The acquisition of do-support by Belgian Dutch-speaking learners of English
A study in the framework of Processability Theory

Sarah Candra
Promotor: Prof. Dr. Mieke Van Herreweghe
Co-Promotor: Dr. Kristof Baten
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Sarah Candry

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# Table of Contents

List of Figures  .................................................................................................................. 7  
List of Tables ....................................................................................................................... 7  
List of Abbreviations .......................................................................................................... 7  

1. Introduction ..................................................................................................................... 8  
2. Literature Study ............................................................................................................. 10  
   2.1. Concurrent theories of PT ....................................................................................... 10  
   2.2. Processability Theory ........................................................................................... 13  
      2.2.1. What is PT? ..................................................................................................... 13  
          2.2.1.1. Psycholinguistic basis .............................................................................. 15  
          2.2.1.2. Levelt’s model of language generation ...................................................... 15  
      2.2.2. Language production and generation ............................................................... 16  
          2.2.2.1. Language production .............................................................................. 16  
          2.2.2.2. Incremental language generation .............................................................. 18  
   2.2.3. Lexical Functional Grammar ............................................................................ 20  
      2.2.3.1. UG in LFG ................................................................................................ 23  
      2.2.3.2. Feature Unification ..................................................................................... 23  
   2.2.4. Language-specificity .......................................................................................... 25  
   2.2.5. The acquisition process: the “processability hierarchy” ..................................... 26  
   2.2.6. Language development ..................................................................................... 29  
      2.2.6.1. “Developmental trailers” ......................................................................... 30  
   2.2.7. Learner variation ............................................................................................... 30  
      2.2.7.1. Bad Choice Hypothesis ............................................................................ 33  
      2.2.7.2. Differences between learners of different ages .......................................... 34  
   2.2.8. L1 transfer ......................................................................................................... 35  
   2.2.9. Method .............................................................................................................. 36  
   2.2.10. Language instruction: “Teachability” .............................................................. 37  
2.3. L1 transfer outside the PT context ............................................................................. 38  
2.4. Do-support ................................................................................................................. 40  
   2.4.1. What is do-support? .......................................................................................... 40  
   2.4.2. The acquisition of do-support according to PT .................................................. 41  
   2.4.3. Previous studies ............................................................................................... 42  
3. Methodology .................................................................................................................. 46  
   3.1. Participants ............................................................................................................. 46  
   3.2. Interviews .............................................................................................................. 46  
      3.2.1. Adjustments made to the interviews ............................................................... 48  
   3.3. Materials ................................................................................................................ 49  
3.4. Data analysis ............................................................................................................. 49  
   3.4.1. Structures ......................................................................................................... 50  
      3.4.1.1. SVO .......................................................................................................... 50  
      3.4.1.2. Neg+Verb .................................................................................................. 51  
      3.4.1.3. Do-Fronting .............................................................................................. 51  
      3.4.1.4. 3rd person sg ............................................................................................. 51  
      3.4.1.5. Do-2nd, Neg-do2nd and Aux-2nd ................................................................. 52  
      3.4.1.6. Codes ........................................................................................................ 52  
   3.4.2. Sentences without auxiliary ‘do’ ....................................................................... 53  
4. Results ............................................................................................................................ 54  
   4.1. Implicational Scale .................................................................................................. 54  
      4.1.1. Group 1 .......................................................................................................... 59  
      4.1.2. Group 2 .......................................................................................................... 62
4.1.3. Group 3 .......................................................................................................................... 63
4.2. Mistakes ............................................................................................................................. 64
   4.2.1. Negation ....................................................................................................................... 64
   4.2.2. Inversion ....................................................................................................................... 65
   4.2.3. Codes .......................................................................................................................... 66
4.3. L1 transfer ......................................................................................................................... 68
4.4. Emphatic ‘do’ ..................................................................................................................... 69
5. Discussion ............................................................................................................................... 70
   5.1. Processability ................................................................................................................ 70
   5.2. Do-support ..................................................................................................................... 70
   5.3. Implications for language instruction ............................................................................. 71
   5.4. Common European Framework of Reference for Languages ....................................... 74
6. Conclusion ............................................................................................................................... 76
   6.1. The acquisition of do-support ......................................................................................... 76
   6.2. Language instruction and the CEFR ............................................................................... 78
   6.3. Further research ............................................................................................................. 79
Appendices .................................................................................................................................. 81
References ..................................................................................................................................... 118
List of Figures

Figure 1. "ESL acquisition" (Pienemann 2011: 14) ................................................................. 13
Figure 2. "Levelt's model of language generation" (Levelt 1989 In Pienemann 1998a: 55) ... 16
Figure 3. "Incremental language generation" (Pienemann 2011: 31) ...................................... 18
Figure 4. “Constituent structure – example” (Pienemann 1998a: 94) .................................... 20
Figure 5. “Lexical entries” (Pienemann 1998a: 94) ................................................................. 21
Figure 6. “Functional structure” (Pienemann 1998a: 95) ......................................................... 21
Figure 7. "Aux2nd" (Pienemann 2011: 61) ............................................................................ 25
Figure 8. "Generative entrenchment.” (Pienemann 1998a: 317) ............................................ 29
Figure 9. "Hypothesis Space" (Pienemann 2011: 69) ............................................................. 32
Figure 10. The developmentally moderated transfer hypothesis (Pienemann 2011: 76) ....... 36
Figure 11. Implicational scaling (Pienemann 2011: 51) ......................................................... 37
Figure 12. Implicational Scale......................................................................................... 50

List of Tables

Table 1. Acquisition of Do-support by native Belgian Dutch-speaking learners .................. 55
Table 2. Transformation of the raw data in table 1 ............................................................. 58

List of Abbreviations

PT Processability Theory
L1 Native Language
L2 Second Language
TL Target Language
ESL English as a Second Language
SLA Second Language Acquisition
UG Universal Grammar
GB Government and Binding Theory
CP Complementizer Phrase
NP Noun Phrase
SVO Subject Verb Object
SOV Subject Object Verb
VSO Verb Subject Object
LFG Lexical Functional Grammar
UC Uniqueness Condition
IHS Initial Hypothesis of Syntax
CEFR Common European Framework of Reference for Languages
1. Introduction

The number of studies that deal with the acquisition of the English specific rule of do-support is limited. There are some studies which research the presence of CP in learners of English, namely by Bhatt & Hancin-Bhatt (2002) and by Haznedar (2003). In these studies, some attention is given to do-support. However, these studies are conducted with either native speakers of Indian, as in Bhatt & Hancin-Bhatt’s (2002) study, or with native speakers of Turkish, as in Haznedar’s (2003) study. It is therefore interesting to see how the development of this language specific rule occurs in native speakers of Belgian Dutch. In the present study, we will take a closer look at the acquisition of this rule and we attempt to answer the following question: Is do-support used by Belgian Dutch-speaking learners of English in the first, second, third and fourth grade of secondary school? To be able to answer this question, we will also have to answer the following question: What does the acquisition process of this English-specific rule look like? Do-support consists of four different types of sentences, namely negation, inversion, code and emphasis. These four types are illustrated in sentences (1) to (4):

(1) I don’t have a car. (negation)
(2) Do you see him? (inversion)
(3) – Do you know him?
   + No, I don’t. (code)
(4) I did go to school. (emphasis)

A learner can only be said to have acquired do-support when all four types have been acquired. Therefore, the individual types will have to be looked at separately before conclusions can be drawn about the acquisition of do-support. Unlike the previous studies mentioned above, the present study is conducted in the framework of Processability Theory. This is a psycholinguistically oriented theory of second language acquisition developed by Pienemann, which states that the stages of acquisition one goes through to acquire a language are the same in all learners of a language (Pienemann 2011).

Processability Theory does not pay attention to whether or not a certain learner has had formal instruction of the L2, but only looks at the individual language development of the learner. Nevertheless, this study has been conducted with learners from four different grades who have had either one, two or three years of English instruction or who have not had any English instruction at all. Therefore, the results of the research can be connected to Pienemann’s (2011: 150) “Teachability Hypothesis”, which states that even when language
learners receive formal instruction of the second language, the skipping of developmental stages is not possible. We will take a look at how useful formal instruction of an L2 is, when it is not thought to be able to actually speed up second language acquisition. However, the results of this study will not enable us to give conclusive answers about the usefulness of formal instruction and about the validity of the Teachability Hypothesis.

To provide an answer to the research question, a study was conducted with 16 Belgian Dutch-speaking participants in the first, second, third and fourth grade of secondary school. Per grade, four participants were interviewed. In many Belgian schools, formal English instruction only starts from the second grade of secondary school; hence, the participants in the first grade have not had any English instruction. The interviews consisted of three tests which aimed at eliciting sentences containing the three obligatory types of do-support, namely ‘negation’, ‘inversion’ and ‘codes’. The fourth type, ‘emphasis’, is more difficult to elicit because its use is not obligatory (Ard 1982). Therefore, this study will not focus on this particular type. The expectation was that beginning learners would not exhibit a large amount of do-support. It was also thought that the more advanced a learner was, the more do-support would be present in the speech of this learner.

This paper starts with a literature study which focuses on Pieneman’s Processability Theory. We also take a closer look at L1 transfer and Do-support. Secondly, the methodology of the study is outlined. Then, the results of the study are described. In the discussion that follows, the results are interpreted and the research question is answered. Finally, a conclusion is drawn from the study and suggestions for further research are given.
2. Literature Study

The present study in second language acquisition deals with Pienemann’s Processability Theory (PT) and more particularly its account of the acquisition of do-support; this theory is therefore discussed extensively. First, we look at some concurrent theories of PT. Then, an explanation of what PT entails is given. After PT has been fully discussed, we look at how L1 transfer has been treated outside the framework of PT. The last part of the literature study is a discussion of do-support, the acquisition of which is the focus in this study.

2.1. Concurrent theories of PT

In his book-length presentation of PT, Pienemann compares his theory to other SLA theories, among which Parametrisation, the Minimalist Program and Functionalism. It is important to note that the description of the theories given below is based on Pienemann (1998a).

‘Parametrisation’ is a rationalist approach described by Cook (1988) and White (1989) which attempts to solve “the logical problem” (Pienemann 1998a: 15). The foundation of this theory is “a set of universal principles and parameters of language and ways in which the latter can be set for specific languages” (Chomsky 1981 In Pienemann 1998a: 16). In this approach, UG is the entirety of principles and parameters shared by all languages which are an innate, genetically given part of human knowledge (Pienemann 1998a). The structure of a language is determined by the parameter settings. It is the task of the learner to derive the “language-specific setting” of the parameter from the “linguistic input” (Pienemann 1998a: 16).

The grammatical theory which enables the application of Parametrisation to human language is the “government and binding theory” (Chomsky 1981 In Pienemann 1998a: 17). Gregg (1992; 1996 In Pienemann 1998a: 18) remarks that in these approaches, which are “UG-based”, the “development problem in SLA” has been moved to the background. Nonetheless, some attempts have been made to address this developmental problem and two positions have been established, namely “a maturational schedule” and “an ordering of parameters” (cf. Meisel 1995 In Pienemann 1998a: 18). Another remark on the restrictions of this approach is made by Pienemann (1998a: 19), who notes that the “explicit principles” that explain how language develops in the learner, and hence explain the developmental problem, are lacking.
A second theory of SLA is the ‘minimalist program’, which is an adapted version of the government and binding theory. It has been adopted by amongst others Platzack (1994 In Pienemann 1998a: 21), who states that “the parameter concept itself was rather fuzzy [in pre-minimalist theory, MP] […]. In a minimalist grammar, on the other hand, there is no confusion regarding parameters” (Platzack 1994 In Pienemann 1998a: 21). In a study on Swedish word order, Platzack (1994 In Pienemann 1998a: 21) presumes “that the default value of functional heads is ‘weak’” and, as a consequence, the “universal default word order” would be “Subject-Verb-Complement”. Only in case of a strong functional head would this word order change. It is then the task of the learner to acquire which heads are strong and which ones are weak (Platzack 1994 In Pienemann 1998a). When this assumption is taken on, the idea is that “the initial syntactic hypothesis of the child must be that all syntactic features are weak” (Platzack 1994 In Pienemann 1998a). When a second language is acquired, Platzack (1994 In Pienemann 1998a: 22) is of the opinion that “we initially go back to IHS [the initial hypothesis of syntax]”. One of the examples given to confirm this assumption is the case of children acquiring Irish. In this process of acquisition, the children initially have the default SVO word order; it is only later in the acquisition process that the Irish VSO word order is acquired (Platzack 1994 In Pienemann 1998a). However, the hypothesis has been disproved by others studies such as Clahsen’s (1982 In Pienemann 1998a), who observed that the language of German children had an SOV word order and by Huter (1996 In Pienemann 1998a) who found that English speakers acquiring Japanese started with an SOV word order, despite the fact that their native language has an SVO word order. Pienemann (1998a: 23) notes that this evidence which disproves Platzack’s IHS does not imply that the minimalist program is not useful in SLA research; it merely shows that more work is required before the program can be adopted in SLA studies “with the same productivity as the GB framework”.

The next approach described here is functionalism. This is a collective term under which a number of schools which attempt to explain “language use through an understanding of the communicative conditions which lead to the use of one form over another” are comprised (Pienemann 1998a: 24). According to Tomlin (1990 In Pienemann 1998a: 24), the four most important schools for functional linguistics are “(1) The Prague School (Daneš, 1974), (2) The European School (Dik 1987), (3) Systemic Grammar (Halliday 1985) and North American functionalism”. An important difference between functionalism and formalism, such as Chomsky’s approach, is that while Chomsky sees form and function as two autonomous notions, functionalists are interested in how “alternative forms” can be used “through their functions” (Pienemann 1998a: 24). The relationship between form and function
is important in language acquisition, because it is a “motivational” and “heuristic basis for learning” (Pienemann 1998a: 24). With respect to language acquisition, there are two types of functionalists, viz. nativists and empiricists (Bates and MacWhinney 1982 In Pienemann 1998a). According to Pienemann (1998a), it is important to differentiate the kind of nativism found in functionalism and the kind of nativism found in generativism. These two types differ in their “philosophical program” (Pienemann 1998a: 25). Generativism supports the idea of “modularity of mind”, which has to follow the assumption that “specifically linguistic parameters” are innate to be able to explain where linguistic knowledge comes from (Pienemann 1998a: 25). This is not the case for the functionalist type of nativism, which claims that these parameters are “general to all domains of the developing individual” and can thus explain that linguistic knowledge stems from “factors of the general cognition” (Pienemann 1998a: 25).

Language acquisition is easy to explain from a functionalist point of view because it is the relationship between form and function that propels language acquisition (Pienemann 1998a: 28). However, this idea, that has been adopted by for instance Bates and MacWhinney (1982 In Pienemann 1998a), may be faltered by Roepers (1982 In Pienemann 1998a) and Maratsos’ (1982 In Pienemann 1998a) observation that not all linguistic forms bear relationship to a particular function.

Research in this paper however is conducted in the framework of Pienemann’s Processability Theory. This is a theory of SLA which is interested in the cognitive dimension of language acquisition and which is psycholinguistically oriented (Pienemann 1998a). Pienemann (1998a: 35) notes, that this does not entail “a denial of the social dimension of learning”; the two dimensions are simply seen as two autonomous dimensions. However, Pienemann (1998a: 36) does observe that in focussing on the cognitive dimension of language acquisition, abrupt changes in the linguistic system of a learner caused by a change in the “social variables such as interactional parameters or formal learning environments” no longer seem plausible. Gradual changes in the processing abilities of the learner caused by such social variables which ultimately cause “the gradual attainment of a high-level skill” on the other hand are still in line with the cognitive dimension of PT (Pienemann 1998a: 36). PT is dealt with more extensively in the next section.
2.2. **Processability Theory**

This section provides an extensive outline of PT and is structured as follows: First, we look at what PT entails exactly. Then, we take a look at language production and generation. Thirdly, Lexical Functional Grammar, the theory of grammar on which PT is founded, is outlined. After this, language-specificity is discussed. We also look at the acquisition process and language development. Subsequently, learner variation and L1 transfer are treated. We then focus on the method used to analyse data in PT, namely “implicational scaling” (Pienemann 2011: 51). The last section of this section deals with language instruction.

### 2.2.1. What is PT?

Processability Theory is a theory used to describe second language acquisition based on “the architecture of human language processing” (Pienemann 1998b: 1). Pienemann (2011: 3) notes that SLA follows “predictable paths” and learners all go through the same stages when acquiring a second language. Processability Theory explains these stages. In Figure 1, Pienemann’s (2011) stages of English second language acquisition are reproduced:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Syntax</th>
<th>Morphology</th>
<th>+</th>
<th>&gt;</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Cancel inversion</td>
<td>I wonder where he is?</td>
<td>3sg-s</td>
<td>he eats</td>
<td>he is</td>
</tr>
<tr>
<td>5</td>
<td>Do-2nd</td>
<td>Why did she eat that?</td>
<td>Where have you lost it?</td>
<td>3sg-s</td>
<td>he eats</td>
</tr>
<tr>
<td></td>
<td>Aux-2nd</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neg-do 2nd</td>
<td>Why didn’t you to tell me?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>y/n inversion</td>
<td>Have you seen him?</td>
<td>Is he at home? Where is he?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Copula inversion</td>
<td></td>
<td>Turn it off!</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Particle shift</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Do-fronting</td>
<td>do he live here?</td>
<td>Today he stay here</td>
<td>pl-agreement</td>
<td>two cat-s</td>
</tr>
<tr>
<td></td>
<td>Adverb-fronting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neg + Verb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Neg + SVO</td>
<td>no me live here</td>
<td>me live here</td>
<td>past -ed</td>
<td>the play-ed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>you live here</td>
<td></td>
<td>plural-s</td>
<td>cat-s</td>
</tr>
<tr>
<td>1</td>
<td>Single word</td>
<td>How are you?</td>
<td>is X?</td>
<td>- Hello - Five Dock</td>
<td>- Central</td>
</tr>
<tr>
<td></td>
<td>Formulaic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1.** "ESL acquisition" (Pienemann 2011: 14)

This table however does not represent all ESL structures that can be acquired but has been limited to 16 structures for the purpose of Pienemann’s (2011) study.
Learners acquiring a second language deconstruct the target language (TL) into small parts which they acquire step by step. Therefore the process of language acquisition is a “succession of incomplete grammars” (Pienemann 2011: 7). By reconstructing the TL in their minds, learners create their own “dynamic linguistic system” which is called their “interlanguage” (IL) (Pienemann 2011: 3). The “interlanguage variation” between different learners is “structurally limited”; only a limited number of “developmentally possible solutions” can be found to a problem (Pienemann 2011: 13). To illustrate this, Pienemann gives the problem of the WH-question in English. The correct way to build WH-questions is by using WH-inversion as we can see in the following sentence:

(5) “Where is he going?” (Pienemann 2011: 13)

However, before the learner knows this rule for WH-inversion, different ways to build WH-questions can be identified. Either one or more constituents are omitted from the sentence, as we see in the following examples:

(6) “Where he going?”
(7) “Where is going?” (Pienemann 2011: 13)

or the learner uses “canonical word order” to form the question, as in the following sentence:

(8) “Where he is going?” (Pienemann 2011: 13).

Pienemann (2011: 13) notes that these two solutions are the only possibilities fit to solve the problem of WH-question formation and therefore concludes that “interlanguage variation is structurally limited”. Pienemann (2011: 13) also notes “that the structure of a given IL can be described as the sum of all the rules the learner has acquired up to a certain point” due to the fact that “the learner accumulates these rules” in L2 acquisition.

In reconstructing the TL, learners may either “hit” the norm of the TL or “miss” it (Pienemann 2011: 9). As a consequence, the TL is often simplified. An example of such simplification is placing the auxiliary *do* in initial position without conjugating the auxiliary (Pienemann 2011). This is what is referred to as “Do-Fronting” (Pienemann 2011: 9). In sentence (9), an example of Do-Fronting is represented:

(9) Do you have a car?

Simplification of the TL may lead to what is sometimes called “Tarzan-speech” (Pienemann 2011: 15). In this type of interlanguage, elements that one would expect to appear in the native version of a language are missing. Simplified speech is also used in “foreigner-talk”; this is the register some people use to address foreigners (Pienemann 2011: 16). A simplified version of a language is also often employed when speaking to small children. By simplifying a language, the core message is still intelligible; however, the meaning of the
message is reduced. The speaker may leave out a linguistic element and because of this the addressee has to carry out part of the speaker’s work (Pienemann 2011). However, omitting linguistic elements is not only a feature of non-native language use; it is also a feature of native language use. Sentence (10) demonstrates this linguistic omission in native language use:

(10) “Peter came in and sat down.” (Pienemann 2011: 18)

It is therefore crucial for “non-native speakers” to acquire when omitting linguistic elements is allowed and when leaving them out is considered an indication of non-native language use (Pienemann 2011: 18).

2.2.1.1. **Psycholinguistic basis**

PT is a theory that has a “psycholinguistic orientation” (Pienemann 2011: 27). The central idea of PT is “that a learner can acquire only those linguistic forms and functions which he or she can process” (Pienemann 2011: 27). Therefore, the order in which the TL develops in the learner depends on the order in which the “processing routines” necessary to deal with the TL components develop (Pienemann 1998b: 1). According to Pienemann (1998b: 1), the language learner can only produce a certain structure once the “processing resources” that are required for the “computations” necessary to process the structure are available. The entirety of these “computational routines that operate on […] the native speaker’s linguistic knowledge” is seen by Pienemann (1998b: 1), along with Kaplan and Bresnan (1982 In Pienemann 1998b), as the language processor. In this respect, language acquisition is the gradual acquisition of the “procedural skills” required to process language. Therefore, the order in which the target language develops, depends on the order in which the “processing routines” that are required to process components of the target language develops (Pienemann 1998b:1). Processability Theory aims to describe the order in which these procedural skills needed for processing the language are developed by the learner. To describe these procedural skills, Pienemann (1998a) uses Levelt’s (1989 In Pienemann 1998a) model of language generation as a basis. This model is explained in the following section.

