for the individual tasks in second language acquisition the effect of general intelligence on grammar acquisition may not be detected. The current study only looks at grammatical pattern acquisition and finds a very strong effect for general intelligence.

The data indicates that more intelligent students will grasp grammatical systems of languages quicker. We have also seen that the method of instruction has a direct influence on the pattern of acquisition of the learners. What can we conclude about the method of instruction in conjunction with general intelligence? For the English possessive construction we have seen that it can be beneficial
for less intelligent students to acquire the system step by step. First getting a grammatically correct system and slowly adding the native preferences. However this system causes a dip in performance for the more intelligent students. The explanation I propose for this is that more intelligent students have already acquired the simplified system after one instruction and are confused when that system is adapted. This confusion causes the more intelligent students to, in some cases, overthink the answer. I would argue that this shows that more intelligent students can handle a more challenging instruction without first simplifying the grammatical system.

For second language teaching that means thinking about second language instruction in a new way. As mentioned before the second language textbooks are built up in one year cycles so that the students can repeat all instructions every year and expand the system bit by bit. The results presented in my study seem to indicate that more intelligent students can handle the expanded instruction from the get go. Giving the more complicated and expanded instruction the first time means spending more time instructing a certain construction the first time round which causes that you cannot complete a grammatical cycle in one year. The consequence of this would be that instead of repeating the same instruction two times in three years, more intelligent students could only repeat the instruction once in three years.

I would argue, on the basis of the results of this study, that more intelligent students would benefit more from receiving more complicated instructions immediately with fewer repetitions.
4.4 Recommendations for teaching
On the basis of the results of this study a number of recommendations for the second language teaching practice could be drawn. These recommendations fall into two categories: recommendations with regard to the instruction and the recommendations with regard to the build-up in textbooks.

We have seen that the instruction of the English possessive construction in the Goforit! textbook has two main effects on the actual pattern distribution of students: the overuse of the genitive possessive in the -a, +t condition and the overuse of the prepositional possessive in the -a, +t, full DP and the -a, -t, full DP category. The overuse of the genitive possessive construction is the direct result of the year one rule where students are taught to always use the genitive possessive when the possessor is a person. The students are even told that using the prepositional possessive construction is grammatically incorrect. The reason for introducing this rule in year one is to prevent L1 transfer. In Dutch both possessive constructions can be used perfectly fine in the +a condition. At first Dutch learners of English tend to overuse the prepositional possessive construction because the English have a strong preference for the genitive possessive construction in all +a conditions. This year one rule is aimed at making students use the genitive possessive construction with persons in most of the cases. Trying to counter L1 transfer in L2 English in this fashion can be a very effective approach, therefore I would not suggest to abandon the year one rule of using the genitive possessive with persons. I would however recommend to change the instruction in such a way that the use of the prepositional possessive is not deemed ungrammatical. A good alternative would be to
explain to students that using the prepositional possessive construction with persons is grammatical in specific cases, but that this is dealt with further on. The teacher can then explain that in year one all examples of possessive constructions with a person as a possessor should be formed with the genitive possessive construction. The textbooks and workbooks should then also be altered to only contain items in exercises and tests in the +a, +t condition. This way students can still get used to using the genitive possessive construction in most cases in year one while you leave room for expanding the year two instruction with some explanation of when to use the prepositional possessive construction with a person as a possessor.

The second recommendation is to amend the instruction with regards to object as a possessor. Again the instruction effect is the result of an oversimplified rule given in year one. The students are taught to always use a prepositional construction when an object is the possessor. We have already seen that the overuse of the prepositional construction can be either a result of L1 transfer, but also the instruction. I would not change the rule in year one, however I would again suggest not to say that using the genitive possessive with objects is grammatically incorrect. It can again be mentioned that there are cases which allow for the genitive possessive with objects, but that those will be discussed later on. Again the text- and workbooks should be amended accordingly. In year two some sort of topicality condition can be introduced to explain the genitive possessive with objects. When I analysed the items in which the genitive possessive construction was used too often (items 16 and 17 in Appendix A) I noticed that in most of these cases applying the emphasis rule is enough for students to develop a native pattern distribution. Perhaps it would be good to use the
emphasis rule with objects in year two because this is simpler for students to learn and only using the more complicated information structure explanation of topicality in year two for persons. Later on topicality can be applied for all conditions.