2.2.1.2. **Levelt’s model of language generation**

Levelt (1989 In Pienemann 1998a) designed a model of language generation which is represented in Figure 2:
This model is used by Pienemann (1998a) to explain how language production is explained in PT. However, unlike Levelt (1989), Pienemann (1998a) does not take into account the Conceptualizer and the Articulator, but merely focuses on the Formulator, where morpho-syntax is produced. Hence, he only looks at the language production process from the moment the message has already been conceptualized onwards. At the point of Conceptualization, the speaker has made a “preverbal message “ which is the input of the Formulator (Levelt 1989 In Pienemann 1998a: 54). In the Formulator, the “conceptual structures” are translated “into a linguistic structure” (Levelt 1989 In Pienemann 1998a: 54). There are two steps in this translation, namely “the grammatical encoding” and “the phonological encoding”; it is the first step which is important in Pienemann’s framework (1998a: 54). How language is produced and generated according to Pienemann (1998a, 2011), is explained in section 2.2.2.

2.2.2. Language production and generation

2.2.2.1. Language production

Pienemann’s (1998a/b, 2011) model of language production is founded on Levelt’s (1989 In Pienemann 2011: 28) model which states that the message is created in the “Formulator”.

Figure 2. “Levelt’s model of language generation” (Levelt 1989 In Pienemann 1998a: 55)
Parts of the message are subsequently sent to the “Grammatical Encoder” which then “constructs grammatical structures in connection with the Lexicon” (Pienemann 2011: 28).

The model presumes four premises. The first premise is that “processing components are relatively autonomous specialists which operate largely automatically” (Pienemann 2011: 28). This first premise explains the speed with which language can be processed. Because the components operate automatically, rather than with a “control center”, the processing goes faster (Pienemann 2011: 28). The fact that no control centre is needed means that the processing does not happen serially, but in parallel, which leads to a faster processing process (Pienemann 2011). Moreover, Pienemann (2011: 28) remarks that “autonomous specialist processing components” can only process information of a “highly specific nature”, which means that they have “task-specificity”. This also explains why the processing occurs at a higher speed.

The second premise says that “processing is incremental” (Pienemann 2011: 29). This means that while one processor is still conceptualising the input, the next processor can already start construing the “surface lexicogrammatical form” (Pienemann 1998b: 3). However, the event that is currently being processed is not entirely visible to the next processor, only a small part of it is available. Because processing is non-linear, “storage facilities” are needed (Pienemann 2011: 29).

The third premise states that “the output of the processor is linear, while it may not be mapped onto the underlying meaning in a linear way” (Pienemann 2011: 29). An example of this is the non-linear “relationship between the natural order of events and the order of clauses” (Pienemann 2011: 29). Consider for instance the following sentence:

(11) “Before the man rode off \textsuperscript{a}, he mounted his horse \textsuperscript{b}.” (Pienemann 2011: 29)

In this sentence, clause b occurs before clause a. The order of events is not depicted in a linear way by the order of the clauses (Pienemann 2011).

The fourth premise says that “grammatical processing has access to a grammatical memory store” (Pienemann 2011: 30). According to Levelt (1989 In Pienemann 1998b: 4), grammatical information is not stored in “working memory”, which is used for processes such as conceptualization, but in the “grammatical memory store” where it is held temporarily. The “grammatical memory store” is a “highly task-specific” store where “information of a specific nature” can be placed (Pienemann 1998b: 4).
2.2.2.2. **Incremental language generation**

Pienemann (1998a/b, 2011) notes that not only processing, but also language generation is incremental. While the structure of one utterance is associated with the appropriate lemmata, the next utterance is already being conceptualized in the Conceptualizer in parallel. At the same time, the output of the Formulator is already being delivered to the Articulator. Hence, this process goes “from iteration to iteration” (Pienemann 1998b: 5). This process is illustrated with the following sentence:

(12) “A child gives a cat to the mother.” (Pienemann 2011: 31)

The generation of this sentence is reproduced in Figure 3:

![Figure 3. “Incremental language generation” (Pienemann 2011: 31)](image)

First of all, the “lemma CHILD”, which bears the “category information N”, is activated in the lexicon (Pienemann 2011: 31). This then evokes “the categorical procedure NP”, which is able to construct noun phrases. The categorical procedure then analyses what is being processed at this moment to see if there are “possible specifiers” and “provides values for diacritic features (such as *number*)” (Pienemann 2011: 31). Subsequently the branch ‘det’ is stuck to the NP and “the lemma for ‘A’ is activated which causes the lexeme ‘a’ to be
inserted” (Pienemann 2011: 31). Now, a link between these “associated lemmata” and the second part of the message has to be created and this is done by giving the “newly created phrase” a grammatical function (Pienemann 2011: 31). However, one more process is required to make a sentence out of the phrase, namely “the attachment of the NP to a higher node” (Pienemann 2011: 31). Here, the “procedure S” is evoked by the “NPSsubj” and the NP becomes the subject of this NPSsubj (Pienemann 2011: 32). The NPSsubj bears “the diacritic features deposited in the NP”, in this case “the values for person and number” (Pienemann 2011: 31). Pienemann (2011: 32) notes, that while processing this structure, another “conceptual fragment” was produced at the same time. When examining this process, it can be concluded that during the incremental generation of language, a certain sequence of “processing prerequisites” is activated:

“(1) the lemma,
(2) the category procedure (lexical category of the lemma),
(3) the phrasal procedure (instigated by the category of the head),
(4) the S-procedure and the target language word order rules,
(5) the subordinate clause procedure (if applicable).”

(Pienemann 2011: 33)

The incremental generation only occurs in “mature users” of a language (Pienemann 2011: 33). L2 learners still have to develop “language specific processing routines” because the “specific storage task” that is needed to process the L2 cannot be executed by the “L1 procedures” (Pienemann 1998b: 6). Learners of an L2 have to build a set of devices to be able to acquire the L2 grammar:

“- word order rules,
- syntactic procedures and their specific stores,
- diacritic features in the lexicon,
- the lexical category of lemmata,”

(Pienemann 2011: 33)

The example described above, namely “The child gives a cat to the mother.” is an example of what is called “feature unification” (Pienemann 1998a: 93). This is a characteristic of Lexical Functional Grammar (LFG), which is the grammar on which Pienemann (1998a) has founded PT. LFG is discussed in the following section.
2.2.3. Lexical Functional Grammar

One of the key characteristics of LFG is its “feature unification”, it is therefore labelled a “unification grammar” (Pienemann 1998a: 93). Feature unification is the process that “ensures that the different parts that constitute a sentence do actually fit together” (Pienemann 1998a: 93). This process will be discussed in more detail in the following section.

LFG is formed by three parts; the first part is “a constituent structure (= c-structure) component that generates “surface structure” constituents and c-structure relationships” (Pienemann 1998a: 93). An example of such a constituent structure is reproduced in Figure 4 for the sentence: “Peter owns a dog.” (Pienemann 1998a: 94):

![Figure 4. “Constituent structure – example” (Pienemann 1998a: 94)](image)

Pienemann (1998a: 93) notes that these c-structures resemble the “phrase-structure component” of Chomsky’s (1965 In Pienemann 1998a: 93) Standard Theory to a certain extent. However, this resemblance is superficial; Pienemann (1998a) observes some differences between these two types of structures. “[P]hrase structure rules” generate these c-structures without the intervention of “transformations”, which leads to the “mapping of predicate-argument structures onto surface forms” without the intervention of “levels of representation” (Pienemann 1998a: 93). The second difference observed by Pienemann (1998a: 93) is that “the “geometry” of the phrase structure” does not represent “grammatical functions”, but these functions act as “grammatical primitives” and the “major constituents are annotated for their grammatical function”.

The second part of LFG is “a lexicon, whose entries contain syntactic and other information relevant to the generation of sentences” (Pienemann 1998a: 93). The “lexical
entries” attribute certain “values to features” such as number (Pienemann 1998a: 94). This value is defined by equations like the following: “NUM = SG” (Pienemann 1998a: 94). The following table reproduces the lexical entries of the sentences given in Figure 5:

| Peter: | N, PRED | = “Peter” |
| owns: | V, PRED | = “own” (SUBJ, OBJ) |
|       | TENSE   | = present |
|       | SUBJ PERSON | = 3 |
|       | SUBJ NUM | = SG |
| a:    | DET, SPEC | = “a” |
|       | NUM | = SG |
| dog:  | N, PRED | = “dog” |
|       | NUM | = SG |

**Figure 5.** “Lexical entries” (Pienemann 1998a: 94)

It is possible that the equations ““demand” certain values elsewhere in the functional description of a sentence” (Pienemann 1998a: 94-95). An example of this is the equation (13), which applies to a number of German auxiliaries:

(13) “V-COMP INF =_c ge.”

(Pienemann 1998a: 95)

The third part of LFG is “a functional component which compiles for every sentence all the grammatical information needed to interpret the sentence semantically.” (Pienemann 1998a: 93). It is the “interaction between c-structure and the lexicon” that brings forth the f-structure (Pienemann 1998a: 95). The f-structure of the sentence given in Figures 4 and 5 is reproduced in Figure 6:

| PRED | “own” (SUBJ, OBJ) |
| TENSE | present |
| SUBJ | PRED | “Peter” |
| OBJ  | SPEC | “a” |
|      | NUM | SG |
|      | PRED | “dog” |

**Figure 6.** “Functional structure” (Pienemann 1998a: 95)

Next to these three parts, LFG also contains “a set of well-formedness conditions” which has an influence on how the three parts interact (Pienemann 1998a: 93). These rules constrain feature unification and ensure “that all properties of an f-structure are compatible
with each other” (Pienemann 1998a: 93). One of the functions of these well-formedness conditions is to ensure that every constituent “listed in the lexical entry of the verb” is generated when the sentence is produced (Pienemann 1998a: 96). Sentences as (14) will then not be produced:

(14) “* The real estate agent bought.” (Pienemann 1998a: 96)

An example of a well-formedness condition is the “Uniqueness Condition”, which according to Pienemann (1998a: 97) “is an absolutely necessary condition for any grammar to exist”. The Uniqueness Condition states that “the values attributed to a constituent must be compatible” (Pienemann 1998a: 96). An NP in which the determiner is singular and the noun is plural as in (15) will be rejected because of this rule:

(15) “* A girl handed the baby a toys.” (Kaplan and Bresnan 1982 In Pienemann 1998a: 96)

Pienemann (1998a: 96) remarks that ungrammatical sentences which are rejected by the Uniqueness Condition all have “conflicting lexical specifications”, as becomes clear from the following examples:

(16) “* they will went (future – past)
(17) * they goes (plural – singular)
(18) * the man … she (masculine – feminine)” (Pienemann 1998a: 96)

According to Pienemann (1998a: 96), “the grammatical encoding of semantic features or relations” is required in these examples. It is noted that the acquisition of this grammatical encoding is necessary for second language learners. Moreover, without the Uniqueness Condition, “such grammatical encodings could not be learnt” (Pienemann 1998a: 97). Pienemann (1998a: 96) remarks that it is not the Uniqueness Condition which makes the grammatical encoding possible, but that the Uniqueness Condition is merely “the formal guarantee that the informational prerequisites for the grammatical encoding process exists”. It would seem that a large number of interlanguage forms produced by learners result from violations of this Uniqueness Condition. However, Pienemann (1998a: 97) notes that they are merely “violations of the UC from the perspective of the target language”, since it is perfectly plausible that only the determiner or the noun is annotated for number, as was the case in sentence (15).
2.2.3.1. **UG in LFG**

Pienemann (1998a) remarks, that the notion of UG is perceived differently in LFG than in the other generative approaches described earlier on in Section 2.1. When comparing it to Chomsky’s UG in the principles and parameters theory, Pienemann (1998a: 23) states that the basis of Chomsky’s theory is formed by “constituent structure configurations”. In LFG (Kaplan and Bresnan 1982 In Pienemann 1998a: 23) on the other hand, “Bresnan’s (1988, 1993) conception of UG is concerned with the relationship between semantic predicate argument structure and constituent structure”. This relationship is governed “by a system of functional structures” (Pienemann 1998a: 23). This means that unlike in the principles and parameters paradigm, UG has no “formal parameters” but rather possesses “a hierarchy of semantic roles” (Pienemann 1998a: 24). According to Bresnan (1988 In Pienemann 1998a: 24), the effect of this difference is the following:

“These differences in design give rise to different computational and psycholinguistic models of how language is processed, and to potentially very different views of the natural processes by which children learn languages.”

(Bresnan 1988 In Pienemann 1998a: 24)

2.2.3.2. **Feature Unification**

As mentioned in section 2.2.3, the process of unification is a key characteristic of LFG. This process can be illustrated with the construction of the NP ‘a child’, which has already been dealt with in section 2.2.2.2. Both lexical entries have been annotated for the feature number. In this case, the NP is singular. Therefore, the value of the feature number is singular for both lexical entries. The process of unification is the matching of these two features (Pienemann 1998a). Feature unification is also required for the use of do-support. Pienemann (2011) argues that fronting of the auxiliary *do*, the first rule that has to be acquired for the learner to develop a correct use of do-support, takes place at Level 3 of the processability hierarchy. The treatment of “Do-FRONT” here corresponds to that of Bresnan (1982 In Pienemann 2011: 60). An adaption of the c-structure rule from which the SVO word order originates has taken place here in “*(R1)*” (Pienemann 2011: 59). The rule for SVO word order is the following:

“(R1) S → NP_{subj} V (NP_{obj}) (ADJ) (S)”

(Pienemann 2011: 59)
The adapted rule which defines Do-FRONT is the following:

“(R3) S → (V_{aux=’do’}) NP subj V (NPobj) (ADJ) (S)”

(Pienemann 2011: 60)

Because of “the constraint equation aux=’do’”, only the auxiliary do can be positioned as the first verb in the sentence (Pienemann 2011: 60). It must be noted however, that this Do-FRONT only applies to the position of do; the rule does not have anything to do with the “morphological form” or “the lexical verb” (Pienemann 2011: 60). Therefore, structures such as the following sentence are still possible, even if the learner has already developed his or her IL up to this level:

(19) “*Do she see him?” (Pienemann 2011: 60)

The rule for Do-Fronting can be applied to auxiliaries when the constraint equation “aux=’do’” is adapted to the equation “aux=’c’+” (Pienemann 2011: 60).

The second rule that has to be developed is the rule for Do-2nd, which takes place at Level 5 of the processability hierarchy. An example of Do-2nd is the following sentence:

(20) “Why did she eat that?” (Pienemann 2011: 51)

The rule for Neg-do2nd also takes place at this level. An example of the structure Neg-do2nd is sentence (21):

(21) “Why didn’t you tell me?” (Pienemann 2011: 51)

The rule for Do-2nd can be inferred from the rule for Aux2nd. The rule for Aux2nd is an adaptation of “(R2)”, which is the rule for an initial position of WH-words:

“(R2) S’ → (XP) S”

\[
\begin{align*}
\text{wh} &= c + \\
\text{adv} &= c + 
\end{align*}
\]

(Pienemann 2011: 59)

Kaplan and Bresnan (1982 In Pienemann 2011) and Pinker (1984 In Pienemann 2011) adapt the rule as follows:

“(R2a) S” → (XP) “S”

\[
\begin{align*}
\text{wh} &= c + \\
\text{adv} &= c + \\
\text{SENT MOOD} &= \text{INV}
\end{align*}
\]

(Pienemann 2011: 60)
(R3) can be adapted for the same purpose:

\[(R2a) \ S' \rightarrow (XP) \]
\[
\begin{cases}
\text{aux} \leftarrow_{c} + \\
\text{ROOT} \leftarrow_{c} + \\
\text{SENT MOOD} = \leftarrow_{c} \text{INV}
\end{cases}
\]

(Pienemann 2011: 60)

In the example given in figure 7, the rules described above have been applied:

Pienemann (2011: 61) notes, that the most important element for the L2 learner here is the constraint \text{SENT MOOD} = \leftarrow_{c} \text{INV}, because this constraint is a pointer for the L2 learner that says the following: “proceed only if the Sentence Mood is INVERSION” (Pienemann 2011: 61). This information is an annotation of XP, which means that the information is provided once the XP position has been filled. The information is then “stored in the appropriate procedure (the S-procedure) until it needs to be retrieved” (Pienemann 2011: 61).

To ensure the blocking of Aux2nd and Do-Fronting in subordinate clauses, Cancel inversion is required (Pienemann 2011).

2.2.4. Language-specificity

As noted in section 2.2.2.2, the processing procedures developed in the language learner are language-specific (Pienemann 2011). Levelt’s (1989 In Pienemann 2011) model, on which
Pienemann’s (1998a/b, 2011) model is based, has been adapted for bilinguals by De Bot (1992 In Pienemann 1998a). From this study, De Bot (1992 In Pienemann 1998a: 74) concluded the following:

“[T]he speaker who speaks two closely related languages will for most part use the same procedural and lexical knowledge when speaking either of the two languages, while in the case of languages which are not related an appeal is made to much more language-specific knowledge”.

(De Bot 1992 In Pienemann 1998a: 74)

The importance of the assumption from De Bot (1992 In Pienemann 1998a) in this context is that when the L1 and the L2 are not closely related, the procedures required for the processing are different language-specific procedures.

Word order rules are always language-specific but some ”genetically related languages (such as the Germanic languages) share certain characteristics” (Pienemann 1998a: 74–75). An example is for instance the V2-distribution of Germanic languages. However, not all Germanic languages share this characteristic; although English is part of this language family, it does not have a V2-distribution. There are other dimensions of grammar in which languages differ. Take for example the grammatical gender of a word; this is a “parameter” which is used in for instance German and Dutch, but which is absent in the English grammar (Pienemann 1998a: 75). The “lexical category of lemmata” is also different in different languages (Pienemann 1998a: 75). Take for instance the word ‘house’ in English and ‘Haus’ in German; these can be used both as nouns and as verbs. However, the Finnish equivalent ‘talo’ can only be used as a noun and not as a verb (Pienemann 1998a). Hence Pienemann (1998a: 75) states that learners of a language will be required to test every “lexical item” for its “lexical category” to be able to acquire a new language. How the acquisition of a new language takes place is described in the following section.

2.2.5. The acquisition process: the “processability hierarchy”

In this section, we will discuss the processability hierarchy. This is the order in which the structures of a language are acquired by the learner, as described by PT. Hence, it reflects how the acquisition process occurs.

When first learning the language, L2 learners are not able to “deposit info in syntactic procedures” (Pienemann 1998b: 6). There are two reasons for this. First of all, L2 learners are not yet able to annotate their lexicon. Moreover, the syntactic procedures used to generate
structures in the L1 are not fit to accommodate syntactic info in the L2. Therefore, a beginning learner cannot yet produce structures that require the use of syntactic procedures to exchange “specific L2 grammatical information” (Pienemann 1998b: 7).

The fundamental principle of processability is the idea that “language-specific processing resources” have to be developed to be able to process the target language (Pienemann 1998b: 7). Pienemann (2011: 35) notes that these processing resources are interrelated in two ways, namely in that “one is utilized before the other” and the information that is processed in one resource is needed in the other resource. Hence, a hierarchy is constructed; if one resource is missing, the other cannot function. The hierarchy that is constituted is an “implicational hierarchy”, which leads to the hypothesis that the sequence in which the processing resources are acquired is the same as the sequence in which they are activated in the production process (Pienemann 2011: 36). According to Pienemann (2011: 36), if an element in this hierarchy is missing, the “learner grammar” will be brought to a standstill at the point of the missing processing device. The part of the hierarchy that is not available to the learner will then be substituted by the “direct mapping of conceptual structures onto surface form” (Pienemann 2011: 36).

Pienemann (1998b: 14) notes that “processability acts as a constraint on development”; this means that those structures that cannot be processed by the learner will not be acquired. However, the opposite, that those structures that can be processed will be acquired, cannot be inferred from processability theory.

To interpret the processability hierarchy, Pienemann (1998a/b, 2011) employs Lexical Functional Grammar (LFG). This theory of grammar was chosen because it bears three important resemblances to the model of language production described by Processability Theory, “namely (i) the assumption that grammars are lexically driven, (ii) the assumption that functional annotations of phrases (e.g. “subject of”) assume the status of primitives and (iii) the mechanism of feature matching” (Pienemann 2011: 37). “Feature unification” also explains the procedural skills that are essential in “Incremental Procedural Grammar” (Pienemann 1998b: 8). This process of feature unification is used to evaluate the development of the “interlanguage forms” (Pienemann 1998b: 8). Another reason why Pienemann opted for this theory is the fact that feature unification is seen as a process which is assigned “psychological plausibility” (Pienemann 1998a: 93). LFG and feature unification have been described in more detail in section 2.2.2.3.

On the lowest step of the processability hierarchy, we find the “single words”, which “are produced in isolation or as fixed formulae” (Pienemann 2011: 56-57). To produce these
single words, the learner does not have to know anything about the “grammatical features of the lexical item” (Pienemann 2011: 57). However, when we look at the higher stages, where the language has developed further, information about these grammatical features, or “diacritic features” as (Pienemann 2011: 57) labels them, is required. This information is “language-specific” and therefore, PT presumes that the L2 learner has to acquire this information (Pienemann 2011: 57).

For some processes, it is not necessary to exchange grammatical information if the diacritic feature is only marked on one constituent because the diacritic features can be found “in the lexical entries of words” and can consequently “be matched directly from conceptual structure” (Pienemann 2011: 57). Then the process takes place at Level 2. However, if the diacritic features are marked on more than one constituent, the exchange of grammatical information is required because “their value information has to be matched between constituents” (Pienemann 2011: 57). Then the process takes place at Level 3 and “phrasal” procedures, which are required for “agreement marking”, “or other procedures” such as “repositories”, which are “memory stores”, are necessary (Pienemann 2011: 57).

To mark “SV-agreement”, the “S-procedure” is required; this process is therefore situated at Level 5 (Pienemann 2011: 58). Pienemann (2011: 58) remarks, that “the observed sequence of acquisition (lexical before phrasal before inter-phrasal morphemes) is predicted by the processability of the morphological structures under investigation”. In this paper however, the focus is on the processability of syntactical structures rather than that of morphological structures.

To acquire do-support, the learner also needs to develop certain processing procedures. First of all, the procedure “word/lemma” has to be developed to be able to produce basic speech, i.e. words (Pienemann 1998a: 171). After this, the “category procedure” has to be activated so that the learner can produce “lexical morphemes” (Pienemann 2011: 37). Thirdly, the phrasal procedures are activated, which allow “phrasal information exchange” (Pienemann 2011: 37). This procedure is required for the learner to be able to produce do-Fronting (Pienemann 1998a). Subsequently, the “S-procedure” and the “Word Order Rules” are developed (Pienemann 2011: 35). It is during stage 5 that the learner is able to produce SV agreement and Do2nd (Pienemann 1998a: 171). Do2nd only appears at this stage because the exchange of “the equation SENT MOOD =c Inv” is required for this rule (Pienemann 1998a: 176). After the S-procedure, one more procedure is activated, namely the “subordinate clause” procedure, however, this is not required for the learner to be able to use do-support correctly (Pienemann 2011: 35).
2.2.6. Language development

In section 2.2.3, the production and generation of language has been discussed. Now, we take a look at language development. To explain how the development of language takes place, Pienemann (1998a: 316) uses the term “generative entrenchment”. This term implies that every decision that is made early in the acquisition process influences and predetermines the rest of the development of the “interlanguage system” (Pienemann 1998a: 316). This can be related to the “Bad Choice Hypothesis”, which states that “the interlanguage system will stabilize […] if too many bad choices have been made” (Pienemann 2011: 73). We take a closer look at this hypothesis in section 2.3.1. In Figure 8, the tree that illustrates the development of language is reproduced.

![Figure 8. “Generative entrenchment.” (Pienemann 1998a: 317)](image)

Over the course of the development, the language structures that are acquired become increasingly more complex. At first, the structures have little “structural properties”, but as the interlanguage develops, other structural properties are added to the structures (Pienemann 1998b: 15). Pienemann (1998b: 15) notes that different “developmental paths” can be chosen. However, once a new structure is added, it is very difficult to leave the developmental path and choose another path because “all developmental steps up to the node that gives access to the alternative path would have to be cancelled” (Pienemann 1998b: 15).

Because of this generative entrenchment, a “massive computational saving” is made in the process of language acquisition because it is not necessary to revise the “structural decisions” when a “structural change” takes place (Pienemann 1998b: 15). This process has a “constraining effect on the development that derives from the dynamics of the development itself” (Pienemann 1998b: 16). The development of language by the learner is a case of “pattern conservation” in that the “initial hypothesis” determines the rest of the development” (Pienemann 1998b: 16).
Generative entrenchment can be compared to what Wimsatt (1986, 1991 in Pienemann 1998b: 16) labels the “developmental lock”. This term is used to describe the process in which “old decisions” are retained and decisions that are made later are based on these old decisions (Pienemann 1998b: 16).

2.2.6.1. “Developmental trailers”

“Developmental trailers” refers to a concept developed by Larsen-Freeman & Long (1991 in Pienemann 2011: 150) and Pienemann (1998a: 250) which states that at a certain developmental stage, not all structures that appear at this stage of acquisition necessarily have to be considered as acquired. Pienemann (1998 In Pienemann 2011: 150) remarks the following:

“[T]here is no reason to assume that learners will acquire a structure just because they can process it. A functional need would have to be present for the structure to emerge”.

(Pienemann 1998 In Pienemann 2011: 150)

Hence, it is not because a learner has developed every processing resource that is required for the processing of a certain structure that this structure has to be considered as acquired. We can therefore not assume that the outcome of this study will show that a learner will have acquired every structure that is situated at the stage of acquisition at which he or she is located. This can be connected to Pienemann’s (2011: 94) notion of “emergence”, which stands for “first systematic use” of a structure. Thus, a structure has to be used systematically in a stretch of speech for it to be considered as acquired. This is discussed in more detail below. If no systematic use of all structures at a certain stage of acquisition has been shown, this means that we are dealing with developmental trailers.

2.2.7. Learner variation

Pienemann (2011) remarks, that the result of second language acquisition is variable. The variability manifests itself in different ways, namely in “the L2 learner’s ultimate attainment”, “in accuracy levels found in different situations” in the level of conscious or unconscious knowledge of the L2” and “across subsystems within the same learner” (Pienemann 2011: 12).

The possible variation between the interlanguage of different learners is limited because of the “processability hierarchy” (Pienemann 2011: 33). The processability hierarchy is based on the perception that “processing resources” are based on one another in that “one is
utilized before the other” (Pienemann 2011: 35). Consequently, the “learner grammar” will not develop any further once it has developed up to the point where the required processing device is absent (Pienemann 2011: 36). The processability hierarchy was explained in more detail above (See section 2.2.2.2).

Pienemann (2011) describes two features of learner variation. The first feature is that as a result of the “limited processing capacity” and “the available (and undeveloped) grammatical system”, the learner only has a limited number of grammatical structures to choose from when building sentences (Pienemann 2011: 66). The second feature is the “consistency across grammatical rules” (Pienemann 2011: 67). Learners always prefer one way to solve a grammatical problem and prefer this way of solving the problem consistently. Therefore, the solutions that learners prefer are a character of “specific types of interlanguage variation” (Pienemann 2011: 67).

Pienemann (2011: 69) however does not agree with the following idea:

“Learner variation makes the interlanguage an unsteady system […] which may be viewed as located at different levels of development in different situations”.

(Pienemann 2011: 69)

This idea is proposed by amongst others Ellis (1985 In Pienemann 2011) and Tarone (1988 In Pienemann 2011). Instead, he follows the view of Meisel, Clahsen & Pienemann (1981 In Pienemann 2011). This view states that development and variation are two “separate dimensions of language acquisition (Pienemann 2011: 69). PT suggests a “two-dimensional hypothesis space” (Pienemann 2011: 69). The term Hypothesis Space is used “because it delineates the hypotheses about the L2 which learners can entertain at different levels of processability in terms of development and variation” (Pienemann 2011: 69-70). The Hypothesis Space is reproduced in Figure 9:
The interlanguage of a learner is created by the fact that different ways of getting around a grammatical problem are possible at each level of the development. Therefore the IL can be represented by a single point on this diagram. Interlanguages which employ a simplification of the TL are represented on the right side of the diagram, whereas interlanguages which employ a “standard oriented” solution as for instance “the over-use of Unmarked Alignment” are represented on the left side of the diagram (Pienemann 2011: 69). The term Unmarked Alignment represents the “one-to-one mapping [...] which results in the agent being marked as subject and appearing as the first noun phrase in a sentence” (Pienemann 2011: 44). Pienemann (2011: 44) states that it “is the initial state of L2 development” which “constrains language processing for the learner” and leads to “canonical word order at the initial state”. Hence, it has “both a productive and a constraining aspect” (Pienemann 2011: 44). It helps the learner to express sentences which entail “predicate-argument relationships” but at the same time, it “locks the learner in to a fixed one-to-one mapping of semantic roles onto grammatical functions and constituents”, thus constraining “the expressiveness of the learner” (Pienemann 2011: 44).

Now, we go back to Pienemann’s (2011) rejection of IL as an unsteady system. In PT the hypothesis is put forward that defines the IL as a steady system, namely the “Steadiness Hypothesis” (Pienemann 2011: 71). This hypothesis states that “a learner will be at the same level of acquisition in different communicative tasks” (Pienemann 2011: 71). The hypothesis is backed with studies conducted by Pienemann (1998 In Pienemann 2011) and Pienemann &
Mackey (1993 In Pienemann 2011). These confirm that the level of the learner is consistent in different communicative tasks.

The solutions learners choose during the development of the language have an impact on how their grammar will develop in later stages. To illustrate this, Pienemann (2011) gives the example of WH-questions. The WH-fronting that is required for the formation of this type of question is acquired at Level 3. As described above, learners are able to choose from two strategies to solve a problem; the first option is to simplify the structure as in the following example:

(22) “Where Ø Tarzan?” (Pienemann 2011: 72)

In this example, the sentence “Where is Tarzan?” has been simplified by omitting the copula. The second option is the standard oriented solution of the problem, of which an over-use of Unmarked Alignment is an example. Learners who choose this strategy will also produce sentence (22). At Level 4 however, a difference in grammatical structures between these two types of learners will be noticeable. Learners who chose to omit the copula will not be able to develop the sentence any further, whereas learners who chose the strategy of Unmarked Alignment will build sentences using “Copula Inversion” as in the following examples:

(23) “Where is Tarzan?”
(24) “Is he Tarzan?”

(Pienemann 2011: 72)

Pienemann (2011: 73) therefore notes that it is important to know “that bad choices will accumulate as the learner moves on”. This idea has led to the creation of the “Bad Choice Hypothesis”, which is outlined in the next section (Pienemann 2011: 73).

2.2.7.1. Bad Choice Hypothesis

The “Bad Choice Hypothesis” assumes that “the interlanguage system will stabilize [...] if too many bad choices have been made” (Pienemann 2011: 73). This hypothesis can account for the “variation in ultimate attainment in L2 acquisition” (Pienemann 1998a: 326). Support for this hypothesis was found in a study by Clahsen, Mei sel & Pienemann (1983 In Pienemann 2011). This study was carried out with 45 adult second language learners of German. By distributionally analysing the data, the “six word order stages” of German were found “through implicational scaling”(Pienemann 1998a: 326). Another “14 variational features” were recognized, including “the omission of obligatory constituents such as the subject pronoun, lexical verbs, modals, auxiliaries, prepositions and determiners”, and
implicational scaling was carried out on these as well (Pienemann 1998a: 326). According to Pienemann (1998a: 326), “a learner with the most highly simplifying feature also displays all other variational features”. The 45 learners were then divided into four groups “ranging from highly simplifying (group 3) to highly norm-oriented (group 1a)” (Pienemann 1998a: 326). The findings showed that more or less half the learners “below the stage SEP” were what he termed “recent arrivals” (Pienemann 1998a: 326). The other half of the group consisted of learners that had been in contact with the language for seven to fifteen years whose language development had stagnated. Pienemann’s (1998a: 326) hypothesis is that this stagnation “is caused by the developmental dynamics”. The learners would then use “highly simplifying and thus inferior varieties of the IL” (Pienemann 1998a: 326). This is confirmed by the data, which shows that those learners that have been exposed to German for a long time but have not advanced far on “the developmental axis” use a simplified variety of the L2, whereas beginning learners “develop a wide range of learner varieties, including non-simplifying ones” (Pienemann 1998a: 326).

Pienemann (1998 In Pienemann 2011) reanalysed the data from this study. The results of 15 language learners of German situated at Level 3 or at a lower level were examined. Half of the participants were people who had just arrived in the Germany; the other half of the participants had been residing in the country for seven to fifteen years (Pienemann 2011: 73). Hence the second group, despite having been in contact with German for a period of at least seven, at most fifteen years, still had a relatively basic interlanguage system. According to the predictions of the Bad Choice Hypothesis, these learners use “simplified interlanguage variants” and it is because of these variants that they are “delayed” (Pienemann 2011: 73). This prediction was indeed confirmed by what Pienemann (1998 In Pienemann 2011) found in his reanalysis of the Clahsen, Meisel & Pienemann (1983 In Pienemann 2011) study. Moreover, he found that “all long-term low-level learners use simplified variants, while the recent arrivals displayed a variety of choices with a distribution similar to larger groups” (Pienemann 2011: 73).

2.2.7.2. Differences between learners of different ages

Clahsen (1985 In Pienemann 1998a) differentiates between two types of learners, namely child learners and adult L2 learners. He proposes that child learners employ UG to develop the grammar of the language they are acquiring, whereas adult L2 learners do not use UG (Clahsen 1985 In Pienemann 1998a). Pienemann (1998a) however does not fully agree with
this proposal. He observed, that the stages of acquisition child learners go through can be explained by Processability Theory. Seeing that both types of learners have to construct “the architecture of the Grammatical Encoder” similarly, it is plausible that both learners have to develop the same processing procedures (Pienemann 1998a: 12). If one were to believe that they have to develop different processing procedures, the problem arises of “how, when and why the one set of procedures will be translated into the second in the course of maturation” would have to be answered (Pienemann 1998a: 12).

2.2.8. L1 transfer

In PT, L1 transfer is embedded in the “Developmentally Moderated Transfer Hypothesis” (Pienemann 2011: 75). The DMT Hypothesis states that “one can only transfer what can be processed” (Pienemann 2011: 75). The implication here is that even if grammatical structures exist both in the L1 and the L2, they cannot be transferred as long as the grammar of the L2 has not developed up to the point where the L1 structure can be processed. A second implication on the other hand is that L1 grammatical structures can be transferred from the moment that the L2 is able to process them (Pienemann 2011). Pienemann (2011: 77) makes three predictions:

1. The L1 and the L2 contain the same structure, which appears late. It is predicted that this structure will not be transferred at the initial state.
2. However, this constellation does imply an advantage over learners whose L1 does not contain the structure in question: the structure will be acquired more effectively once it is processable.
3. The L1 and the L2 contain different structures which appear early. It is predicted that the L1 structure will not be transferred at the initial state. Instead, the L2 structure will be produced very early because it is readily processable.”

The idea that grammatical structures can only be transferred to the L2 from the moment that the L2 has developed far enough to process the structure is reproduced in Figure 10:
Figure 10. The developmentally moderated transfer hypothesis (Pienemann 2011: 76)

The grammar of the learner’s native language “L1” and, when applicable, other native languages “Lx” are “internally organized” according to the processability hierarchy. When learning a new language “Ly”, this language will also develop according to the processability hierarchy. From this follows that elements of the grammar of the native language can be transferred to the grammar of the new language. This however is only possible if the Ly has developed up to the point at which these elements from the L1 can be processed (Pienemann 2011: 75). Therefore, L1 transfer is constrained. The DMT Hypothesis delineates a “specific partial role of transfer”, in that not all structures of the L1 that are similar to the structures of the L2 can be transferred (Pienemann 2011: 75). “Developmental readiness” is a prerequisite for L1 transfer (Pienemann 2011: 75).

According to Pienemann (2011: 76), learners cannot create “target language structures” if “language-specific features” are absent. Therefore, PT finds that the “L2 lexicon” has to be gradually annotated and a “L2 processor” has to be built (Pienemann 2011: 76). To do so, the learner has to start “with the simplest possible relationship between concepts and their expression” (Pienemann 2011: 76).

2.2.9. Method

To analyse the data gathered in PT, the method of “implicational scaling” is used (Pienemann 2011: 51). This method shows how the acquisition of grammatical structures happens in an “accumulative manner” (Pienemann 2011: 51). In other words, one structure at a time is acquired and each structure that has been acquired will be retained. Therefore, “the presence of a later structure implies the presence of an earlier structure” (Pienemann 2011: 51). This idea is represented in the Figure below:
From this figure, it becomes clear that structure C is a prerequisite for the presence of structure D. Structure B in its turn is a prerequisite for the presence of structure C and therefore also for the presence of structure D. In the figure given above, there is one cell that contradicts this observation, namely the cell in which a minus is noted for structure D in learner 4. Pienemann (2011) notes however, that this does not contradict the assumption of an accumulative acquisition of structures. It is also mentioned that “a cross-sectional study can be used for the analysis of sequences of acquisition” (cf. Meisel, Clahsen & Pienemann 1981 In Pienemann 2011: 53).

When analysing the data, the term “emergence criterion” is important (Pienemann 2011: 53). The emergence criterion, which was created by Meisel, Clahsen & Pienemann (1981 In Pienemann 2011) is the point at which a structure is used for the first time in the IL of a learner (Pienemann 2011). The emergence criterion employed in this study is described in section 4.1.

### 2.2.10. Language instruction: “Teachability”

Teachability is concerned with the issue whether or not formal instruction of a language will have an influence on the stages a language learner goes through. The “Teachability Hypothesis” was designed by Pienemann (1984 In Pienemann 2011: 150) and proposes the following:

> “[I]nstruction can only promote language acquisition if the interlanguage is close to the point when the structure to be taught is acquired in the natural setting (so sufficient processing resources are developed).”

(Pienemann 1984 In Pienemann 2011: 150)

The hypothesis is rephrased by Long (1988 In Pienemann 2011: 150) as “You can’t skip stages”. If a learner were to skip a developmental stage, this would mean that there is a “gap in the processing procedures” that develop within the learner (Pienemann 1998a: 13).
Consequently a certain structure could not be acquired, because not all required processing procedures have been developed by the learner (Pienemann 1998a). With the hypothesis, the “effects of formal instruction” are limited; even when a learner receives formal instruction of a language, he or she will not be able to skip stages due to the fact that “each developmental stage requires the processing procedures developed at the previous stages” (Pienemann 2011: 150). Pienemann (1989 In Pienemann 2011: 150) therefore suggests that “the learning processes occurring outside the classroom” are used as a basis to found the formal instruction of the language on. It is also suggested that formal instruction will only bring the learner an advantage if it concentrates on teaching the “structures from ‘the next stage’” (Pienemann 1998a: 13).

The Teachability Hypothesis has been confirmed by a number of studies. One study by Pienemann (1984 In Pienemann 2011) conducted with native Italian speakers learning German, for instance, showed that despite formal instruction, they were not able to skip a stage. The conclusion was therefore that “teaching cannot beat the natural order of acquisition” (Pienemann 1984 In Pienemann 2011: 151).

### 2.3. **L1 transfer outside the PT context**

When learners acquire a second language, it may occur that grammatical structures from the L1 are used when constructing sentences in the L2. Rankin (2011) conducted research on the transfer of V2 in German and Dutch learners of English. Native speakers of these two languages were chosen because German and Dutch are both V2 languages, whereas English is a V3 language. Because of this V2 pattern, the finite verb always occupies the second position in main clauses. Also, an “adverbial or argumental XP” can in nearly every case be “fronted” to a “clause-initial position” (Rankin 2011: 142). This becomes clear from the following example sentences:

(25) “Ik ken Babsi al jaren.”
(26) “Babsi ken ik al jaren.”
(27) “Al jaren ken ik Babsi.”
(28) “Wat doet u?”

(Rankin 2011: 142)

English however is a “non-raising language” and as a consequence, a “V2 configuration” is necessary when “fronting or topicalization” takes place (Rankin 2011: 142). Exceptions are sentences in which “a (residual) V2 constraint is in evidence” (Rankin 2011: 142).
This is for instance the case in questions and sentences with negative inversion in which Aux-movement takes place (Rizzi 1996 In Rankin 2011). Another case in which the V2 constraint is present is “when certain information structural conditions are in place” (Westergaard 2007 In Rankin 2011: 143).

In Westergaard’s (2007 In Rankin 2011) study, a Full Transfer of the L1 structures to the L2 is assumed. It is observed that in this case, learners require two cues. The first cue is topicalisation, because this mechanism illustrates that the L2 does not have the same V2-distribution as the L1. The use of do-support in questions and negation is a second cue for learners that illustrates that “lexical verbs do not move”. However, do-support is not used frequently in teaching materials due to its reputation as a “complex structure” (Rankin 2011: 145).

The study was conducted using the Dutch, German and French data of “the International Corpus of Learner English” (Granger, Dagneaux, & Meunier 2002 In Rankin 2011: 146). A selection was performed on each subcorpus so that only the data relevant for the study remained. Only data by monolingual native speakers of each language were retained. The participants were all in the last year of “a university course in English Language and Literature” (Rankin 20011: 146). Unlike the research conducted in this paper, which is conducted in the context of PT, Rankin (2011) conducted his research from the point of view of the “Interface Hypothesis” (Rankin 2011: 140).

From the study, it appeared that there was an overwhelming presence of “non-target word order” in questions (Rankin 2011: 148). This non-target word order is illustrated in the following examples:

(29) “Has television as much influence on people as religion had in former days? (ICLE-DU)” (Rankin 2011: 148)

(30) “Did it anything to their cruel and brutal way of coldly killing innocent people? (ICLE-GE)” (Rankin 2011: 148)

Rankin (2011: 148) however notes that this is a consequence of the overgeneralization of the “surface subject-auxiliary inversion” rather than of the transfer of L1 structures. It is therefore suggested that “thematic verb movement/V2” is not transferred in questions (Rankin 2011: 148). This suggestion is supported by the data for negation. When looking at sentences with “main verb inversion in declaratives”, Rankin (2011: 149 – 151) observed that do-support is used “to maintain V2 order” in situations where “no modal or aspectual auxiliary” is present for movement. It is also noted, that both subject-auxiliary inversion and do-support are used too much in “embedded interrogatives” and in “subject wh-questions” (Rankin 2011: 156).
2.4. **Do-support**

2.4.1. What is do-support?

According to Langacker (1991 In Hirtle 1997: 113), “the status [of the auxiliary *do*] as a word with meaning is [...] often denied” and “it is considered by at least one linguist to best exemplify the auxiliary in English”. In sentences in which the auxiliary *do* is used as an “’empty’ or ‘dummy operator’”, the use of *do* is referred to as “do-support” or “do-periphrasis” (Quirk *et al* 1985: 133). This term is used because the auxiliary *do* is considered a “’supporter’ of tense coding” (Ard 1982: 447). The operator *do* also distinguishes tense and number (Quirk *et al* 185: 80). The use of do-support is required in constructions where no other operator is present because it is semantically unnecessary. This means that when the “corresponding affirmative sentence” does not contain an “overt auxiliary”, the auxiliary *do* will be used as the operator (Ard 1982: 445). This condition applies to all uses of *do* as an auxiliary (Quirk *et al* 1985).

There are four types of sentences in which do-support can be used. These four sentence types in which do-support is used are labelled the ’NICE-properties’, which stand for negation, inversion, code and emphasis. The first type, negation, consists of indicative clauses that are negated by not and in which the verb is in the simple present or the simple past (Quirk *et al* 1985). The “negative morpheme” ‘not’ is situated immediately to the right of the verb and is often contracted with the verb into one word (Ard 1982: 457). According to Quirk (1985: 133), “negative implicational clauses” with “do not” or “don’t” can be regarded as part of the same category “with some reservation”. The following sentences are examples of sentences that belong to this category:

(31) a. I don’t believe you.
    b. I didn’t read that book.