The recommendations for the build-up in the textbook should improve the results of more intelligent students. As explained earlier we found a deviating acquisition pattern which correlated with general intelligence. In the discussion in Chapter 3 it seemed that more intelligent students decreased in language performance out of confusion over the simple rules and their adjustment later on. The need for this adjustment is twofold: the first is to allow less intelligent students to actually pick up the materials, the second is the cyclic nature of textbooks.

More differentiation in the textbooks used at different high school levels could give room for more complex grammatical instructions for more intelligent students. At the moment the main difference between a vmbo, havo or atheneum second language textbook is the amount of learning that needs to be done and the length of the texts and exercises. The actual grammar instruction is kept more or less the same. Because the instructions are kept the same they need to be usable for a wide range of students. The authors of Goforit! choose to ‘simplify’ the grammar in order to make it usable for all the students. The results of the study show that the grammatical instruction of the English possessive construction is simplified to such an extent that the direct grammatical instruction actually inhibits students in developing a native pattern distribution. More intelligent students are the most affected group. In some cases we saw that the instruction actually refers to perfectly grammatical sentences and options as ungrammatical. I acknowledge the difficulty of having to fathom the grammatical system of a
second language in rules and make them understandable for a wide range of students. Therefore I suggest to differentiate the grammatical instruction in second language textbooks so that the more intelligent students can receive an instruction that actually reflects the grammatical system of English. This would circumvent the problem of a dip in performance when the rules are changed or adapted and would ensure that these students would end up with native pattern preferences.

The second recommendation is that in the grammatical instruction of more intelligent students the year by year cycles could be different. In all current textbooks the cycle is set at one year. Every year all grammatical rules need to be repeated. This is the main cause of simplifying the grammatical rules: if the entire complex grammar is poured over students in year one there is way too much new information. However, more intelligent students have shown to be more susceptible to grammar instruction. This may eliminate the need for the repetition every year. Perhaps the cycle could be lengthened for more intelligent students to 1,5 years. This would allow more time to introduce a more full-fledged grammar system the first time round and this would still enable students to review the system twice since havo and atheneum students receive three years of direct grammar instruction.
4.5 Conclusion
Due to the fact that the method of instruction had such a detrimental effect on the performance of the learners, it is hard to draw any general conclusions for the general acquisition of the English possessive construction by Dutch learners. However, by dissecting the influence of the instruction from L1 transfer effects this study offers an analysis of the effects of direct grammatical instruction as presented in second language learning textbooks.

The Dutch high school system is based on different levels of education. After primary school the students are placed on one of these high school levels on the basis of three components: their general intelligence (tested by the CITO test), advice of the primary school teachers and the wish of the parents. This is meant to create fairly homogeneous groups of students when it comes to their learning capabilities and interests.

Because all students are different and the enormous influence the students’ placement has on their future life almost all schools have brugklassen, which means that in the first two or three years the students from two or more levels are brought together to give them a chance to achieve a level higher than their original entry level. This strategy is used to give students all the opportunity they would need to perform as well as possible. As a result the current teaching climate in the Netherlands is aimed towards the development of textbooks which can be used on several levels of high school education. The Goforit! method used by students in our study for instance, is written for both atheneum and havo students. As a result the instruction given in such textbooks needs to cater to both atheneum and havo students.
Authors choose to face this challenge in different ways. In the *Goforit!* textbook the grammatical instruction is slowed down compared to the pure *atheneum* version and sped up in comparison with the *havo* version. In other words both the textbook and workbook are positioned in the middle. The Dutch publisher Malmerg publishes their English methodology *Allright* in a different way. They choose to keep different workbooks for *havo* and *atheneum* levels. In order to make them usable in combined *brugklassen* the authors choose to make one textbook for both levels, corresponding to the workbook. So the teacher could use the same textbook for both levels, but the *atheneum* students would have to do more and more difficult homework assignments.