The second type, inversion, refers to “questions and other constructions involving subject-operator inversion” and in which the tense of the verb is simple present or past tense (Quirk 1985: 133). This category also includes “tag questions” and “reduced questions” in which only the dummy operator appears and the main verb is absent (Quirk 1985: 133). Quirk (1985: 133) also includes sentences in which there is inversion after the “initial negative element”. Example sentences for this type are the following:

(32) a. Do you know where he is?
    b. Does he?
The third category, codes, consists of “reduced clauses” in which do is employed as a “dummy operator preceding ellipsis of a projection” (Quirk 1985: 134). The following sentences are examples of sentences that belong to this type of do-support:

(33)  
   a. He knows where we are, doesn’t he?  
   b. Did you take out the trash? Yes, I did.

These examples demonstrate that there are two types of codes, namely tag questions as in 33a and codes that answer a preceding question as in 33b.

The last type, emphasis, is made up of “emphatic constructions” in which the verb is in the simple present or the simple past (Quirk 1985: 133). This category also includes the so called “persuasive imperative” which is introduced by do (Quirk 1985: 133). By using “emphatic do”, one stresses that the action or state expressed in the sentence is real (Ard 1982: 460). The following sentences illustrate this fourth type of do-support:

(34)  
   a. I do know that girl.  
   b. Do come to the party!

This type of do-support differs from the first three types, in that the use of the auxiliary ‘do’ is not obligatory in emphatic constructions (Ard 1982). Although Ard (1982) has argued that there is a relationship between those types in which auxiliary ‘do’ is obligatory and emphatic constructions with auxiliary ‘do’, this last type of do will not be focused on in the present study.

2.4.2. The acquisition of do-support according to PT

Do-support is an English specific rule that speakers of Dutch are not familiar with; therefore Belgian Dutch-speaking learners of English have to acquire the rule when learning English.

The first step towards a correct use of do-support is the acquisition of “DO-Fronting”. This phenomenon should be differentiated from do-support because Do-Fronting only means that ‘do’ takes a sentence-initial position to mark “direct questions”, whereas do-support entails “SV-agreement” and is found in “negation and direct questions without auxiliary” (Pienemann 1998a: 170). Examples of Do-Fronting are the following sentences:

(35)  “do you like it?”
(36)  “do he like it?”
(37)  “do he have lunch yesterday?”

(Pienemann 1998a: 170)
This Do-Fronting is “a simplification of the target language” and therefore, it is not correct in all cases; in sentence (36) and (37) for instance, the “target language norms” are violated (Pienemann 2011: 9). Do-Fronting is acquired at stage 3 of the processability hierarchy.

A second mechanism which has to be acquired to use do-support correctly is the rule “Do/Aux2nd” (Pienemann 1998a: 170). This is the inversion that is used in WH-questions. An example of such use of the auxiliary do is the following sentence:

(38) “Why did he sell that car?”

(Pienemann 1998a: 170)

Also the rule “Neg-do2nd” has to be acquired for a correct use of do-support, as illustrated in the following example:

(39) “Why didn’t you tell me?”

(Pienemann 2011: 51)

These two rules are acquired at stage 5 of the processability hierarchy.

This account of the acquisition of do-support is rather brief. PT does not discuss the full acquisition of do-support; the acquisition of negative do-support for instance is not looked into. However, in Pienemann’s (1998a/b, 2011) processability hierarchy, we do find the rule Neg+Verb, which is the rule that learners have to acquire to be able to use negative do-support correctly. This structure is acquired at stage 3. Codes are another type of do-support which is not discussed in this account. They are also not mentioned in the processability hierarchy. Because of this limited amount of information given by PT on the acquisition of do-support, this study will take a closer look at the acquisition of this English-specific rule.

2.4.3. Previous studies

Bhatt & Hancin-Bhatt (2002) conducted a study on the absence of the complementizer phrase (CP) in the initial grammar of L2 learners of English. The complementizer phrase is a term used in generative grammar approaches and refers to subordinate clauses which serve as “complements of the verbs” (Haegeman 2006: 317). In their study, they also addressed the acquisition of do-support by these learners. Two studies with Hindi speaking learners of English were conducted; a preliminary study on the “CP in Hindi ESL” and the main study which was an expansion of the preliminary study (Bhatt & Hancin-Bhatt 2002: 356).

The preliminary study was conducted in Levels 1 to 5 with 125 native speakers of Hindi learning English who attended a public school in New Delhi, India. Level 1 consisted of students in the sixth Grade, Level 2 of students in the seventh Grade, Level 3 of students in
the eighth Grade, Level 4 of students in the tenth Grade and Level 5 of students in the twelfth Grade. The participants were between 11 and 18 years old and all of them had had at least one year of formal instruction in English. They were asked to perform two tests; the first one was a test on “adverb interpretation” and the second test was designed to test “question formation” (Bhatt & Hancin-Bhatt 2002: 357). The results from the participants in Level 1 were not used because they contained too many errors. The question formation test shows results that are relevant for the study conducted in this master paper. According to the results of this preliminary test, the rule for do-insertion is acquired after the rule for Aux-inversion. This finding shows that the development of this “language particular (‘last resort’) rule” happens late in the acquisition process (Bhatt & Hancin-Bhatt 2002: 363). Moreover, the participants seemed to have more difficulty with do-insertion than with Aux-inversion. Learners who are in Levels 2 and 3 do almost three times better with Aux-inversion than with do-support. However, the breach in usage between these two constructions becomes smaller when looking at the results of the participants in Levels 4 and 5. The difference in application between these two rules is explained by the fact that “do-insertion – a language specific property of English – must be learned explicitly, whereas Aux-inversion follows from general properties of head movement” (Bhatt & Hancin-Bhatt 2002: 363).

The main study was conducted in four Levels with 106 Hindi speaking learners of English. The participants in the first three Levels were in the seventh, ninth and eleventh Grades of a public secondary school in New Delhi, India. The participants in Level 4 were first-year university students that were in the thirteenth Grade. All participants were between 15 and 19 years old. As in the preliminary test, the participants were asked to take an adverb interpretation test and a question formation test. In addition to this, they also filled out a “background questionnaire” (Bhatt & Hancin-Bhatt 2002: 372). The results of the main study confirm the results of the preliminary study. The participants in Grade 7 did not use do-support when building questions, whereas the participants in Grade 9 already started to use do-support in their answers. Between Grades 11 and 13, an increasing use of do-support can be observed. Therefore, Bhatt & Hancin-Bhatt (2002) conclude that do-support is not used by these Hindi speakers until Grade 13. However, they do remark that even the participants in Grade 13 do not use do-support in all cases where it is required.

Haznedar (2003) also conducted research on the acquisition of CP in which attention was paid to the acquisition of do-support. Her method differed from that of Bhatt & Hancin-Bhatt (2002), in that she did not test a large number of learners of English, but recorded data from one learner of English over a period of 18 months. The participant was a boy who was
four years and three months old and who had been living in the UK since 1993. The data collection began in early March 1994, when he had been attending nursery school for a month and a half. The native language of this participant was Turkish and unlike the participants in Bhatt & Hancin-Bhatt’s (2002) study, he did not receive formal English instruction but acquired English by being in contact with native and non-native speakers of English at his nursery school. Six months after the beginning of the data recording, the participant started to attend infant school where he only had contact with native speakers of English. As a consequence, his English displayed increasing use of amongst others “modals, yes-no questions, wh-questions and complement clauses” (Haznedar 2003: 11). In the discussion of the data, Haznedar (2003) focuses on yes-no questions and wh-questions. She notes that while yes-no questions with the auxiliary be are rather infrequent, yes-no questions with the auxiliary do and with modals occur frequently. According to Haznedar (2003) yes-no questions do not occur very often in the earliest recordings. The participant uses the auxiliary do for the first time on October 4 1994, six months after the data recording began. Haznedar (2003) remarks, that in later recordings the auxiliary do is used in different contexts, namely “with verbs such as want” and “in past tense contexts”, in which the participant uses do-support in the correct manner (Haznedar 2003: 13). When discussing the errors made in constructing wh-questions, Haznedar (2003) notes that one type of error was the omission of the auxiliary do. However, the use of do-support in yes-no questions seemed to be acquired without much error and from the moment where the participant produced yes-no questions onwards, do-support was used in nearly all yes-no questions produced. The participant inverted the auxiliary do in these sentences 97.6% of the time (Haznedar 2003).

These two studies seem to contradict one another; where Bhatt & Hancin-Bhatt (2002) established a slow acquisition and remarked that the participants have more trouble using do-support than using Aux-inversion, Haznedar (2003) found that the acquisition of do-support happens “virtually error-free” not one year after the beginning of the acquisition of English and that the auxiliary do is used in nearly all of the yes-no questions that are produced by the participant. This contradiction is probably due to the difference in methodology between these two studies. Bhatt & Hancin-Bhatt (2002) conducted a quantitative study and based their results on percentages. Thus, their research was based on “grammatical accuracy” (Pienemann 2011: 94). The study conducted by Haznedar (2003) on the other hand was a longitudinal qualitative study which was based on the speech produced by only one participant. Hence, Bhatt & Hancin-Bhatt (2002) deal with the mastery of a rule, whereas Haznedar’s (2003) study shows the emergence of do-support in the learner. The difference between the mastery
of a rule and the emergence of a rule is discussed by Pienemann (2011). He notes that emergence is a better fit for PT than mastery because “grammatical accuracy is not related to language development in a linear manner” (Pienemann 2011: 94). Hence, grammatical accuracy is not a “valid acquisition criterion” in the PT context (Pienemann 2011: 94).
3. Methodology

In this section, we outline the methodology employed to analyse the interviews. Firstly, the participants are discussed. Then, we discuss the interviews in more detail. After this, we look at the materials used during the interviews. Lastly, we deal with the data-analysis and the structures on which we focus are described.

3.1. Participants

To know more about the use of do-support in ESL learners, interviews were conducted with native speakers of Belgian Dutch. The participants were all in the first, second, third or fourth grade of secondary school which means that they were all between 11 and 15 years old. They were all monolingual; none of the participants had more than one first language. The participants in the first grade of secondary school had not had any formal English instruction yet. This is due to the fact that in many Belgian schools, formal English instruction only starts in the second grade of secondary school. The older participants on the other hand had all had one or more years of formal English instruction. In total, 16 participants were interviewed: eight boys and eight girls. The sex of the participants was only relevant from a practical point of view; the interviews took place per two and to be able to hear the difference in voice between the two participants on the recording, each time a boy and a girl conducted the test together.

3.2. Interviews

The interviews consisted of four parts and lasted 20 to 25 minutes. First of all, an informal conversation took place between the interviewer and the participants. This was done so that the participants, who were not used to speaking much English outside their English course, would feel more at ease and would become more confident about their English. These informal conversations have not been used for the purposes of this study due to the fact that most participants still had to warm up and did not produce large amounts of speech.

After this, the three tests took place. The first test was the popular children’s game Guess Who?. In this game, the aim is to guess whose picture the other player is holding. Both players hold a card with a picture of a person on it and have a game board in front of them which depicts all of the characters from which they can choose. This game was chosen
because only yes/no questions related to the appearance of the person are allowed; the participants cannot give more information than a simple yes or no answer to the question. Therefore, it was expected that many questions with do-support would be produced. There should be a high frequency of do-support with inversion in these questions. The participants first joined forces and played the game against the interviewer. They took turns asking questions. This approach was chosen because it was suspected that the participants might resort to second person forms to find out the identity of the person on the other participant’s card. In this case, only the second person form of the auxiliary do, which looks the same as the infinitive would be used and the development in the use of do-support would be less clear.

After this was done, the participants were asked to play the game against each other. They were asked not to answer simply with yes or no, but to answer with a sentence. By doing this, they were expected to produce sentences with negative do-support and codes with do-support. Unlike what was expected, all players used the third person to ask questions. This means that the evolution of do-support in the learners should be identifiable from the data.

The second test was a role-playing game. Eight scenarios were designed; these can be found in the appendix. However, not all of the scenarios were used during every test because of the limited timeframe available for the interviews. Only those scenarios which provoked sentences with do-support best were used during the interviews. In each scenario, one participant had to ask the other participant a question which the other participant had to deny. This way, both sentences with inversion and negation were expected to occur. In this test, the participants were again asked to not simply answer with yes or no, but to build full sentences.

In the last test, the participants were shown ten prohibition signs. The signs can be found in the attachment. They were given the information that these were prohibition signs which depicted an order that had to be followed, e.g. ‘Do not enter’. They were then asked to say to the interviewer what these signs represented. Each participant was given five signs.

These tests mainly focus on the provocation of sentences with negation, inversion and codes. Emphasis is a type of do-support which seems to be more difficult to provoke because of the fact that it is not obligatory to use do-support in such contexts (Ard 1982). It is also not very frequent. Hence, it was not expected to have a high level of occurrence in the speech of the ESL learners.

The other three types of constructions however do require the use of do-support. Inversion was mainly expected to occur during the first test. Negation was also expected in the answers given during this first test. Both types were also thought to occur during the role plays. We expected that codes would occur in some of the sentences produced by the
participants, for instance in the answers to the yes/no questions in the first test or when the participants denied a statement in the second test.

3.2.1. Adjustments made to the interviews

Before the interviews were conducted, they were piloted with the help of family members and friends. From these trials, it became clear that some adjustments had to be made. The test which caused the most difficulty was the first one. This test was originally not conducted with the game board of *Guess Who?*, but with pictures of famous people. The interviewer held a picture of someone famous and the participants had to obtain information about this person by asking yes/no questions. Because the person in the picture was famous, the participants mainly focussed on his or her occupation and not so much on the appearance of the person. As a consequence, only a limited number of questions contained do-support. When asked if they could focus more on the appearance of the person, questions with do-support did occur, however, it was then very difficult for the participants to guess who the person in the picture was. Therefore, it was opted to play the board game *Guess Who?*, because here, the focus clearly lies on the appearance of the person. When the test was tried again, the results were much more satisfactory and it was decided that the test worked.

The trial of the second test showed no problems. The third test however has been adapted slightly. When trying the prohibition signs test, a small problem arose. Instead of producing imperatives with do-support, which was the aim of the test, full sentences without do-support were produced. An example of this is the following sentence:

(40) You cannot smoke here.

Although this sentence is correct, it was not the desired answer. Therefore, an attempt was made at formulating the exercise in a different way, however, still without influencing the answer of the participant too much. At first, the participants were simply asked to say what the sign depicted. After perceiving the problem, the participants were given the additional information that the sign depicted an order, and were asked how they would warn somebody else if they would see the sign. This slight modification of the question seemed to provide more satisfying responses.
3.3. **Materials**

A vocabulary sheet was provided to help the participants when they wanted to use words that they had not yet acquired. This sheet was mainly helpful in the first test, when the participants had to use vocabulary related to appearances. It contained pictures of for instance a beard and a hat; underneath these pictures, the English word was given. The sheet was primarily designed for the younger participants; the participants in the higher grades scarcely looked at the sheet.

For the first test, the game board of the game *Guess Who?* was used. For the second test, cards were made on which the context that had to be played was explained. The cards were drawn up in Dutch so as to not give too many hints on how the conversation should go. For the last test, ten pictures of prohibition signs were used. Because the tests were conducted orally, no other materials were required.

3.4. **Data analysis**

After the recording of the data, the interviews have all been transcribed. The transcriptions and the corresponding transcription key can be found in the appendix. The transcription key is based on the one given in Pienemann (2011). Then the speech of each participant has been analysed to derive at which stage of acquisition the participant was situated. Per participant, the sentences have been ordered by structure. The structures taken into account in the analysis are represented in the table in Figure 12. As in Pienemann (2011), the data will be put in the format of implicational scaling. Only those structures that are relevant for the use of do-support are taken into account. The implicational scale that was used for the analysis of these data is reproduced in Figure 12:
<table>
<thead>
<tr>
<th>Stage</th>
<th>Structure</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Codes</td>
<td>No, I don’t.</td>
</tr>
<tr>
<td>5</td>
<td>Do-2nd</td>
<td>When did you go to the party?</td>
</tr>
<tr>
<td></td>
<td>Aux-2nd</td>
<td>Have you heard that song?</td>
</tr>
<tr>
<td></td>
<td>Neg-do2nd</td>
<td>Why didn’t you go home?</td>
</tr>
<tr>
<td></td>
<td>3rd person sg</td>
<td>He doesn’t know.</td>
</tr>
<tr>
<td>4</td>
<td>Do-Fronting</td>
<td>Do you understand?</td>
</tr>
<tr>
<td></td>
<td>Neg+Verb</td>
<td>I don’t have a car.</td>
</tr>
<tr>
<td>2</td>
<td>SVO</td>
<td>He is a student.</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 12.** Implicational Scale.

At stage 1, the structures ‘Single word’ and ‘Formulae’ are situated. In this research, no attention is paid to these structures, because the data contained no instances of these. They are also not required for the use of do-support. The structures situated at stage 4, namely ‘Copula inversion’ and ‘y/n-inversion’, are not taken into account either, because they are not structures that a learner needs to acquire in order to use do-support correctly. In the following section, an outline is given of what is understood under the structures that are important for the use of do-support.

3.4.1. Structures

3.4.1.1. SVO

For all types of do-support, the use of the English SVO word order, which is situated at stage 2 of the processability hierarchy, has to be acquired. Sentence (41) illustrates SVO:

(41) He is a butcher.

In this research, the structure is taken into account to be able to situate those that do not use the form ‘don’t’ yet, but instead resort to the structure ‘Neg + SVO’, as in sentence (42):

(42) “No me live here.” (Pienemann 2011: 51)
3.4.1.2. Neg+Verb

Negative do-support requires the structure Neg+Verb, which is situated at stage 3 of the processability hierarchy. The following sentences illustrate what is understood under the structure Neg+Verb with regard to do-support:

(43) I don’t know him.
(44) He doesn’t have a car.

This structure does not only apply to sentences containing do-support. Therefore, also sentences without auxiliary ‘do’, which contain the structure Neg+Verb have been taken into account. Examples of such sentences are sentences (45) and (46):

(45) “He no stay here.” (Pienemann 2011: 51)
(46) I can’t hear you.

3.4.1.3. Do-Fronting

For inversion, more than one structure has to be acquired. Inversion can be divided into two subtypes, namely WH-inversion and yes/no-inversion. These two types of questions require the acquisition of different structures. For yes/no-inversion, the learner has to acquire Do-Fronting, which is situated at stage 3 of the processability hierarchy. Do-Fronting is illustrated by the following sentences:

(47) Do you hear me?
(48) Does he have a car?

Do-Fronting only implies that the learner puts the auxiliary ‘do’ at the front of the sentence; the tense of the auxiliary is not relevant (Pienemann 1998a: 174). Hence, if a learner would produce sentence (49), this learner would also be said to have acquired Do-Fronting:

(49) Do he have a car?

WH-inversion is only acquired later in the acquisition process and requires the structure Do-2nd, which is discussed in section 3.4.1.5.

3.4.1.4. 3rd person sg

For many of the sentences, the use of the third person singular was required. Especially during the game Guess Who?, the learners had to use the third person singular ‘does’. Sentences like (50) were used very frequently during Guess Who?:

(50) Does she wear a hat?
Not only contexts in which the 3rd person singular of ‘do’ was obligatory, but also contexts in which the 3rd person singular of other verbs was obligatory have been taken into account. A frequent form in the data was the 3rd person singular of ‘have’, which is illustrated in the following sentence:

(51) She has a dog.

3.4.1.5. Do-2nd, Neg-do2nd and Aux-2nd

For WH-inversion, the structure Do-2nd has to be acquired, which is situated at stage 5 in the processability hierarchy. An example of Do-2nd is given in the following sentence:

(52) Why did you do that?

Neg-do2nd is used in sentences with negative WH-inversion. This structure is illustrated in sentence (53):

(53) Why don’t you go by car?

The structure Aux-2nd is the same structure as Do-2nd. The difference however is that in this case a different auxiliary is used than the auxiliary ‘do’. An example of such a sentence is the following:

(54) Have you taken the train?

3.4.1.6. Codes

This structure was not studied by Pienemann, which means that there was no guideline as to where this structure is situated in the processability hierarchy. Owing to the fact that codes entail a link to the preceding sentence, codes were considered as a complex structure and were situated at the most advanced stage of the processability hierarchy, namely stage 6. At stage 6, the learner acquires the use of subclauses. Because codes could be seen as having an implicit supraclausal relationship with the preceding sentence which is similar to the relationship between a clause and its subclause, this seemed the correct stage to position this structure.

From the data analysis, it has also appeared that of the three types of do-support taken into account in this research, codes seem to be the most advanced structure for learners to acquire. In the following sequences, examples of codes are given:

(55) - Do you have a car?
+ No, I don’t.

(56) - Did she go to school?
+ No, she didn’t.

As was the case for the structures Neg+Verb and 3rd person sg, instances of codes that contained verbs other than ‘do’ have been taken into account. An example of a code containing a different verb is sequence (57):

(57) - Is she here?
    + No, she isn’t.

In these examples, the sentence preceding the code has been given as well, because the code can only be seen in relationship to the preceding sentence. Codes are not an obligatory structure. The previous sentences could have been answered with a full sentence instead of a code, which is illustrated in the following sequence:

(58) - Did she go to school?
    + No, she didn’t go to school.

Therefore, it was not seen as incorrect when a full sentence was used instead of a code. In the data analysis, this was therefore merely considered as a lack of contexts, rather than as evidence that the learner had not acquired the structure.

In the data, only one type of code was used, namely the codes that answer a preceding question. However, there is another type of code, namely the tag question, which is illustrated in the following example:

(59) You didn’t know, did you?

This type did not occur in the data; therefore, no conclusions can be drawn about the use of auxiliary ‘do’ in this type of construction.

3.4.2. Sentences without auxiliary ‘do’

As mentioned in the previous section, not only sentences containing the auxiliary ‘do’ were taken into account in the data analysis. This is because some of the structures considered in this research do not only apply to sentences with auxiliary ‘do’. Evidently, the structures ‘Do-Fronting’ and ‘Do-2nd’ only apply to do-support, but SVO, Neg+Verb, 3rd person sg and codes can also occur with different verbs. To reinforce the conclusions drawn from the implicational scale, the sentences with other verbs were also taken into account, because then there is both “lexical variation” and “morphological variation” (Pienemann 2011: 95). According to Pienemann (2011: 95), these are “two distributional criteria” which provide “sufficient evidence of the acquisition of the structure” and thus “satisfy the emergence criterion”.

53
4. Results

In this results section, we start with a discussion of the implicational scale. Secondly, we take a look at some of the mistakes made during the interviews. Thirdly, possible L1 transfer is discussed. Lastly, the case of emphatic do is outlined.

4.1. Implicational Scale

As mentioned in section 3.4, the results of the data analysis are represented in the format of implicational scaling. The implicational scale is represented in table 1:
<table>
<thead>
<tr>
<th>Stage</th>
<th>Structure</th>
<th>1G</th>
<th>1B</th>
<th>2G</th>
<th>3G</th>
<th>4B</th>
<th>7G</th>
<th>2B</th>
<th>3B</th>
<th>5B</th>
<th>7B</th>
<th>8B</th>
<th>4G</th>
<th>5G</th>
<th>6G</th>
<th>6B</th>
<th>8G</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Codes</td>
<td>1/1</td>
<td>2/2</td>
<td>1/2</td>
<td>0/2</td>
<td>0/1</td>
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<td>9/12</td>
<td>12/14</td>
</tr>
<tr>
<td></td>
<td>Do-2nd</td>
<td>2/2</td>
<td>0/0</td>
<td>0/0</td>
<td>0/1</td>
<td>0/0</td>
<td>1/1</td>
<td>0/0</td>
<td>1/2</td>
<td>0/0</td>
<td>1/1</td>
<td>1/1</td>
<td>0/3</td>
<td>0/0</td>
<td>2/2</td>
<td>0/0</td>
<td>0/0</td>
</tr>
<tr>
<td></td>
<td>Aux-2nd</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
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<td>0/0</td>
</tr>
<tr>
<td></td>
<td>Neg-do2nd 3rd</td>
<td>10/24</td>
<td>6/20</td>
<td>10/17</td>
<td>17/25</td>
<td>15/23</td>
<td>41/41</td>
<td>24/24</td>
<td>15/20</td>
<td>29/29</td>
<td>35/36</td>
<td>46/49</td>
<td>26/31</td>
<td>20/27</td>
<td>33/33</td>
<td>33/36</td>
<td>37/40</td>
</tr>
<tr>
<td>3</td>
<td>Do-Fronting</td>
<td>1/9</td>
<td>0/12</td>
<td>0/6</td>
<td>1/3</td>
<td>10/11</td>
<td>17/17</td>
<td>7/7</td>
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<td>12/15</td>
<td>12/12</td>
<td>11/11</td>
<td>17/18</td>
</tr>
<tr>
<td></td>
<td>Neg+Verb</td>
<td>10/11</td>
<td>10/12</td>
<td>7/14</td>
<td>15/17</td>
<td>15/16</td>
<td>20/20</td>
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<td>12/12</td>
<td>17/17</td>
<td>11/12</td>
<td>22/22</td>
</tr>
<tr>
<td>2</td>
<td>SVO</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<td>+</td>
<td>+</td>
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<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 1. Acquisition of Do-support by native Belgian Dutch-speaking learners
This is what Pienemann (2011: 92) terms as a “distributional table that contains all known interlanguage structures in the order predicted by PT”. The codes in the top row represent the participants that have been interviewed, with numbers 1 to 2 being those in the first grade, numbers 3 to 4 those in the second grade, numbers 5 to 6 those in the third grade and numbers 7 to 8 those in the fourth grade of secondary school. In the left hand column, the stage at which the acquisition of the structure takes place is represented. The structures are represented in the second column, and columns 3 to 16 represent the number of contexts. The number on the left of the slash represents in how many contexts the learner used the structure and the number on the right of the slash represents in how many contexts the structure was required. All learners have received a plus on the structure SVO, which indicates that the structure has been acquired, since the use of this word order was evident in the speech of all learners. For the other structures on the other hand, only numbers have been given. Thus, this table only shows the “raw data”; to get the overall picture of the order of acquisition, these data have to be transformed “into statements about the status of each interlanguage rule” (Pienemann 2011: 92).

Before the raw data can be transformed, we have to decide what the emergence criterion is, i.e. what counts as acquired. As Pienemann (2011: 94) states, “emergence means first systematic use”. Therefore, in this study, a structure was only considered acquired if the learner used the structure in at least two of the required contexts.

A second matter that has to be decided upon before the raw data can be transformed is how many contexts are needed to be able to make reliable statements. PT normally employs a minimum of four contexts. Therefore, this is also the criterion which will be utilised in this study. If there is only one context, this will be considered as a lack of data. When two or three contexts are present, the data will be considered as unsure. In the case of four or more contexts, the data are thought to be reliable. One also has to note, that in the cases where no contexts are present, the learner merely had no chance to produce the structure. Hence, this does not imply that the learner has not acquired the structure.

A factor which we also have to bear in mind is that learners can produce chunks. It is for instance possible that a learner simply knows the form ‘does’ and uses this form each time Do-Fronting is required. This would lead to correct sentences as for instance sentence (60):

(60) Does he wear a hat?

However, it would also mean that the learner would produce incorrect sentences as for instance sentence (61):

(61) Does you know that man?
If this is the case, the learner has not acquired the structure, but has simply produced a chunk. Then, the structure cannot be labelled as acquired because no evidence of “lexical variation” has been demonstrated (Pienemann 2011: 95). Pienemann (2011: 95) states that both “lexical and morphological variation” are needed for the emergence criterion to be satisfied. This means that variations or oppositions of the form of the verb have to be present. In the case of ‘do’, the use of the different forms ‘do’, ‘does’ and ‘did’ provides variation. Hence, it is important to identify chunks and lack of variation when analysing the data.

Bearing these remarks in mind, the data have been transformed into statements about the status of the learners’ rules. The data are represented by a plus, a minus, a slash or they have been bracketed. The plus stands for acquired and the minus stands for not acquired. These two symbols can only be used when four or more contexts have been found in the data. The slash stands for a lack of obligatory contexts; this symbol is used in case no contexts or only one context have been found. Lastly, those symbols that have been bracketed correspond to unsure data; the brackets are used in case only two or three contexts have been found. This has been done because the status of the structure cannot be labelled with certainty due to the limited amount of contexts. In table 2, the transformed data are represented:
<table>
<thead>
<tr>
<th>Stage</th>
<th>Structure</th>
<th>1G</th>
<th>1B</th>
<th>2G</th>
<th>3G</th>
<th>4B</th>
<th>7G</th>
<th>2B</th>
<th>3B</th>
<th>5B</th>
<th>7B</th>
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<th>5G</th>
<th>6G</th>
<th>6B</th>
<th>8G</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Codes</td>
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<td>(-)</td>
<td>/</td>
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<td>(−)</td>
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<tr>
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<td>Aux-2nd</td>
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<td>-</td>
<td>(−)</td>
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</tr>
<tr>
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<td>SVO</td>
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<td>+</td>
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<td>+</td>
</tr>
</tbody>
</table>

Table 2. Transformation of the raw data in table 1
At first sight, we can see that the pattern of implicational scaling is respected in this table. As was described in the theory, an “accumulative manner” of acquisition is to be read from the table (Pienemann 2011: 51). The implicational relationship between the structures is evident in the table; Do-Fronting can only be acquired once Neg+Verb has been acquired, 3rd person singular can only be acquired once Do-Fronting has been acquired and Codes can only be acquired once 3rd person singular has been acquired. The structures that have been acquired by the learners are preserved and the structures situated at a higher stage than the one the learner is at have not been used productively yet. Some symbols in the table do indicate a possible inconsistency in the pattern. These inconsistencies will be discussed in sections 4.1.1 to 4.1.3.

A trichotomy can be identified in this table between those who have not yet acquired Do-Fronting and 3rd person singular, those that have acquired these two structures, and those that have acquired codes. The first group is made up of participants 1G, 1B and 2G. The second group consists of participants 3G, 4B and 7G. The third group is the largest group and contains participants 2B, 3B, 5B, 7B, 8B, 4G, 5G, 6G, 6B and 8G. The participants who have not received formal instruction, i.e. those in the first and second grade, are clearly at a lower stage of acquisition than those that have had formal instruction. There is one exception, namely participant 2B, who is part of the third group. Groups 2 and 3 seem to be more mixed, which could imply that once a student has received formal instruction, the development of the second language does not follow a clear-cut path. This matter will be addressed more extensively in the discussion.

The results will be discussed per group in the following sections. This trichotomy clearly shows the “implicational relationship” between the structures as described by Pienemann (2011: 93). The table shows, that learners that have not yet acquired Do-Fronting cannot acquire 3rd person singular and that learners that have not yet acquired 3rd person singular are not able to acquire codes yet. In the following sections, the results of the three groups are described individually.

4.1.1. Group 1

This group of participants is at stage 3 of the acquisition process. They are able to apply the rule Neg+Verb correctly, as is illustrated by the following sentences from their data:

(62) I don’t know, I don’t have your mobile phone. (1G)

(63) I don’t know, but it was not me. (2G)
However, negative sentences in which the 3rd person singular was required were not produced correctly. This can be seen in the following example:

(64) No, he don’t have yellow hair. (1G)

This was to be expected, seeing that the rule for 3rd person singular is only acquired at stage 5. We must be cautious though when stating this, because it is not certain that the structure will in fact be acquired at stage 5. At that stage, the learner will possess the processing procedures required to process 3rd person singular, but it is not because this structure can be processed that it will in fact be acquired (Pienemann 1998a, 2011). We can remark that all three participants of this group have shown evidence that they have acquired the 3rd person singular. The reason why the structures are thought not to have been acquired is that the use of the 3rd person singular appeared to be chunks. These three participants only showed use of the 3rd person singular with the verb ‘be’. The chunks that they use were ‘is it’ and ‘it’s’. When only chunks are identified, this means that there is no lexical variation. As mentioned in sections 3.4.2 and 4.1, lexical variation is essential in PT to satisfy the emergence criterion. If no sufficient amount of lexical and morphological variation is demonstrated, the structure cannot be considered acquired. The participants’ use of chunks is illustrated in the following sentences:

(65) Is it a woman? (2G)

(66) Yes, it’s Betty. (1B)

Their use of the verbs ‘do’ and ‘have’ do not show any evidence of 3rd person singular where it was required. Participant 2G did produce two correct uses of the 3rd person singular with other verbs, namely ‘do’ and ‘have’. However, these are thought to be produced under the influence of the other participant, since they are literal repetitions of the preceding utterances of participant 2B. Therefore, this structure is not considered as acquired by participant 2G. There is another example of a participant possibly being influenced by another participant, namely in the interview with participants 1G and 1B. Both participants had not had any English instruction yet. One participant was unsure about his English and asked the other participant how to ask the Dutch question ‘Heeft hij … ?', which means ‘Does he have …?’ in English. The other participant said that the translation of this sentence was ‘Have he … ?’. As a consequence, both participants only seemed to only show a formulaic use of the sentence ‘Have he’ to ask questions throughout the game Guess Who?. However, seeing that this is the word order used in Dutch, it might also simply be a case of L1 transfer. L1 transfer is discussed in more detail in section 4.3.
The rule for Do-Fronting, which is situated at the same stage as Neg+Verb, has not been acquired by these participants. This becomes clear from sentences (67) and (68):

(67) Have he a beard? (1B)
(68) Is he a glasses? (2G)

Sentence (67) could possibly be an instance of L1 transfer; this will be discussed in section 4.3. Sentence (68) on the other hand is a very strange construction if it is being used to mean ‘Does he have glasses?’. It is a construction that is not used in English in this context, neither is it used in Dutch to mean this. Therefore, it is surely not an instance of L1 transfer. Participant 2G was the only participant who produced the construction ‘Is he …’, when ‘Does he have …’ was meant. Hence, we can assume that this participant simply did not know how else to formulate the question and has certainly not acquired Do-Fronting yet.

In the table, two plusses can be found at stages for which the participants are not thought to have developed the required processing procedures. One is found in the column Do-2nd for participant 1G; the other is found in the column Code for participant 1B. For both of these structures, only two contexts have been found and the plusses have been bracketed. Hence, the results are unsure and it can be presumed that these participants have not acquired these structures. These two deviations from the pattern can therefore not be considered as true inconsistencies in the pattern of implicational scaling.

The results of these participants illustrate the developmental trailers described above, which state that not all structures of a certain developmental stage have to be acquired merely because the learner has acquired the processing resources to process them. Here, the learners have acquired Neg+Verb at stage 3, but have not acquired Do-Fronting which is located at the same level.

What is striking in the data from the interviews with participants that had not had English instruction prior to the interview is that they resort to Dutch much more than those that had already been formally instructed. In interviews 1 and 2, much of the conversation between the participants occurred in Dutch. There are also more examples of the participants helping each other out when they could not think of a way to formulate the sentence and of participants correcting each other. This supports the assumption that this group of participants is at a lower stage of acquisition than the other participants that have been interviewed. The exception amongst these uninstructed participants is participant 2B, who demonstrates a more advanced interlanguage.
4.1.2. Group 2

These participants are at stage 5 of the acquisition process. Unlike the first group, they are able to use Do-Fronting correctly. Evidence of this is provided by sentences (69) and (70):

(69) Does she have a big nose? (4B)
(70) Does he have blonde hair? (7G)

However, the results for Do-Fronting of participant 3G do not prove that this participant has acquired Do-Fronting. The participant has used Do-Fronting in only one context out of three. According to the emergence criterion employed in this study, this means that the participant has not acquired this structure. Hence, this would be an inconsistent pattern in the Implicational Scale. However, since only three contexts have been found for this structure, no reliable statements can be done about whether or not participant 3G has acquired the structure.

Group 2 has also shown systematic use of the 3rd person singular. The following sentences are proof of this:

(71) No, he doesn’t wear a hat. (7G)
(72) Does she wear a cap? (4B)

Participant 7G has used 3rd person singular in all contexts where it was required. Participants 3G and 4B on the other hand do seem to still have some difficulty with this structure. We could therefore argue that they are still in the process of acquiring this structure, whereas participant 7G has already fully acquired this structure.

The data did not provide any evidence that these learners have acquired codes. This is the main reason why these three participants have been viewed separately from those participants that have proved that they have acquired codes. An example of the incorrect use of codes is the following:

(73) - Has he a moustache?  
    + Yes, he have. (4B)

Here, the auxiliary ‘have’ was used, where actually the auxiliary ‘do’ was required. Another example is sentence (74):

(74) - Have he a moustache?  
    + No, he haven’t. (4G)

Here, the same mistake was made as in sentence (73). We must remark though that the questions preceding the codes are incorrect since they do not demonstrate the Do-Fronting required in these sentences. The sequences above should have gone as illustrated in (75) and (76):
Does he have a moustache?
+ Yes, he does.

Does he have a moustache?
+ No, he doesn’t.

Since the auxiliary ‘do’ was not present in the sentences preceding the codes produced by participants 4G and 4B, this makes it even more difficult to build correct codes using the auxiliary ‘do’. Participant 3G presumably has not acquired codes, since a minus is found in the column for codes. However, one must bear in mind that this minus has been bracketed, signifying that the result for this structure is unsure. Participants 4B and 7G both used full sentences to answer the questions rather than codes. Sentence (77) shows an example of this:

No, she doesn’t wear glasses. (7G)

Therefore, the available contexts for codes are scarce. Participant 4B used this structure at only one occasion; participant 7G did not use this structure at all. Whether or not they have acquired codes can thus not be determined.

4.1.3. Group 3

This group is set apart from group 2 because these participants have all shown consistent use of codes. The following sentences provide evidence for this:

No, he doesn’t. (8G)
Yes, he does. (7B)

Within the group, a differentiation could be made between those who used codes in all contexts and those who used codes in fewer contexts. Participant 4G for instance used codes in two out of ten contexts. This is enough evidence to be able to say that the participant has acquired the structure. However, when comparing this to participant 5B, who used codes in each required context, one could assume that this participant has a better command of the structure and is probably further in the acquisition process.

As was predicted by PT, these participants have all shown systematic use of the structures which are situated at earlier stages of the acquisition process. They use the structures Neg+Verb, Do-Fronting and 3rd person singular correctly. There are two symbols which could be possible inconsistencies in the pattern, namely the minus in the column of Do-2nd for participant 3B and 4G. However, both these minuses are bracketed because of the limited amount of contexts available for this structure. Hence, these data are unsure and no
reliable statements can be made about whether or not these structures have been acquired. They can therefore not disprove the processability hierarchy formulated by PT.

4.2. **Mistakes**

The fact that a learner has acquired a certain structure does not imply that mistakes cannot be made anymore. The emergence criterion employed in this study states that a learner has to use the structure more than once in at least four contexts before the structure can be labelled as acquired. Thus, errors can still be made in the application of the structure. However, it is an identifiable trend that the beginning learners make more mistakes than the advanced learners. Because it is interesting to take a closer look at the mistakes made by the participants, the most frequent and striking mistakes are discussed in the following section. We will look at these mistakes per type of do-support.

4.2.1. **Negation**

As we concluded from table 2, all participants acquired the structure Neg+Verb. We can therefore say with certainty that all participants acquired negation. Mistakes that were made in the use of this type were therefore mistakes that were made in all sentence types. An example of this is using ‘don’t’ instead of ‘doesn’t’ in the third person singular present indicative. This is illustrated by sentences (80) and (81):

(80) No, he don’t have yellow hair. (1G)
(81) It don’t matter. (4B)

This mistake was made because the participants had not yet reached the stage at which 3rd person singular is acquired.

A second example of such mistakes is using the present form of the verb, namely ‘don’t’, when the past form of the verb, namely ‘didn’t’, was required. This is the case in sentences (82) and (83):

(82) Okay, but I don’t steal your mobile phone. (1G)
(83) No, I don’t smoke. (1B)

This mistake was not made frequently.

Despite having acquired the structure for negation, there are some instances of participants who formed incorrect negative sentences without do-support. This is illustrated by the following sentences:
(84) No, I believe you not. (3B)
(85) But you believen’t me. (3G)

However, the amount of such sentences in the data is only minute. Moreover, these two sentences both occurred in one of the role-playing games, i.e. in the same interview. This leads to the presumption that this is a case of influence of one participant by the other.

The final test of the interviews was designed to elicit negative imperative. The participants from the first, second and third grade all used the negative imperative to a greater or lesser extent. Remarkably, the participants from the fourth grade did not use this form at all. Some of the constructions they used instead are represented in sentences (86) and (87):

(86) It is forbidden to cycle here. (8B)
(87) It’s not allowed to swim here. (8G)

Some participants in the first to third grade also used these structures, however, they seemed to mainly resort to the negative imperative form ‘don’t’. This leads to the assumption that the beginning learners use the negative imperative form ‘don’t’ because of its simplicity, whereas more advanced learners resort to more difficult structures without do-support to express restriction. The advanced learners also used sentences with ‘can’t’ or ‘cannot’ instead of the imperative like sentence (88) and (89):

(88) You can’t eat here. (6B)
(89) You can’t give food to the ducks. (6G)

This type of sentence was only produced by participants from the third and fourth grade. Thus we can speculate that the use of such sentences as a replacement of the negative imperative ‘don’t’ only occurs in the speech of more advanced learners. In such sentences, the use of ‘do’ would be incorrect. The use of ‘do’ in such sentences has been observed in the data of beginning learners. Sentences as (90) were produced in the first interview, which took place with two participants who had not had any English instruction before:

(90) You don’t feed the animals. (1B)

None of the other interviews contained examples of such sentences.

4.2.2. Inversion

In inverted sentences, some learners struggled with the SV agreement. This problem mainly occurred during the game Guess Who? in sentences in which the participants inquired after the appearance of a person. The most frequently occurring examples of this agreement problem were sentences like the following:
(91) Does he have a moustache? (5G)
(92) Does she have a hat? (4G)

In these sentences, the learners seem to hypercorrect the SV concord by using the third person singular form of both the auxiliary and the lexical verb, whereas only the auxiliary should be in the third person singular. It is therefore likely that these learners are in the transition stage where they are in the process of acquiring third person singular, but are not able to use this form correctly yet.

A second mistake which involves hypercorrection is the use of two past tense forms, where only one is required. This mistake is illustrated in the following sentences:

(93) Did you stole it? (5G)
(94) Did you killed your neighbour? (6B)

In these sentences, the learners use the past form of both the auxiliary and the lexical verb, whereas only the past form of the auxiliary should be used. As was the case with the SV agreement problem, these learners seem to be in a transition stage, where they are acquiring the past tense, but are not able to apply it correctly yet. However, this mistake was far less frequent than the mistake in SV agreement for third person singular. This might be because, as the processability hierarchy states, the acquisition of the past tense occurs earlier in the acquisition process. These mistakes might simply be separate instances, in which the learner makes a mistake, rather than a consistent error in the use of the past tense.

Another mistake that was made was the use of the auxiliary ‘do’ where it was not required, as in the following sentence:

(95) Does she wearing glasses? (2B)

Here, the auxiliary ‘do’ was used instead of the auxiliary ‘is’. This seems to be an overgeneralization and hypercorrection of the rule for Do-Fronting. As the mistake with the past tense, this type of mistake was far less frequent than the mistake with SV agreement for third person singular. It can therefore be assumed that this is because Do-Fronting occurs earlier in the acquisition process than third person singular.

4.2.3. Codes

During the data analysis, it was striking that codes with ‘do’ seemed to cause more difficulty than codes with for instance ‘be’. The questions preceding codes with ‘be’ only contain one verb, namely the copula. This becomes clear from the following sequence:

(96) - Uh, is it Mario? (5B)
+ No, it isn’t. (5G)

However, questions preceding codes with ‘do’ contain more than one verb, because ‘do’ is simply the auxiliary and a lexical verb is required. Hence, the learners seem to get confused by which verb they should be using in the code. Especially codes following sentences with the auxiliary ‘do’ and the lexical verb ‘have’, similar to sentence (97), contained mistakes:

(97) Does he have a beard? (7G)

The answer to this sentence was the following:

(98) No, he hasn’t. (7B)

Sequences like these were very frequent in the data. The code that should have followed after sentence (97) is ‘No, he doesn’t’. The learner seems to have gotten confused by the lexical verb ‘have’ that occurs in the sentence. Rather than using the same auxiliary in the question and in the tag answer, the learner used the lexical verb to build the answer. However, after sentences similar to sentence (97) in which not ‘have’, but ‘wear’ is the lexical verb, all codes contained the correct use of the auxiliary ‘do’. This can for instance be seen in the following sequence:

(99) - Does he wear glasses? (5G)
+ No, he doesn’t. (5B)

Here, the same auxiliary is used in the answer as in the question. There was only one example in which an incorrect sentence followed. The sentence is not a code; however, the same reasoning required for the production of codes was required in this sentence. The participant also had to use the auxiliary used in the preceding question to build a grammatically correct answer. In sequence (100), the question was answered with a sentence which contains the auxiliary ‘have’, although this verb was not used at all in the preceding sentence:

(100) - Does he wear a hat? (3B)
+ No, he hasn’t a hat. (3G)

The participant who built this construction probably did not acquire codes yet, which could account for the incorrect formation of this structure.