The results from the study presented in Chapter 4, together with the theoretical insights from Chapter 2 and the study presented in Chapter 3 indicate that the current way of thinking and building up textbooks does not benefit the students. We saw in Chapter 2 that Dutch learners of English need to acquire a new preference distribution for the prepositional and the genitive possessive construction. The relative similarity has both positive and negative effects. In the beginning the students learn very fast, the more subtle differences, however, are very hard to learn.

Furthermore we have seen that the instruction also had two negative effects on the pattern distribution. In order to diminish these negative influences and improve the L2 language performance the grammatical instruction of the English possessive construction should be changed and the cycles of grammatical instruction be analysed critically which may lead to the lengthening of the cycle for more intelligent students.
Chapter 5
Conclusion

As a second language teacher I noticed that Dutch high school learners of English as a second language followed a specific and non-native pattern acquisition when acquiring the possessive construction. In the various stages in their school career students did not seem to develop a native pattern distribution. Given the importance of English as a second language in the Dutch high school curriculum I aimed at gaining a deeper understanding of the acquisition of Dutch high school students acquiring the English possessive construction. The relation between direct grammatical instruction and the pattern distribution of the possessive construction was of special interest.

In this thesis I showed that the instruction used in second language textbooks has a very strong effect on the actual pattern distribution students develop. In itself this is not a specially surprising finding: it stands to reason that when you instruct students the students will apply the instruction in their use of the language. What was interesting, though, was that the instruction does not always have a positive effect. It was apparent from the experimental study presented in Chapter 3 that the instruction students receive result in poor performance of more intelligent students during the acquisition process and non-native pattern distribution in others.

In order to gain this insight I researched the acquisition path of students acquiring the English possessive pattern distribution using the high school textbook *Goforit!* the first order of business was to isolate the linguistic factors which native speakers of English use to decide the possessive pattern. Chapter 2 shows that the linguistic factors animacy,
topicality and type of DP of the possessor are not incorporated in the direct instruction given to students. This discrepancy between the direct instruction and the actual English language system leads to predictions of what mistakes the students would make under the influence of L1 transfer and the direct instruction.

To test these predictions I followed the developments of 41 high school students in a longitudinal study for 3 years. From the results of this study I was able to confirm most of the predictions generated in Chapter 2. There were some unexpected effects though. The study revealed a group wide tendency to acquire the English native pattern distribution in distinct phases. The group wide tendency was to improve every year and the type of errors also revealed a group wide path of acquisition. The reason for this step wise improvement was different than originally expected. My assumption was that the group wide tendencies I observed in spontaneous writing of students were the result of L1 transfer effects, however, the linguistic analysis of the two constructions in combination with the results of the study showed that L1 transfer was not the only major factor.

Since Dutch native speakers have no clear preference for either the genitive or the prepositional possessive construction with proper noun as the possessor (see section 2.3.2 for deeper discussion) I expected that Dutch learners would overuse the prepositional construction since English has a strong preference for genitive possessive construction in these cases. In the study I found an overuse of the genitive possessive construction in all +animacy, -topical conditions. The reason for this overuse is that in the grammar instruction the students are taught to always use the genitive possessive construction with persons (+animacy). These types of errors
are the result of the direct grammatical instruction the students receive.

The discrepancy between what students should learn from a linguistic point of view and what authors of textbooks actually put in the direct grammar instruction is partly explainable: some L1 preferences are the complete opposite of what students are supposed to do in the L2. In other cases the preference of the L2 is so strong that it is easier for students to simply follow a rule which forces them to use the preferred construction, even though it is not the only grammatical alternative. As an example take the person as a possessor illustrated above. English native speakers have such a strong preference for the genitive possessive that it is more effective for students to learn to always use the genitive construction than to invest valuable time learning all intricacies of the English pattern distribution. Even though the attested pattern is opposite from what I expected on the basis of transfer the overuse of the genitive possessive construction is more similar to the native pattern distribution than overuse of the prepositional construction.