In this section, the different mistakes made by the learners have been discussed. It is possible that some of these mistakes are caused by transfer of structures from the L1. In the following section, possible L1 transfer is discussed.
4.3. **L1 transfer**

A structure that may possible have been transferred from the L1 is ‘Have he’, which occurs for instance in the following sentences:

(101) Have he a moustache? (4B)
(102) Have she something in her hair? (1G)

This structure corresponds to the Dutch pattern of inversion, namely VSO. This is illustrated by the Dutch translation of sentences (103) and (104):

(103) Heeft hij een snor?
     Has he a moustache?
(104) Heeft ze iets in haar haar?
     Has she something in her hair?

It is possible that the learners literally translated ‘Heeft hij’ or ‘Heeft ze’ to ‘Have he’ or ‘Have she’. However, the VSO pattern also occurs in English, for instance in the following sentence:

(105) Is his hair blonde?

This is an example of what Pienemann (2011) labels as Copula Inversion. Here, the word order is the same as in the Dutch translation:

(106) Is zijn haar blond?

A possibility is, that the pattern used both to construct this type of sentence and the ‘Have he’ sentences has been transferred from Dutch. All learners, even those that are presumed not to have reached stage 4, the stage at which Copula Inversion is acquired, are able to produce sentences in which the copula ‘be’ is inverted. However, the Developmentally Moderated Transfer Hypothesis states that only structures that can already be processed in the L2 will be transferred (Pienemann 2011). One of the predictions of the DMT Hypothesis is that when “the L1 and the L2 contain the same structure, which appears late […] this structure will not be transferred at the initial state” (Pienemann 2011: 77). Since the learners that use “Have he …?” have not reached the stage of Copula Inversion yet, it is unlikely that this is a case of L1 transfer. This assumption is also supported by research outside the PT framework. Rankin’s (2011: 148) study, which was described in section 2.3 found that sentences like (25) and (26), which are very similar to the construction “Have he …?” found here, were not L1 transfer but a case of overgeneralization of the “surface subject-auxiliary inversion”.

68
4.4. **Emphatic ‘do’**

The fourth type of do-support, namely emphatic do, has not been dealt with in this study because it did not occur in the data. However, there was one exception in the data of a participant who was in the fourth grade of secondary school. This participant used the following sentence:

(107) I did smoke, okay?

At first sight, this appears to be an example of emphatic do. However, when analysing this sentence in the context of the conversation, the assumption rose that it was not intended to be a case of emphatic do. When the other participant then asked, whether or not he smoked, the answer was that he did not smoke. It therefore appears that the participant meant to say that he did not smoke. The participant might have omitted the negation unintentionally, thus producing what seemed to be an emphatic use of “do”.

Now that all the results have been described, we will proceed to the discussion of these results.
5. Discussion

This discussion starts with the question if the predictions made by PT are confirmed by the results of the study. Then, we attempt to answer the research question, which asked whether or not the participants used do-support. The third part of this discusses the implications of the results of this study for language instruction. The last part addresses the Common European Framework of Reference for Languages.

5.1. Processability

The study was conducted in the framework of Processability Theory and its method of data-analysis was employed. The processability hierarchy designed by Pienemann (1998a) was employed and the results of the data-analysis show that this is indeed the order in which these English structures are acquired by L2 learners. The findings also confirm the implicational relationship between the structures that was conceptualized by Pienemann (1998a/b, 2011). The credibility of the framework has thus once again been affirmed. One of the hypothesis postulated by Pienemann (1998a/b, 2011) in the PT framework has been confirmed by the results of this study, namely the hypothesis of the Developmental Trailers. The results of the participants in group 1 have shown that these participants have already acquired Neg+Verb, but have not yet acquired Do-Fronting. Hence, not all structures of a certain level are acquired at the same time.

5.2. Do-support

The aim of this research was to find out when learners have fully acquired do-support. Because of the lack of contexts for emphatic do, we cannot draw any conclusions about the complete rule of do-support. However, when we solely look at the types of do-support in which the auxiliary ‘do’ is obligatory, i.e. all types of do-support with the exception of emphatic ‘do’, we can make statements about whether or not a learner has acquired do-support.

The learners in group 1 have only acquired the rule for negation; they are not yet able to produce inversion and codes. This is because the participants in this group had only reached stage 3 of the acquisition process. At this stage, Neg+Verb and Do-Fronting are acquired, which means that the only type of do-support these learners can fully command is
negation, since inversion also contains Do-2nd. Because the necessary processing procedures for Do-2nd and Codes are only acquired at later stages, it is not possible for these learners to master inversion and codes.

The participants in group 2 have acquired negation and the rule for Do-Fronting. The data for Do-2nd were not sufficient to make statements about their acquisition of inversion. The same applies for codes. The conclusion is therefore that negation is in all likeliness the only type of do-support these participants have acquired. These learners have reached stage 5 of the acquisition process, which means that they have developed the processing procedures for Neg+Verb, Do-Fronting and Do-2nd. This means that they have developed the processing procedures for both negation and inversion. Pienemann (1998a, 2011) notes that only that which can be processed can be acquired; however, it is not because a structure can be processed, that it will be acquired. Hence, it is not because these learners have reached stage 5 and possess the necessary processing procedures for inversion, that they have acquired inversion.

The participants in group three have acquired all structures which are required for the obligatory types of do-support. These participants have reached stage 6 of the processability hierarchy and have developed all processing procedures required to use the three obligatory types of do-support. The conclusion is therefore that the learners in group 3 have indeed acquired do-support.

The first research question asked whether or not learners in the four grades of secondary school taken into account in the present study used do-support. We can say that the majority of those that have not had any English instruction are not yet able to apply do-support correctly. From the moment that learners receive English instruction, they seem to acquire the structures at a different pace. Therefore, most participants interviewed for this study are able to apply all three obligatory types do-support correctly. However, no general conclusions can be drawn about the use of do-support per grade of secondary school due to the fact that each learner develops his or her interlanguage individually.

5.3. **Implications for language instruction**

When looking at the results from the participants who had not received any formal instruction of English at the time of the data recording, we can remark that they have already acquired a basic knowledge of English. The learners from group 1 are currently at stage 3 of the acquisition process, which means that at the moment they begin their formal instruction, they
will already be at stage 3 or possibly at an even higher stage of acquisition. Participant 2B was part of group 3 and is currently at stage 6, the highest stage of acquisition. Thus, he will have acquired all structures even before his formal instruction of English starts. This implies that learners do not have to start at stage 1 when beginning formal English instruction. We can therefore state that young learners already have a relatively high entry level before commencing English instruction.

The fact that uninstructed learners are already able to speak English and systematically use SVO and negation could be a consequence of their exposure to English spoken media. One type of media which is particularly important in this context is subtitled media. In Flanders, English spoken television programmes are provided with Dutch subtitles. D’Ydewalle & Van de Poel (1999) and Van Lommel, Laenen and d’Ydewalle (2006) have conducted research on the influence of subtitles on the acquisition of a second language with Dutch-speaking children. From these it has appeared that subtitles can indeed aid second language acquisition. However, not only subtitled media have an influence on the acquisition of English by native speakers of Belgian Dutch. The mere exposure to English spoken media can accelerate second language acquisition. One of the four participants that had not received formal English instruction, namely participant 2B, told the interviewer that he frequently watched English spoken movies and series without subtitles. This participant showed a far more advanced interlanguage than his peers; unlike the other uninstructed participants who were at stage 3, this participant had already reached stage 6.

The finding that young learners already have a relatively high entry level when first receiving formal instruction of the L2 is important for the English instruction given at schools in Flanders. The instructors should not presume learners that do not speak any English at all, but presume learners that have already acquired a basic knowledge of English. After analysing the results of this study, we can presume that the focus should not lie on acquiring the English word order SVO or negation, but should start with the structure Do-Fronting. The instructors should then gradually teach the learners the English structures in the order in which they are represented in the processability hierarchy. This would be a productive way of teaching, since it has been proved in the past that despite formal instruction, structures cannot be skipped during the acquisition process. Pienemann’s (1984 In Pienemann 2011) teachability hypothesis dictates this, since the structure can only be acquired once the adequate processing resources have been acquired to process the structure. Formal instruction should therefore focus on “structures from ‘the next stage’” (Pienemann 1998a: 13).
When looking at the material used for English instruction, the assumption rises that current instruction does not follow the order of the processability hierarchy. One example of a workbook used for English instruction is Contact 1, a workbook for learners in the second grade of secondary school, i.e. for learners in their first year of English instruction. The workbook consists of 9 units. Unit 1 and 2 focus on single words, such as ‘Bye’ and ‘Pardon’, and on formulae, such as ‘See you later’. Here, the processability hierarchy is followed since single words and formulae are situated at stage 1. However, from this study it has appeared that learners have already acquired these structures before they receive English instruction. Hence, it seems that these single words and formulae should not be focused on. From unit 3 onwards, the processability hierarchy is no longer respected. Two of the exercises in this unit focus on the constructions ‘Is there …?’ and ‘Are there …?’. These are instances of Copula inversion, which is only acquired at stage 4. Hence, two stages have been skipped. In unit 4, the exercises deal with codes. In this study, codes were presumed to only be acquired at stage 6 of the acquisition process because of its implicit subclausal relationship with the preceding sentence, signifying that again one stage has been skipped. In the units following unit 4, a number of structures such as Do-2nd and Do-Fronting is addressed in an order which does not correspond to the processability hierarchy. Do-2nd for instance is addressed before Do-Fronting, while the processability hierarchy shows that Do-2nd is acquired two stages later than Do-Fronting. The fact that the structures are taught in an order different from that of the processability hierarchy does not mean that this way of instructing English is faulty; however, the teachability hypothesis has stated that instruction is only helpful if it focuses on the structures that are acquired at the next stage. What is remarkable is that all structures in the processability hierarchy are addressed in this workbook which is designed for learners in their first year of English instruction. The workbook presumes that the learners have acquired all these structures in over the course of the first year of instruction. However, one must bear in mind that not all learners acquire the structures at the same speed.

We should differentiate two types of language development, namely institutional language development and natural language development. The institutional language development presumes that all learners in a certain year of instruction are at the same level of proficiency. This is however not a realistic situation, as is proved by the results of this study. For instance, one learner that has not had any English instruction shows a higher stage of acquisition than a student that has received one year of English instruction. Amongst those at stage 6 of the acquisition process, there are participants from the first, second, third and fourth grade of secondary school. This shows that this idea of institutional language development is
not realistic. The focus should therefore lie on natural language development. PT does not take into account the amount of English instruction a learner has had, but looks at the individual language development of a learner. Language development cannot be generalized; one should look at the individual language development of a learner. Nevertheless, language development is often generalized in institutional settings. This matter is related to the Common European Framework of Reference for Languages, which is treated in the following section.

5.4. **Common European Framework of Reference for Languages**

The issue described in the previous section shows that not all Belgian Dutch-speaking learners of English acquire the English structures at the same pace. This is a matter that is very important when deciding what has to be learned during a year of institutional English instruction. It is also a relevant matter when deciding upon the standards to which a learner has to fulfil after each year of English instruction.

We can relate this issue to the Common European Framework of Reference for Languages (CEFR). This is a framework that is made up of six levels, namely A1, A2, C1, B2, C1 and C2, with A1 being the least advanced level and C2 being the most advanced level. In institutional settings in Europe, such as universities, this framework is employed to decide “functional learning targets for language learning, teaching and assessment” (Hulstijn 2011b: 204). The aim of the CEFR is to create “common standards” in Europe (Hulstijn 2011b: 204). Here, we find the same problem as was discussed in section 5.3. The supposition is that “a learner at a given level of the Overall Oral Production activity scale […] possesses linguistic competences at the same level” (Hulstijn 2011b: 204). However, it has been proved by both Alderson (2007) and Hulstijn (2011a In Hulstijn 2011b), that this supposition is incorrect. The CEFR does admit though that there are “uneven profiles” (Hulstijn 2011b: 204). According to Alderson (2007: 660), there is a “lack of empirical research to underpin the CEFR”. Thus, the reliability of the framework has not been proved and one should not rely on the idea that all the learners of a certain level have the same level of proficiency. Alderson (2007) also addresses the problem of teaching, which has been raised in section 5.3. According to Alderson (2007: 661), the flaws of the framework do not prevent “examination providers, textbook publishers, and curriculum developers” from claiming that there is a “relationship between their products and the CEFR”. Because of these claims, language instructors feel
reassured about what they are teaching the learners. However, Alderson (2007: 661) notes “that there is little empirical evidence to back up these claims”.

This issue is important in that no thought has been given as to whether or not certain standards one should attain are in fact attainable (Alderson 2007). An example of this is “that university degrees in languages must be at level C2” (Alderson 2007: 662). Here, the difference between what was called institutional language development and natural language development, which was discussed in section 5.1, can be brought to mind again. It is presumed that all learners possessing a university degree in languages have attained level C2. However, not all learners acquire a language at the same speed, which makes it possible that not every university graduate with a degree in languages actually possesses this level.

Another aspect of CEFR relevant from the point of view of the study conducted in this paper is that the framework is “deliberately language-independent”, as Alderson (2007: 660) puts it. Hence, it is designed for all languages and not for a particular language. Thus, the problem is raised what to do with language-specific rules as for instance do-support, the English specific rule which has been the subject of this study. We will not elaborate on this issue in this paper; however, it is a matter which could be looked into further.
6. Conclusion

The aim of this study was to determine whether or not Belgian Dutch-speaking learners of English use do-support and if so, when the use of this rule is acquired fully and correctly. An attempt was made at answering the following research question: *Is do-support used by Belgian Dutch-speaking learners of English in the first, second, third and fourth grade of secondary school?* We also attempted to answer a second research question: *What does the acquisition process of this English-specific rule look like?* An answer to these questions is formulated in the first section of this conclusion. Secondly, we take a look at what was said about formal second language instruction and the CEFR. Finally, directions for further research are given.

6.1. The acquisition of do-support

The second research question asks how the rule for do-support is acquired. This has been answered in the literature study. Do-support consists of four types, namely negation, inversion, codes and emphasis. Only the first three of these have been considered here. For the learner to be able to use these three types correctly, four structures have to be acquired by the learner, namely Neg+Verb, Do-Fronting, Do-2nd and Codes. The acquisition of these structures takes place at three different stages in the processability hierarchy. The first type of do-support that an L2 learner of English acquires is negation. The structure needed for this type is Neg+Verb, which is acquired at stage 3. Then, learners start to use inversion correctly. For inversion, two structures have to be acquired. This is because inversion can be split up into two types, namely yes/no-inversion and WH-inversion. Learners use yes/no-inversion productively first. The structure required for this type of inversion is Do-Fronting, which is acquired at stage 3. For the second type of inversion, the structure Do-2nd is needed, which is acquired at stage 5. Hence, when a learner has reached stage 5, negation and inversion have been acquired. Codes are the type of do-support that comes last in the acquisition process. This type is only acquired at stage 6. Codes owe their position to their complex structure. To build a code correctly, the copula of the preceding sentence has to be used. Hence, there seems to be an implicit supraclausal relationship between the code and the preceding question.

Once the acquisition process of do-support was determined, a study could be drawn up that addressed the issue raised in the first research question, namely whether or not do-support is used by Belgian Dutch-speaking learners of English in the first, second, third and fourth
grade of secondary school. 16 participants, all native speakers of Belgian Dutch attending the first, second, third or fourth grade of secondary school, conducted an interview per two which consisted of three parts. In the first part, they were asked to play the game Guess Who?. This game aimed at eliciting Do-Fronting and Codes. Part two was a role-playing game, the aim of which was to elicit negative sentence. Instances of Do-Fronting, Do-2nd and codes also occurred in this part of the interviews. In the last part, each participant was shown five prohibitory signs and was asked to say what these signs stated. Here, the aim was to elicit negative do-support, in particular imperative.

The raw data tests were then ordered in an implicational scale. To be able to see which structures had been acquired by the learners, the raw data were transformed in to either plus, meaning acquired, minus, meaning not acquired or slash, meaning that there were not enough contexts. The minimum number of contexts necessary to label the structure as acquired or not acquired was four. If no contexts or only one context was available, a slash was used. In the case of two or three contexts, the symbol was bracketed. In order to label the structures adequately, the emergence criterion had to be fixed. We determined that a structure was only acquired if it had been used at least two times. This number was chosen because we believed it to reflect systematic use of a structure.

Once the implicational scale was drawn up, the research question could be answered. The scale demonstrates the implicational pattern and the order of acquisition predicted by PT. A trichotomy was observed; therefore, the participants were divided into three groups according to the stage of acquisition they were situated at. This division showed that there was no one-to-one relationship between the stage of acquisition a learner was at and the grade of secondary school he or she was in. However, a trend could be observed. Of the four participants that had not had formal English instruction, three were at stage 3 of acquisition. The assumption is therefore that learners develop their interlanguage up to stage 3 before they are instructed. Those who had had instruction all seemed to develop their language at a different pace. It seems that once the language is formally instructed, no relationship is present between the stage of acquisition and the grade of secondary school the learner is in.

In terms of do-support, we found that group 1 had not fully acquired do-support. The only type acquired by this group was negation. The second group was situated at a later stage and had already acquired negation and yes/no-inversion. The data on Do-2nd were not sufficient so it could not be determined whether or not these learners had fully acquired inversion. Group 3 had acquired all structures and used the three types of do-support productively. Hence, the learners in this group have fully acquired do-support. This is the
answer to the first research question, which inquired after the acquisition of do-support by these Belgian Dutch-speaking learners of English.

We also looked at possible instances of L1 transfer. The most striking example of possible L1 transfer is the structure ‘Have he …?’, meaning ‘Does he have …?’ This demonstrates the same pattern as the sentence ‘Is he …?’ These two structures could be instances of the learner using the standard English inversion pattern VSO. On the other hand, they employ the same word order as the Dutch translation ‘Heeft hij …?’ and ‘Is hij …?’, which could indicate a transfer of Dutch word order. The sentence ‘Is he …?’ is an instance of copula inversion, which is only acquired at stage 4. The learners that produced this word order had not yet reached the stage at which Copula Inversion was acquired. Pienemann’s (2011) Developmentally Moderated Transfer Hypothesis states that only those structures that can be processed in the L2 will be transferred (Pienemann 2011). It is therefore unlikely that these learners have transferred this structure from the L1. This assumption is also supported by Rankin’s (2011) study.

6.2. Language instruction and the CEFR

The second part of the discussion dealt with the usefulness of formal instruction of the L2. In the discussion, we came to the conclusion that language instruction can have an influence on SLA if the order of the processability hierarchy is followed. Then, instruction would be useful because it would focus on “structures from ‘the next stage’” since instruction does not enable the skipping of stages (Pienemann 1998a: 13). However, the language instruction given in Belgian secondary schools does not employ the processability hierarchy, as we could see in a workbook used in the first year of English instruction. The problem is that many workbooks for language instruction and many instructors seem to assume that all students in a certain grade are at the same stage of acquisition. The results however have shown that this is not the case. We can relate this issue to the Common European Framework of Reference for Languages. This framework is based on an assumption similar to that of schools, namely that all learners that are at a certain level in the framework are at the same stage of language acquisition and have the same level of proficiency. However, there is not ample evidence to prove this assumption. Both these issues show that natural language instruction is often considered the same as institutional language instruction. As the results of this study show, this is not the case. All learners develop language individually from each other and the focus should therefore lie on individual language development.
6.3. **Further research**

Two issues were important in this study, namely the acquisition of do-support in the framework of PT and if there was a connection between the acquisition stage of a learner and the grade he or she was in. For both these aspects, a number of questions remain unanswered. Therefore, this section gives some directions for further research.

In the research, four structures have been focused on, namely Neg+Verb, Do-Fronting, Do-2nd and Codes. The data for Do-2nd were very limited and none of the participants produced a sufficient amount of contexts to be able to give conclusive statements about the acquisition of Do-2nd. Hence, it would be advisable to look into this matter further and conduct another research in which more contexts with Do-2nd are elicited. The data contained ample examples of codes to draw conclusions on the acquisition of this structure. Nevertheless, further research should be conducted on the acquisition of codes. This study focused on codes which answer a preceding question, but there is another type of codes, namely tag questions, which have not been dealt with in this research. The basic mechanism of the codes used to answer questions and tag questions is the same, but it would be interesting to know if the acquisition of these two types of codes occurs in the same way. When designing tests that elicit Do-2nd and tag questions, one should make sure not to influence the answers of the participants, since this could lead to misleading results.

Attention was given to the formal instruction of languages and its effect on SLA. The Teachability Hypothesis postulated by Pienemann stated that a focus on the next stages of acquisition is important for formal instruction to have an impact on SLA. However, how this should be done exactly is not clear yet. More research should be done on this to improve the quality of language instruction. This can be related to the CEFR, which is used as a guideline of proficiency in many institutional settings. However, the validity of the CEFR has not been proved. On the contrary, both Alderson (2007) and Hulstijn (2011b) have disproved the fundamental idea of the CEFR, namely that each learner at a certain level in the CEFR has the same level of proficiency. Further research should therefore be done on whether or not the CEFR should be adapted to take the individual language development of each learner into account and if so, how this adaption can be done. Another aspect of the CEFR that should be looked into is the lack of language-specificity of the framework. The CEFR has been designed for all languages and does not take into account the specific features of each language. Since not all languages contain the same structures or have the same rules (see for instance the English specific rule of do-support), a language-specific version of the CEFR would be useful.
In the discussion, we remarked that the entry level of learners of English at the beginning of formal instruction is reasonably high. Three of the participants of this study who had not been formally instructed had already reached stage 3 in the acquisition process and one participant had already reached stage 6. We stated that one of the reasons of this high entry level might be exposure to subtitled and non-subtitled English spoken media. More research on the cause of this relatively high entry level could be done.
Appendices

TESTS
TEST 2: ROLE PLAYING GAME

1. Interviewer – wielrenner

Jij bent de interviewer en hebt geruchten gehoord dat de wielrenner doping heeft genomen. Je vraagt de wielrenner of het waar is dat hij doping heeft genomen.

1. Interviewer – wielrenner

De interviewer heeft geruchten gehoord dat je doping hebt genomen, maar jij ontkent dat je doping hebt genomen.

2. Bestolene – dief


2. Bestolene – dief

Jij bent de dief. Je zit samen met de andere persoon op restaurant. Die is even naar het toilet geweest en wanneer hij/zij terugkomt is zijn/haar gsm weg. Je wordt beschuldigd van diefstal, maar je ontkent dat je de gsm gestolen hebt.

3. Agent – verdachte

Jij bent de agent. De andere persoon wordt verdacht van moord op zijn/haar buurvrouw (= neighbour). Je beschuldigt de andere persoon en vraagt wat er gebeurd is en waarom hij/zij de buurvrouw vermoord heeft.

3. Agent – verdachte

Jij bent de verdachte. Je wordt verdacht van moord op je buurvrouw (= neighbour). De agent beschuldigt je, jij moet ontkennen dat je de moord gepleegd hebt.

4. Twee vrienden

Een vriend van jullie heeft opgeschept dat hij een bekende zanger heeft ontmoet. Jij vertelt dit aan de andere persoon, en zegt dat je hem gelooft.
4. Twee vrienden

De andere persoon vertelt dat een vriend van jullie een bekende zanger heeft ontmoet. Jij zegt tegen de andere persoon dat je dit niet gelooft omdat jullie vriend vaak verhalen vertelt die niet waar zijn.

5. Moeder – zoon


5. Moeder – zoon


6. Twee vrienden

Je hebt van iemand gehoord dat je vriend(in) ontslagen is. Je vraagt hem/haar of dit waar is en of hij/zij al ander werk heeft.

6. Twee vrienden

De andere persoon heeft gehoord dat je ontslagen bent en vraagt je of dit waar is. Jij ontkent dat je ontslagen bent. Na een tijdje geef je het toch toe en zeg je dat je nog geen ander werk hebt.

7. Twee vrienden

Je hebt gehoord dat de andere persoon een roddel over jou verspreid heeft en vraagt waarom hij/zij dit gedaan heeft.

7. Twee vrienden

De andere persoon beschuldigt je ervan dat je een roddel over hem/haar verspreid hebt. Jij ontkent dit.
TEST 3: PROHIBITORY SIGNS

http://en.m.wikipedia.org/wiki/File:South_Africa_-_Do_Not_Enter.svg


http://www.flickriver.com/photos/lwr/4082664590/

http://publicutilities.columbus.gov/content.aspx?id=52229
Transcriptions

Transcription key (Pienemann 2011: 91)

(/) within a text: interruption
(/) at the end of a sentence: incomplete sentence
(xxx) incomprehensible utterance
(...) utterance to be continued
(??) uncertain, unclear
(#) short pause
(##) pause
(###) long pause
{text} comments in language other than target language
(text) explaining remarks
[text] two or more speakers talk simultaneously
(um) fillers
(*w*) far from target language standard

Participants

B male participant
G female participant
I interviewer

INTERVIEW 1

TEST 1
GAME 1
G: Ah oké. It’s a boy? Ja it’s a boy
I: Er yes.
G: {Alle meisjes moeten weg.}
B: Er
I: {Ah ja wacht, ik heb nog iets vergeten. Er, der ligt hier een lijst me woordjes da jullie een beetje kan helpen.}
G: {'k had juist nog een vraag.}
I: {Ma je mag hem onthouden voor straks.}
G: {Die rimpels, je ziet da hier toch nie op de tekening.}
B: {Ma hoe vraag je dat?}
G: {Wat?}
B: {Hoe moet je dat vragen?}
G: Have he
B: Have he # er, glasses?
I: Er no, he doesn’t have glasses.
G: Em
{Dutch interruption}
G: Ah. Oke. Em have he em {wacht} em yellow hair?
I: No
G: Oh
I: he doesn’t.
B: Hah om.
G: Oh.
B: Have he a beard?
I: Em a little bit.
G: Oh # {Die hier mogen ook weg want dat is heel veel é. Die ook weg # Die heeft ook een
snor # Heeft dat een snor?}
B: {Ja.}
G: Have he a hat?
I: Yes.
G: Oh.
B: Is it Joe?
I: Yes [it’s Joe.]
G: [Yay.]

GAME 2
B: Have he er # yellow hair?
I: No.
G: {'k heb da juist ook gevraagd} # Em have he a small face or a big face?
I: Em # a small face.
B: {'n dien moet hier weg.}
I: Er oh sorry, a big face.
G: {Oh # wacht, dan moet terug alles omhoog. Oh ’t zijn juist meer smalle er ja, nee,
minder.}
B: {Dus alle gele mochten weg en}
G: {Nee # Ah ja.}
B: {Nee # Ja # Nee}
G: {Hier # Da’s dik.}
B: {Da’s dik.}
G: {Da’s halfdik. Da’s dik. Oke.}
B: Have he black hair?
I: No.
B: {Ach}
G: Em it’s er a girl?
I: No.
G: Oh
B: Have he # er # {Hoe zeg je grijs?}
I: Grey.
B: Grey hair?
I: No.
G: Em # {wacht}
B: {Hij had wel grijs haar é.}
G: {Wa? Da’s wel geen grijs haar é. Da’s een pet.}
B: {Ah.}
G: {Em ## waarom zou der hier een telefoon staan?}
I: {Maar sommige woorden ga je later misschien nog nodig hebben.}
G: {Ah oké em.} Have he {zo ja, sproetjes?}
I: Er freckles. Yes.

89
G: Have his # freckles. # {Die mag ook weg. ‘k denk dat Frederick is.}
B: Er
G: {Vraag nu of dat hij veel haar heeft.}
B: {Ja ‘k ging da ook just} Have he # many hair?
I: Em yes.
G: It’s Frederick?
I: Yes.

GAME 3
B: Is it a girl? Er
G: Er
B: {Kan da nie.}
G: Er no, it’s not a girl. # Em have he brown hair?
B: No. ### Er # Have he a moustache?
G: Er no. Have he a er it’s a girl?
B: Yes, it’s a girl.
G: {Heb jij nu al alle mensen weggedaan met een snor? }
B: {Oei.}
G: {'t Is aan jou hé.}
B: Have he white hair?
G: No. Em have he a glasses?
B: Yes, he have glasses. Er # Have he yellow hair?
G: No, he don’t have yellow hair. # Em # Have he er a hat? # Have she a hat?
B: No.
I: Er can you say that with a … {Kun je da met een zin zeggen?}
B: Er no, she have not a hat.
G: {'t Is aan jou è.}
B: {Ah ja.} Em # Have he a hat?
G: Er no. # Em have she something in her hair?
B: No.
G: {Met een zin é.}
B: Er # have he.
G: {Je moet nog met een zin antwoorden Stan.}
I: {Ja, je moet, allé, proberen met een zin te zeggen dat ze niets in haar haar heeft.}
B: Ah, em, she have nothing in her hair. ## {Ja, doe ma.}
G: {Maar ‘t is aan jou hé.}
B: {Ah, ja. # Ah, oei.} Have he # {hoe zeg je oranje?}
I: Orange.
B: Orange hair?
G: No, she don’t er he don’t have er orange hair. Em is it Betty?
B: Yes, it’s Betty.
G: Yay. {Weet je nu al wie dat van mij is?}
B: Frank?
G: Mario.

TEST 2

GAME 1
G: Hi son.
B: Hi mom.
G: You smell like s er cigarettes.
B: I don’t smell like cigarettes.
G: Do you em er do, {hoe zeg je roken?}
I: Smoke.
G: Do you smoke? {Ah ja, eigelijk.}
B: No, I don’t smoke.
G: I think em it’s a {nee, ik denk van wel, hoe zeg je da?}
I: I think you did.
G: I think you did.
B: I don’t # smoke.
G: Okay.

GAME 2
G: Hi, was it fine on the toilet?
B: Yes, where is my gsm?
G: Mobile phone.
B: Ah, mobile mobile phone.
G: I don’t know, I don’t have er your mobile phone.
B: I think you have my mobile phone. {Goh, kan da echt nie.}
G: Er no, why do you think that?
B: Er ## You’re not my best friend.
G: Okay, but I don’t steal your # mobile phone.
B: Yes, you did.
G: Em # no it’s not true.
B: Yes, it’s true.
G: No.
B: Er

GAME 3
B: Have you gossip over me?
G: Em no, why do you think that I em I gossip about you?
B: Er ### {’k weet niks meer.}
G: {Tjah # Lang gesprek.}
B: I think you did.
G: Em no, I’m not em a gossip people.
B: Er ## Okay. # Em ## {nee ’k weet echt niks meer}

TEST 3
G: You em don’t speak here in this room.
B: You don’t speak.
I: {Ja. Em nu mag jij.}
B: You don’t # walk in this room.
G: Em you don’t em smoke here. {Ma je mag niet, hoe zeg je dat dan?}
I: {Em ma ik ga niet zeggen hoe da je het moet zeggen.}
G: Oh.
I: {Je moet zelf denken hoe dat jij het zou zeggen.}
B: Er # {’k ken dat niet.} Er.
G: {Je mag hier niet in. Denk ik.}
B: You # don’t ## em, {hoe zeg je}
G: You don’t go here
B: You
G: Inside. {Nee.}
B: You don’t ## going in this er, hoe zeg je straat?
I: Street.
B: Street.
G: {Em mag je, is dat dan da je da nie mag dragen?}
I: {Ja.}
G: Ah, oké. Em you em don’t em, {wacht hé}
B: you don’t # porter
G: Por, {nee}
I: Wear.
G: Ah ja you don’t wear em high em pu pumps in em here. You
B: You don’t feed the em animals.
I: Yes.
G: Em em not but your phone em {nee wacht}. Calling em here.
B: Don’t eat here.
G: Em here em can {nee wacht} you cannot em # wacht hé fietsen.
I: Em cycle.
G: Ah cycle here.
B: You ## You don’t swa swim here.
I: Yes.
INTERVIEW 2

TEST 1
GAME 1
G: Ah. Is it a woman?
I: No.
{Dutch}
I: It’s not a woman. It’s not a woman.
G: Yes.
{Dutch}
B: Is it # er does he wear a hat.
I: Er no.
B: {denk ik}
I: Er I just have something to help you if you don’t know a word.
G: {Oh ja.} Ah is he a glasses?
I: Er no.
B: Is he a ginger.
I: No.
G: {Wa vraag je gij nu?}
B: {Is ’t een rosten.}
G : Hm # is he em a moustache, {of ja hoe da je het ook uitspreekt.}
I: Er # yes.
B: Er, does he have a beard, or a
I: Em he has both.
B: {Ah, oké. Dus hij heeft een baard en een snor dus die mag weg.} Is it Roger?
I: No.
G: Is it Luke?
I: Yes.

GAME 2
B: Em is it a woman?
I: No.
G: Ah.
B: Em does he have black hair?
I: Yes.
G: Hm {die kijkt lik niet echt # Hé, die heeft wel zwart haar, hier aan de zijkant.}
B: Em
G: Wacht em # is he ah # {hoe zeg je dat, ja.} Is he a glasses?
B: Does he have glasses?
G: Ja, is /
I: Yes.
B: Is it Albert?
I: Yes.

GAME 3
G: Is it a woman?
B: No # No she isn’t. He isn’t.
G: {Alle.}
B: Em # is it a woman?
G: Em no.
I: Em can you make a sentence?
G: Er no he is
B: He is
G: not a woman.
B: Ja.
G: Em is he black hair?
B: No, he doesn’t. ### Does he have black hair?
G: No, he doesn’t. # Hm is he a a hat?
B: No, he doesn’t. # Does he er is he blonde?
G: No er yes he is blonde. ## Em #is he a beard?
B: No, he hasn’t. # Em does he wear a hat?
G: No, he hasn’t a hat. Em # Is he em moustache?
B: Yes, he has. ## Is it Hans?
G: Yes, it’s Hans. # {Wie was ‘t?}
B: {,t Was Charles.}
G: Charles.

TEST 2

GAME 1
B: I didn’t kill my neighbour!
G: Em em I not believe you.
B: But it’s true, I didn’t kill her.
G: Hm ## It’s not true! # Em ## You hate her and she she was # by you.
B: It’s true she was by me, but I didn’t kill her! She just went off! {ze vertrok sorry}
G: Em ### But who did it
B: I don’t know, maybe her husband?
G: Hm no he was lea he leave her.
B: Em # you sure? # Em # Maybe the other neighbour? Her neighbour?
G: No, he was gone to she where she kill.
B: Maybe she killed herself?
G: Hm I it’s em # Hm
B: Or maybe it was the dog? {Ja sorry wi.}
G: Er {ja. # Wat moet je daarop zeggen?}
B: Okay, it was me.
I: Oké.
B: {Ik beken.}

GAME 2
B: Hey, where’s my cell phone?
G: I don’t know.
B: You sure you didn’t took it?
G: Yes I I sure.
B: But who else?
G: Er that man or that woman.
B: But you’re the only one on this table? Who else?
G: Er I don’t know but it was not me.
B: You could use some money, so /
{Dutch}
B: You could use some money.
G: Er # yes but I not tick it.
B: Took it.
G: {Ja.}
B: But who I mean okay maybe you’re not guilty, but you must have seen who did it?
G: No I I was going to outside and em I’m just back.
B: Yes yes.
G: Yes!
B: Em maybe we could find them with # ‘where’s my iPhone’? {Nee laat maar. Em, ja.}
Okay, I believe you.

GAME 3
B: Hi mom, I’m home.
G: Ah, it’s # stink /
B: You stink at cigarettes.
G: {Ja.}
B: No I didn’t smoke!
G: No? Are you sure?
B: Yes I just # was talking with someone who smoked but I didn’t smoke.
G: But you /
B: smell
G: hm?
B: smell
G: Ja. Smell er like cigarettes.
B: But mom I told you I was near someone who smoked, but I didn’t.
G: Hm okay I believe you. But ah you are sure?
B: Huh # third time, I didn’t smoke!
G: Okay.
B: {Ja.}

TEST 3
G: Not talking.
B: No running.
G: Not smoke.
B: D Do not do not go in there.
G: Hm ## em
{Dutch}
G: {Wat is dragen?}
I: Wear.
B: High heels.
G: No high heels.
B: Er do not feed the duck.
G: Em no no phone.
B: Er do not ride on a bicycle.
G: Not swimming in the pool.
B: Em do not eat or drink here.
INTERVIEW 3

TEST 1

GAME 1
G: It’s a girl?
I: Yes.
B: Em
G: {Wacht}
B: Em is she wearing em a glasse?
I: No.
G: Is she wearing a hat?
I: No.
B: Em does she er # has she # em blonde hair?
I: No.
G: It’s Holly?
I: Yes.

GAME 2
B: Em it’s a boy?
I: No.
G: Hm is she wearing a hat?
I: Yes.
B: Er does she wearing a er glasses?
I: No.
G: Is it Mario?
I: Yes.

GAME 3
G: Er is it a boy?
I: Yes.
B: Em does he wearing a glasses?
I: Yes.
G: Hm ## Do he have a moustache?
I: No.
B: Em ## Er ## Does he a ‘call’ head?
I: Ah er no.
G: Is it Paul?
I: Yes.

GAME 4
B: Em it’s a boy?
G: Er yes, it is a boy. # Is it also a boy?
B: Er # no, it isn’t.
G: Er # is she wearing a hat?
B: Er no. Er no, she isn’t. ## Em # does he have em ha has he # em a he a be a beard?
G: Yes # yes he have. Oh. # Has she er glasses on?
B: Yes she # yes she has. Em # Is his hair blonde # blonde?
G: No.
I: {Je moet met een zin.}
G: No it er no he he have blonde hair # he haven’t.
B: He hasn’t.
G: He hasn’t. Em ### Have she make-up?
B: No, she hasn’t. Em does he have a # aah a ‘call’ head
I: Ah a bald head.
B: A bald head?
G: No # he haven’t. Is it Sally?
B: Yes. Is it Mario?
G: Yes.

TEST 2

GAME 1
G: Odil, you have smoke.
B: No, I’m not. # Er I don’t smoke cigarettes.
G: {ruiken}
I: Er smell.
G: Er but, I smell it, you have smoke.
B: No, I ha I ha I hasn’t smoke cigar cigarettes.
G: I don’t be belie {nee} I don’t believe you.
B: Em # that’s your problem. ## But I know that I don’t smoke cigarettes.
G: Okay, you say.

GAME 2
B: Em ## em I have hear # er gossip # about you # er about me and why did you em
G: Did you do that.
B: wha wha why why did you do that?
G: I didn’t that. I didn’t gossip. But you are my friend and I don’t do that.
B: But why I hear a concept # a cossep?
I: gossip
B: A gossip?
G: But, you don’t understand. I don’t know what ab {waar je het over hebt}
I: What you’re talking about.
G: What you’re talking about. # It # I know that it isn’t true and you don’t believe me.
B: Em yes I believe you, I don’t believe you.
G: But why? I say that don’t gossip of you.
B: Okay I believe you.
I: Oké.
G: Thanks.

GAME 3
G: Em # I have hear that a friend of me have see em well know person.
B: Er I I {wacht wi} I don I don’t believe you you’re friend because he tells all the time
em ## hoe zeg je verhalen?
I: Stories.
B: Ah er stories that isn’t true.
G: But, he have say that to me and I believe him. He is my best friend and now I say that to
you and I hope that you believe me but you believen’t me.
B: No, I believe you not, because # he’s he saying all the time stories that isn’t true # so
G: But
B: I I don’t believe you.
G: But why you say that, why you say that he he says stories stories that not’s true.
B: Because I # he say a story to me and from another person I hear that it isn’t true.
G: I know that this true and I believe him.
B: But I believe him # not.
G: Okay, that’s your problem.
B: Okay.

TEST 3
G: Here you mustn’t eat.
B: Don’t swim.
G: Em don’t reading with your bike.
B: Switch off your mobile phone.
G: {Van in de les.} Don’t feed the animals.
B: Er # {gij?}
G: Don’t wearing high heels.
B: Er s stop. Er don’t em # do not enter.
G: Don’t smoke.
B: Don’t enter enter.
G: Don’t speak here.
INTERVIEW 4

TEST 1

GAME 1
B: Is it a he or a she?
I: Er er it has # it have to be questions with yes or no answers.
B: Ah is it a boy?
I: Yes.
B: {Al de meisjes. # Ja.}
G: Is his hair colour em black?
I: No.
B: Em do he # do he have a big nose?
I: Yes.
G: Em # have he a hat?
I: No.
B: Do he have # do he have hair?
I: Em # a little bit.
G: Is it Charles?
I: No.
B: Is it Herman?
I: Yes.

GAME 2
G: Em is it a boy?
I: No.
B: Em does she have earrings?
I: Er yes.
G: Em em does she has glasses?
I: Yes.
B: Em does she wear a cap?
I: Yes.
G: Is it Sarah?
I: Yes.

GAME 3
B: Is it a boy or er is it a boy?
I: No.
G: Em Does she has a hat?
I: Er no.
B: Em # does she have a big nose?
I: No.
G: Em she has glasses?
I: No.
B: Is it Anita?
I: Yes.

GAME 4
G: Em # is it a boy?
B: Yes. Er yes it is a boy. ### Is it a girl?
G: No, it isn’t a girl. ### Ah em has he a moustache?
B: Yes he have. ### Em have he a moustache?
G: No he haven’t. ### Em has he glasses?
B: No he d he don’t have glasses. ## Em # does she does he have a beard?
G: No he hasn’t. ## Does he have hair?
B: Yes a lot. Yes he have a lot. ## Does he have er glasses?
G: Em no he haven’t. ## Is erm is his hair colour black?
B: Yes. ## Does he have hair?
G: No.
I: {Kun je da zeggen met een zin?}
G: {Ah ja} No he hasn’t. # Em is it Max?
B: Yes it is Max.

TEST 2
GAME 1
B: Hi mom.
G: Hi # Em do you have smoke?
B: No I da I d # no I don’t /
G: Are you /
B: smoke
G: Are you sure?
B: Yes. I’m # I’m very sure.
G: Em
B: Do you maybe don’t believe me?
G: No I don’t believe you.
B: But why?
G: Because I know you.
B: But but they they were smoking on the party and I have always said no if they say do you want a cigarette.
G: Ah okay.
B: Can I go now?
G: Yes.

GAME 2
G: Where’s my mobile Phone?
B: I don’t have it # have him.
G: Oh come on where is he?
B: I don’t have him # I say it.
G: Oh you # you are the one who was here.
B: Em # but but it wasn’t me.
G: Come on.
B: I s I sit here in the corner and I’m always watch it I I don’t have steal your mobile phone.
G: Do you have see someone else?
B: Yes there was a dog.
G: A dog?
B: With a beautiful cap.
G: No # the dog can’t steal my phone.
B: Er # okay in that case here your mobile phone.
G: Thank you.

GAME 3
B: You have kill your neighbour.
G: No it isn’t. I hate her but I don’t have kill her.
B: Oh yes? What this gun?
G: What?
B: What’s this gun? ## {Je hebt ze doodgeschoten.}
G: No I # I don’t have ## do that.
B: You have kill her I know it because we have found bullets of this gun in her body.
G: No it isn’t that # er
B: And this # and this knife? We have found sixteen ## {steken}
I: {stabs}
B: sti sixteen stabs in her body with this knife.
G: Oh okay I have done.
B: You’re under arrest. Everything th everything you say can ##
I: be used against you.
B: Yeah can be used against you. To the jail.