In other occasions the discrepancies are a bit harder to explain and might be grounds for revisions in the instruction and the textbooks. For instance in the study I found that highly intelligent students perform worse in year two than they do in year one. Chapter 4 discussed the relationship between general intelligence and the type of instruction more detailed. In short I discovered that more intelligent students seem to be able to do away with a number of simplifications in the grammar instruction. The discussion in Chapter 4 made clear that general intelligence should play a more profound role in the grammar instruction and that more differentiation in grammar instruction could benefit the more intelligent students. Instead of simplifying
the instruction in year one, which confuses them in year two, more intelligent students should receive the complete more complex grammar instruction the first time round. This relapse in performance indicates that more differentiation in the type of grammar instruction presented in textbooks would enable more intelligent students to perform better.

In conclusion it suffices to say that the results of this study show that the direct grammatical instruction of the English possessive construction can be improved by certain adjustments to the curriculum and the textbooks. The remaining question is whether the methodology adopted here might reveal similar general intelligence effects in other areas of grammar instruction, such as verbal inflection, and if the recommendations here could be expanded to other foreign languages taught at Dutch high schools.
References


Appendixes

Appendix A: the test items used in the experimental study

1. His mother told John to clean up his room. *The boy’s room / the room of the boy* was a complete mess.
2. Mary asked: Is that Peter’s book / the book of Peter?
3. The girl’s house / the house of the girl
4. Does this bag belong to Peter? Yes, and that is *Peter’s book / the book of Peter* as well.
5. Mary has lost her phone. Do you know where *Mary’s phone / the phone of Mary* is?
6. The woman over there is very beautiful. *The woman’s hair / the hair of the woman* is not my cup of tea though.
7. My brother should be here anytime. Isn’t that your *brother’s car / the car of your brother*?
8. That is a very expensive skirt. *Gillian’s skirt / the skirt of Gillian* was on sale when she bought it.
9. Frank is wearing a lovely shirt today. *John’s hat / the hat of John* is horrible though.
10. Have you seen an agenda? *That man’s agenda / the agenda of that man* is missing.
11. That book is very old. Look, *the book’s cover / the cover of the book* is damaged.
12. That piano has been completely refurbished. *The piano’s keys / the keys of the piano* are as new.
13. Have you seen the new backpack in the store? Yes, *the backpack’s decal / the decal of the backpack* is really cool!
14. That laptop is awesome! *The laptop’s screen / the screen of the laptop* is really sharp.
15. She is a hand reader. Show her *your hand’s lines / the*
lines of your hand.

16 That is a lovely photograph. Look at the photograph’s corner / the corner of the photograph.

17 That chair sits very comfortable. The chair’s stuffing / the stuffing of the chair is new.

18 That tree is enormous. The tree’s branches / the branches of the tree are more than 3 meters long.

19 It is very foggy. You can hear the boat’s fighorn / the fighorn of the boat.

20 I need to talk to you. Come to the building’s entrance / the entrance of the building around 3.

21 Have you read the paper yesterday? No, yesterday’s newspaper / the newspaper of yesterday was not delivered.

22 Was the English lesson interesting? Yes, yesterday’s lesson / the lesson of yesterday was much fun.

23 Those mandarins are very cheap. They are today’s offer / the offer of the day.

24 Have you finished all your homework? That is last week’s homework / the homework of last week.

25 What did you think of the parade? Last year’s parade / the parade of last year was more impressive.

26 Do you like that song on the radio? Yes, it was last year’s summer hit / the summer hit of last year.

27 Game of thrones is a very exciting program. I’m looking forward to the next season’s opening / the opening of next season.

28 Did you see the last minute offers? No, next year’s holiday / the holiday of next year is already booked.

29 I always watch big bang theory but yesterday’s episode / the episode of yesterday was not very exciting.

30 Did you finish all you wanted to do? No, today’s planning / the planning of today was wrong.
<table>
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<th>+animacy</th>
<th>-animacy</th>
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<tbody>
<tr>
<td>+topical</td>
<td>-topical</td>
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<tr>
<td>+ prototypical</td>
<td>- prototypical</td>
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<tr>
<td>the boy’s eyes / the eyes of the boy</td>
<td>the mother’s future / the face of the girl</td>
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## Appendix C: Overview of the interaction of the test items and Rosenbach’s experimental conditions

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