GAME 4
B: How dare you!
G: Hi what’s the problem?
B: You have say such big things about me that are not true.
G: Oh no it isn’t.
B: Hah! You’re lying.
G: What have I say?
B: You have say things that are not okay that I don’t find good.
G: No I haven’t. Er who says that?
B: All my friends.
G: No that can’t be true.
B: But I have just three friends so
G: And what so I say to them?
B: It don’t matter. You say horrible things about me and I don’t like that.
G: No I don’t say such things.
B: Even my dog, with his beautiful cap say that you say # ugly things about me.
G: I don’t know who is your dog so
B: He calls Jacky.
G: I don’t know who is Jacky so # it’s not true.
B: To the point: you say things about me that are not true.
G: It isn’t!
B: I see on your face that y that you are lying.
G: Oh no
B: Talk to the hand.

TEST 3
B: Don’t drink or eat here.
G: Don’t swim here.
B: Don’t bicycle here.
G: Em # don’t telephone here.
B: Don’t use your mobile phone. Don’t feed the ## don’t feed the animals.
G: Only for women?
I: Er it # it’s actually forbidden to do something here.
G: Do not walk here on high heels.
B: Stop here.
G: Don’t smoke.
B: Don’t walk here.
G: Don’t talk.
I: Okay.
INTERVIEW 5

TEST 1

GAME 1
B: Is it a boy?
I: No.
G: Em does she wear glasses?
I: Yes.
B: Em # is she white?
I: No.
G: Is it Sally?
I: Yes.

GAME 2
B: Er is it a boy?
I: Yes.
G: Has he a moustache?
I: Em # a little bit.
B: {Was het een boy of geen boy?}
G: {Een boy.}
B: {Oei} ### so a little bit a moustache.
I: Yes.
B: Then that or ### Does he have hair # on his head?
I: Yes.
G: Em does he has a big nose?
I: Em yes. Quite a big nose.
B: Em # is he black?
I: No.
G: Em is it Joe?
I: Yes.

GAME 3
G: Is it a boy?
I: Yes.
B: Does he have brown hair?
I: Er no.
G: Does he has a big nose?
I: Yes.
B: Is he black?
I: No.
G: Em has he hair on his head?
I: Yes.
B: Is it Victor?
I: Yes it is.

GAME 4
B: Do I begin?
I: Er yes.
B: Is it a female?
G: No it isn’t. Is it a boy?
B: Er yes he is. # Does he have red hair?
G: No, he haven’t. Em # does he have a beard?
B: No he doesn’t. ## Does he have hair on his head?
G: Yes he has. Em does he has a moustache?
B: Er yes he does. ## Er does he have a big nose?
G: Yes he has. Er # does he has blue eyes?
B: Er yes he does. Er is he black?
G: Yes he is. Is it Alfred?
B: Er yes it is.

GAME 5
G: Is it a girl?
B: Er no it’s not. # Is it a guy?
G: Er yes it is. # Does he wear glasses?
B: Er no he doesn’t. Er is he black?
G: Yes he is. ## Does he has a beard?
B: Er no he doesn’t. # Er is it Mario?
G: No it isn’t. Em # has he hair on his head?
B: Er he has a little bit of hair on his head. Em is it Max?
G: Yes it is.

TEST 2
GAME 1
G: Er you smell like cigarettes.
B: Er # no that can’t be.
G: Did you smoke?
B: No I hate cigarettes.
G: Are you sure?
B: Yes I’m very sure.

GAME 2
B: Em did you have a good relationship with your neighbour?
G: Yes I have.
B: Er have you had a fight before with your neighbour?
G: No we ah haven’t # got a fight.
B: It has been said that you have killed her.
G: Em I didn’t kill her.
B: But if you did it why would you do it?
G: Em ## I don’t know. I don’t I don’t have a reason to kill her.
B: Oh.

GAME 3
G: Where’s my cell phone?
B: Er I don’t know I haven’t touched it.
G: Did you see anybody steal it?
B: No where was it?
G: Er in it was right on the table.
B: Oh I haven’t noticed it being gone.
G: Em did you stole it?
B: Of course I didn’t why would I do that?
G: Em because you like my cell phone?
B: No I don’t I already have a cell phone.
G: Em

**GAME 4**
G: Em did you say something about me to the others?
B: No why would I do that, you are my best friend.
G: Em maybe you don’t like me?
B: I just said I’m your best friend.
G: Em ## why would you do that?
B: But I didn’t do it.
G: Em ## But the others told me that you did.
B: And you really believe them?
G: Yes I do.
B: That’s not very smart of you.
G: Oh thank you.
B: No problem.

**TEST 3**
G: You can’t yell over here.
B: Er you cannot walk here.
G: You can’t smoke here.
B: You cannot go in there.
G: Em ## you you must wear heels?
I: Em it’s the opposite.
G: Ah you can’t wear heels.
B: Don’t feed the ducks.
G: Don’t use your cell phone.
B: Er you cannot ride your bike here.
G: You can’t swim here.
B: You cannot eat here.
INTERVIEW 6

TEST 1
GAME 1
G: Is it a guy?
I: Yes.
B: Does he have hair?
I: Em a little bit.
G: Does he wear a hat?
I: No.
B: Does he have a moustache?
I: Er no.
G: Does he have a small nose?
I: No.
B: Is he black?
I: No.
G: Is it Victor?
I: No.

GAME 2
B: Is it a woman?
I: No.
G: Is he bald?
I: No.
B: Er does he wear a hat?
I: No.
G: Does he have blonde hair?
I: No.
B: Is he black?
I: No.
G: Does he have a small nose?
I: Er yes.
B: Is he ginger?
I: No.
G: Does he have a small chin?
I: No.
B: Is it Robert?
I: No.

GAME 3
G: Is it a boy?
B: Yes it is. # Is it a woman?
G: No it isn’t. ## Is he bald?
B: No he isn’t. ## Em does he wear a hat?
G: No he doesn’t. ## Does he wear glasses?
B: No he doesn’t. # Is he # does he had has blue eyes?
G: No he hasn’t. ## Does he have black hair?
B: Yes he has. # Is he bald?
G: No he isn’t. ## Does he have a big nose?
B: Yes he has. # Is he black?
G: No he isn’t. # Is it Max?
B: Yes it is.

GAME 4
B: Is it a boy?
G: Yes it is. ## Is it a woman?
B: Yes it is. ## Is he bald?
G: No he isn’t. # Does she wear glasses?
B: No she doesn’t. # Does he have a moustache?
G: No he hasn’t. ## Does she have brown hair?
B: Yes she has. # Does he has brown hair?
G: Yes he have has. # Does she wear earrings?
B: No she doesn’t. # Is it Bernard?
G: No he isn’t. Is it Holly?
B: Yes it is.

TEST 2
GAME 1
G: Are the rumours true that you took doping?
B: No they aren’t why would I take any of that?
G: It isn’t normal that you are always the winner, is it?
B: That’s because I’m the best # I guess.
G: You guess so it’s true?
B: No # it’s true that I’m the best not that I took any of those dopings.
G: Can I check that with your doctor?
B: Yes you can why not?
G: Because I think that you are lying.
B: No I’m not.

GAME 2
G: Did you smoke?
B: No I didn’t.
G: Well you smell like cigarettes.
B: That’s because I went to a pub and they all smoked there.
G: How do I know that you speak the truth?
B: Just believe your son.

GAME 3
B: Did you steal my cell phone?
G: No why should I?
B: Because it’s a new one and you don’t have any.
G: How do you know that I don’t have a cell phone?
B: You said it last night.
G: Maybe you dreamt you that I said it?
B: No # I don. I didn’t dreamt it. I’m sure for that. ### Did you see anyone passing by?
G: No I didn’t.
B: So who could steal him?
G: I don’t know I didn’t touch it.
B: But you was the only one around my cell phone.
G: Maybe I went away too?
B: No I don’t think so.
G: How can you know you were in the bathroom.
B: Because I asked you to stay here.

**GAME 4**
B: Did you killed your neighbour?
G: No why should I?
B: Because I heard from other people that you and your neighbour had a big fight.
G: That are all rumours.
B: Yes that can be but where were you er Saturday night?
G: I was at home with my husband.
B: So you could being the murder?
G: I just said I was at home not in her house.
B: Yes but do you have a better alibi?
G: How can I have one if I was at home? # You can check it with my husband.
B: Yes but your husband can lie also.
G: My my husband is a is an honest man.
B: Hm. Okay

**TEST 3**
B: You can’t eat here.
G: It is forbidden to smoke.
B: It’s forbidden to ride bicycle.
G: You mustn’t use your cell phone here.
B: Don’t feed the ducks.
G: It’s # You can’t wear high heels.
B: Stop.
G: Don’t swim.
B: You can’t walk here.
G: Don’t talk.
INTERVIEW 7

TEST 1

GAME 1
B: Is he a ginger?
I: No.
G: Em is it em a woman?
I: No.
B: Does he wear glasses?
I: No.
G: Em # does he have hair?
I: Yes.
B: Em does he have a beard?
I: Er yes. Em no I’m sorry.
G: Em does does he have a moustache?
I: Yes.
B: Em is he old?
I: Em # no.
G: Em does he have a big nose?
I: No.
B: Er is it Hans
I: Yes.
B: Hans.

GAME 2
B: Em is it a woman?
I: Yes.
G: Em do does she wear glasses?
I: No.
B: Em ha em does he have a hat on em hat?
I: Em no.
G: Em does she have em blue eyes?
I: Yes.
B: Er is it Anita?
I: Yes.

GAME 3
B: Em is it a man?
I: Yes.
G: Em /
B: Er is he old?
I: Er no.
G: Em does he wear a hat?
I: No.
B: Hm # er does he have a moustache?
I: Yes.
G: Em does he have em hair?
I: Yes.
B: Is he em a ginger?
I: No.
G: Em does he have em black hair?
I: Yes.
B: Is it Max?
I: Yes.

GAME 3
B: Is it a woman?
G: Em yes em she is a woman. ## Is it a man?
B: Em # yes it is a man. # Does she wear glasses?
G: Em no she doesn’t wear glasses. # Em # does he look serious?
B: Er # not very much he’s laughing # a little bit. Er does she er em has er blue eyes?
G: Em no she doesn’t have blue eyes. Em does he wear glasses?
B: No sh he doesn’t. Er does she wear does she wear er an er a hat?
G: Em no she doesn’t wear a hat. Em # does he have em blonde hair?
B: No he doesn’t. Is it Holly?
G: Yes it is Holly.

GAME 4
B: Er is he er old?
G: Em no he isn’t old. Em is it a woman?
B: No he er he isn’t. Em does he wear a hat?
G: Em no he doesn’t wear a hat. # Em does he have a beard?
B: Er no he hasn’t. Is it a woman?
G: Er no it isn’t a woman. ## Em does he have em big lips?
B: Er no he hasn’t. Er is he em does he have blonde hair?
G: Er no he doesn’t have blonde hair. Em does he wear er a hat?
B: Er yes he does. Er ha does he have a beard?
G: Em no he doesn’t have a beard. Em # does he wear em a white hat?
B: Yes. {Zeg ma.}
G: Ah em.
B: {Ah ja.} Er er does he wear glasses?
G: No he doesn’t wear glasses. Em is it Eric?
B: Yes.

TEST 2
GAME 1
G: Hello.
B: Hello mother.
G: You’re finally home. Oh em your em you smell awful.
B: Er yes I er I ate spaghetti.
G: Spaghetti? But it smells like em s that you have em smoked.
B: But I didn’t I don’t. I don’t er smell.
G: But you are smiling I think you’re lying to me.
B: Er I never lie to you mother.
G: Yes em
B: Er no I I didn’t smoke. Er it’s perhaps er yourself.
G: No it isn’t me em you have em what did did you do after school?
B: Em er I ate spaghetti.
G: Spaghetti? With your friends or?
B: Yes it was very nice.
G: And where was it? Where was it?
B: Er it was er in an Italian house.
G: And where?
B: Em
G: There’s no Italian house in this city.
B: Em no but you can can eat spaghetti in an Italian house in an other city than Yper.
G: But where was it then?
B: Er in # Zillebeke. But I I didn’t smoke.
G: I don’t believe you. And did you drink em something? Or /
B: Er no I didn’t. A coca-cola. And Fanta sometimes Ice-tea.
G: But you look so rare weird it’s like your drunken or something.
B: Well I I’m not drunken I am a little nervous.
G: I think I will call em the parents of your friends because I don’t believe you.
B: Okay but I didn’t smoke.
G: And you em # can’t go out this weekend.
B: I can or I can’t?
G: Can’t you can’t.
B: Oh er /
G: Because you’re em you’ve lied to me.
B: But how do you know that I’m I’m lying to you?
G: Because I’m your mother and I feel that you’re lying to me and you have smoked.
B: Okay but I think that you’re drunk by yourself. # I did smoke, okay?
G: Did you smoke?
B: No.
G: What are you saying?
B: I I didn’t smoke it was er I just ate spaghetti and I drunk a little coca-cola and er a little.
G: I know how em coca-cola and spaghetti smell so it smells it’s doesn’t smell like that.
B: But, er it was spaghetti with another er /
G: With special herbs?
B: Yes. And er there was another guy in the restaurant and he smoked so it can be that I /
G: Why didn’t you tell me that first?
B: Because there was /
G: Because you lie you are lying.
B: No I don’t I’m not lying.

GAME 2
B: Hi I’m an interviewer of a magazine em sports and I will ask you a few questions.
G: Okay that’s fine.
B: Em some er some people say to me that you’re er that you have er taken em drugs and 
EPO, is that correct?
G: No em those people are just jealous em because I I’ve won this time and /
B: They /
G: They’re supri they are surprised so
B: But you er did you em test did you did er did you test er positive er in the [xxx]
G: I don’t know what the results are so yes
B: Okay em /
G: You will have to wait.
B: A lot of em er {wielrennners?}
I: Er cyclists.
B: Yeah a lot of cyclists em are er taking em drugs so er is it true that in the peloton there are a lot of er guys who er are taking?
G: Yes that’s true em they want to be em the best like everything er like everyone so it’s logic but em not everyone has em talent for cycling so
B: But if they are taking er drugs then you must have er very very er much of talent /
G: Yes
B: Because you are winning.
G: I train a lot so it’s
B: A little unrealistic.
G: No it’s possible that I can win.
B: Okay but er I will wait er until the tests are here and I will /
G: Okay that’s good.
B: Okay.
G: Okay.

TEST 3
G: Em you can’t em # speak loud here.
B: Er you can’t er walk here.
G: You can’t feed the animals.
B: Er you can’t smoke here inside.
G: Em you can’t em # enter.
B: Er you must have er high shoes er you # you can’t have high shoes.
G: Em you can’t use your mobile phone.
B: You can’t er s er cyclist here cy
I: Cycle.
B: Cycle here.
G: You can’t swim here.
B: Er you can’t eat here.
INTERVIEW 8

TEST 1
GAME 1
B: Em is it a woman?
I: No.
G: Em does the man wear glasses?
I: No.
B: Er # does the man er has have a
I: a beard.
B: Beard.
I: No.
G: Em does he wear a hat?
I: No.
B: Em is it a ginger?
I: No.
G: Em does he has a moustache?
I: Er no.
B: Er {Is dat e ginger?}
G: {Nee}
B: Er er is his hair black?
I: Yes.
G: Em is it Frank?
I: Yes.

GAME 2
G: Em is it a woman?
I: No.
B: Er hm Is it an old man?
I: Er yes.
G: Em does he have white hair?
I: No.
B: Is he wearing a cap?
I: Er no.
G: Em does he have blue eyes?
I: Yes.
B: Em does he wear glasses?
I: Yes.
G: Is it Albert?
I: Yes.

GAME 3
G: Is it a woman?
B: N No it isn’t. It is a guy.
G: Okay.
B: Is it a man?
G: No it’s a woman. ## Em does the man have em brown eyes?
B: Yes he has. # Does the woman wear a hat?
G: No she doesn’t. Em does he have a big nose?
B: No he has a small nose. # Em does the woman have brown eyes?
G: No she hasn’t. Em does the man have brown eyes? Oh no excuse me. Em does he wear glasses?
B: Er no he don’t.
G: doesn’t
B: doesn’t. Em does the woman wear glasses?
G: Yes she does. Em does the man wear a hat?
B: No he doesn’t. Er is the person Betty?
G: Yes she is.

GAME 4
G: You can start.
B: Em is it a man?
G: Yes it is. # Em is it a person with a big nose?
B: Nnn not really big.
G: Okay.
B: Em does the person have a beard?
G: A what? No he doesn’t. # Em is it a woman?
B: Er no it isn’t. # Em does the person wear a hat?
G: No he doesn’t. Does your person have blue eyes?
B: Er yes he does. # Er does your person have blue eyes?
G: Em yes he have. He has. # Em does your man em wears glasses?
B: Nnno, he doesn’t wear. Em is your person a ginger?
G: No he isn’t. Is your person a ginger?
B: Er not r he is not really a ginger but his hair is
   [a kind of brown]
G: [Can I ask another question?] Can I ask another question?
B: Yes.
G: Does he have a moustache?
B: No he /
G: Okay
B: Hasn’t. Er wear your person glasses?
G: No he doesn’t. Er is it Robert?
B: Yes.

TEST 2
GAME 1
G: Good evening son. Em I smell that you have smoked.
B: Er hello mother. Em no it isn’t possible.
G: Em but maybe em you don’t really remember that you have smoked.
B: Hmm I remember well what I did.
G: [So you]
B: [I went to a pub] but there were some
   [guys who were smoking]
G: [Oh, you went to a pub?] Didn’t I forbid you to go to a pub this week?
B: Yes but it was a friend of me and it was his birthday so
G: Oh and who was that friend?
B: Er Gilles Van Eecke.
G: Oh that guy okay. Em so you didn’t s/
B: And he smoked.
G: Oh I alr I em already know. But er did you smoke too?
B: No no I don’t like cigarettes.
G: Oh okay but em it’s strange.
B: But h he was close to me and he was {blazen}
I: Blowing.
B: And he was blowing the {rook}
I: Smoke
B: The smoke
G: To you.
B: Em to me.
G: Okay and what wa what were you doing? Eating spaghetti?
B: No no I was er drinking
G: Coca-cola.
B: Coca-cola zero.
G: Okay then em we should leave it so.
B: Yes but I didn’t smoke.
G: Yes em I will watching you I will be watching you.

GAME 2
B: Good evening lady.
G: Good evening em sir.
B: You know whar you are why you are he
I: There.
G: Em actually I don’t.
B: Your neighbour is killed.
G: Oh no that’s a pity.
B: But er we have some questions.
G: Okay go ahead.
B: Em where where y where were you last night?
G: Em I was going out to a friend of me.
B: Is there somebody who can {bevestig het}
G: Of course my friend can.
B: Okay and what did you do with that friend?
G: Em # we watched tv television.
B: But your friend can lie. Em # you had an argument with you neighbour, is that true?
G: Yes that’s true.
B: And the weapon em /
G: Yes
B: {Waarmee}
I: With [xxx]
B: With she was killed is found in your garage.
G: Oh, but maybe some em m maybe a person em has dropped it there?
B: Er it’s strange but we think you are killed your neighbour because who can dropped the weapon in your garage?
G: Maybe a person who don’t like me?
B: Em but everybody likes you.
   [So]
G: [Thank you.]
B: Em
G: So have you another question for me?
B: Yes but I think you killed your neighbour.
G: I didn’t.
B: But if you hmm # {bekennen}
I: Confess
B: If you confess, it will be in your {voordeel}
I: advantage
B: In your advantage.
G: Okay but em I really haven’t done every er anything.
B: But you had an argument with your neighbour
G: Yes
B: And the weapon is found in your garage
G: Yes
B: So
G: But I I’ve already told you that I was em visiting a friend of me.
B: Yes but your friend is not so a good man.

[He]
G: [Oh] do you know him?
B: Yes yes, we have research it and we have found that he er raped some womans. [xxx]
G: Well er yes that’s true.
B: So he is not so {betrouwbaar}
I: Em # er you can’t trust him.
B: You can’t trust him.
G: Okay but you can trust me.
B: No I can’t.
G: {Jawel} # Yes you can.
B: And # Some guy has saw you near his house of the neighbour.
G: Of course I live here,

[ I live next to my neighbour. ]
B: [Yes, but the evening of] the murder.
G: No perhaps that was my sister.
B: No no no he was pretty sure that it was you.
G: Em.
B: And you was wearing an axe.
G: A what?
B: A weapon where wi wh with she was killed.
G: Oh okay. Well I ha I have done it.
B: Ah.
G: I have murdered her.
B: Okay you can come with me and I will prison you.
G: Fine.

**GAME 3**

G: Welcome again.
B: Hello. My my phone is stolen.
G: Wow really? Did you em have put it on this table?
B: Yes, it it’s it was on this table but I come back and it’s away.
G: Perhaps er someone has passed and have I don’t know.
B: But you were here.
G: Yes I was eating.
B: Yes

[and my phone was here.]
G: [Spaghetti.]
   Oh really?
B: And you was eating spaghetti.
G: Yes.
B: And there was nobody else here?
G: No. But what em kind of phone was it?
B: It was an Samsung Star.
G: Oh I really didn’t see er any Samsung Star this evening.
B: But you said you said it was a phone on the table.
G: Yes but not a Samsung Star. It was my own phone.
B: But my phone is away and he was on the table and there was nobody else here so I think you have stoled the phone.
G: But you can em inform the person who serves the food. You can tell him then they can look for a Samsung Star.
B: I will do it but I think it was you.
G: No it it wasn’t me. I was just eating my er spaghetti.
B: I hope so
G: Yes
B: But
G: You know you can trust me.
B: Yes I know but it’s strange
G: Yes.
   [But]
B: [And] you have see so nothing?
G: No, I didn’t see anything. But are you sure you have laid it on [this table?]
B: [Yes yes.] [xxx]
G: Perhaps it is in your trousers somewhere.
B: {Ah ja} it is in my trou pants.
G: So I h haven’t done anything, you see.
B: Oh my excuses.

TEST 3
B: You can’t eat here.
G: Em it’s not allowed to swim here.
B: It is forbidden to cycle here.
G: Em you can’t use your cell phone here.
B: It’s not allowed to wear er shoes with /
G: high heels
B: high heels.
G: Em you can’t pass here.
B: Er you are not allowed to smoke here.
G: Em you can’t give food to the ducks.
B: Er it’s forbidden to walk here.
G: Em you can’t speak here.
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