

Finiteness in Dutch as a second language

Published by LOT
Trans 10
3512 JK Utrecht
The Netherlands

phone: +31 30 253 6006
fax: +31 30 253 6000
email: lot@let.uu.nl
<http://www.lot.uu.nl/>

Cover design: Thea and Stijn Verhagen
ISBN 9789078328896
NUR 616

Copyright © Josje Verhagen. All rights reserved.

VRIJE UNIVERSITEIT

Finiteness in Dutch as a second language

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad Doctor aan
de Vrije Universiteit Amsterdam,
op gezag van de rector magnificus
prof.dr. L.M. Bouter,
in het openbaar te verdedigen
ten overstaan van de promotiecommissie
van de faculteit der Letteren
op dinsdag 9 juni 2009 om 15.45 uur
in de aula van de universiteit,
De Boelelaan 1105

door

Josje Verhagen

geboren te Nijmegen

promotoren: prof.dr. P. Jordens
prof.dr. W. Klein
copromotor: dr. C. Dimroth

Acknowledgements

First and foremost, I would like to thank Peter Jordens, Christine Dimroth and Wolfgang Klein for giving me the opportunity to work as a PhD student and for their friendly and valuable support along the way. I learned from you how to consider acquisition data with an open mind and out of sincere curiosity, and to investigate questions carefully and with enthusiasm. I'm extremely grateful for your careful reading of no matter how many different versions of a chapter I produced, your helpful advice, and for always 'leaving your doors open'.

I would also like to thank Leah Roberts for great help with setting up the experiments, proofreading part of this thesis, and for her general interest and support. During PhD meetings as well as outside these meetings, I received valuable comments from all members of the acquisition group: Christine Dimroth, Leah Roberts, Wolfgang Klein, Sarah Schimke, Peter Jordens, Bhuvana Narasimhan, Laura de Ruiter, Kerstin Mauth, Kathrin Kirsch, Nadi Nouaouri, Giulio Pagonis, Miriam Ellert, Anke Jolink, Goran Stanic, Juhani Järvikivi, and Giusy Turco. Thank you all! Special thanks go to Sarah for reading and discussing many drafts as well as the whole manuscript (no matter time or place!), for being such good company at workshops and conferences, and for making my life as a PhD student much more enjoyable overall. I am also very grateful to Melissa Bowerman for proofreading the manuscript and providing me with a helpful 'crash course' on how to avoid Dutchisms.

I have always felt lucky having two offices and being surrounded by people with a sincere interest in my work who were always willing to help. I would like to thank my colleagues from the Vrije Universiteit, in particular, Bart Bossers for sharing his thoughts as an *ervaringsdeskundige* and Petra Bos for answering my questions about Moroccan Arabic and checking the Moroccan Arabic examples in this thesis. I would also like to thank the PhD students from the eleventh and twelfth floor for being there and for their good company at the lunch table. At the Max Planck Institute, many people contributed to this thesis. I'm grateful to the PhD students for creating a nice atmosphere and for always being willing to help, to Nanjo who not only offered administrative help but was always very thoughtful, to Hulya Sahin who checked the Turkish examples, and to the TG, especially to Rick who restored data after a hard disk crash and thereby saved chapter 7 of this thesis.

This thesis would never have been completed without the subjects that took part in the experiments: I am grateful to all those who retold pictures and film clips, and listened to more sentences than they ever had listened to before, often wrongly assuming that they would have to pay 10 euro rather than get money from me, due to confusion with the Dutch verbs *geven* and *krijgen*. Many teachers and ‘opleidingsmanagers’ helped me with recruiting participants and running the experiments in the following schools: ROC Van Mayenstraat, ROC Postjesweg, ROC Van Ostadestraat, ROC Spinozastraat, ROC Hispenweg, ROC Zocherstraat, ROC Elisabeth Wolffstraat. Special thanks go to Brakse Vloet for his warm welcome and generous help with finding participants at various ROC schools. I’m also very grateful to Angeline Ross from the ROC Arnhem and Peter Linssen from the ROC Nijmegen who helped me find a native control group. I would also like to thank the ‘voice’ in the experiments, Minke Greupink, who recorded sentences to the point where she could barely speak.

Outside the office(s), many people were able to imagine what it takes to write a PhD thesis and I am grateful for them being there. Eva van Lier and Suzanne Dikker have always been interested in my work and provided me with helpful comments from an outsider’s perspective on chapter 4. Marieke Kolkman and I casually discussed linguistic questions over dinner so many times, just as in the good old days when we studied together at the UvA. I very much enjoyed the dinner meetings with other Nijmegen PhD students that formed a nice offshoot of a LOT Winterschool in Amsterdam: Karen Keune, Suzanne van der Feest, Else Havik, Iris Westers and Wieke Tabak. Special thanks go to my brother Stijn for helping me with the layout and to both my brother and my mother for their joint efforts in designing the cover.

To my family and friends: An, Anneke, Babette, Esther, Eva, Ilona, Ivar, Jan and Indra, Jennie, Loes, Marieke, Maryl, Mijsje, opa and oma Biemans, Rick and Anoushka, Sarah, Stijn, Suzanne, Tamara, Trijs, Theo and Anneke, and all aunts and uncles who asked me about ‘The Book’ on every occasion: thank you!! I’m happy that Marieke and Sarah want to be my paranimfs. Finally, I want to thank my parents and Jeroen for their love and their confidence in me.

TABLE OF CONTENTS

1	General introduction	1
1.1	Finiteness	2
1.2	Finiteness in Dutch	4
1.3	Finiteness in a second language	8
1.4	Aims of the dissertation	12
1.5	Participants and methodology	13
1.6	Organization of the dissertation	15
1.7	Outline	17
2	Finiteness in the source and target languages	19
2.1	Word order and finiteness	19
2.1.1	Dutch	19
2.1.2	Moroccan Arabic	20
2.1.3	Turkish	21
2.2	Negation	22
2.2.1	Dutch	22
2.2.2	Moroccan Arabic	23
2.2.3	Turkish	24
2.3	Subject-verb agreement	25
2.3.1	Dutch	26
2.3.2	Moroccan Arabic	27
2.3.3	Turkish	27
2.4	Light verbs	28
2.4.1	Dutch	29
2.4.2	Moroccan Arabic	30
2.4.3	Turkish	31
2.5	Summary	33
3	Light verbs and lexical verbs in negated sentences: On the crucial role of the auxiliary ‘hebben’	35
3.1	Background	36
3.1.1	Form-oriented studies	36
3.1.2	Function-oriented studies	39

3.2	The role of auxiliaries in L2 German	43
3.3	Research questions	47
3.4	The study	48
	3.4.1 Participants	48
	3.4.2 Tasks	49
	3.4.3 Coding and scoring	51
3.5	Results	52
	3.5.1 Acquiring Dutch light verbs	52
	3.5.1.1 A fixed order	52
	3.5.1.2 'Is-lexical verb'	58
	3.5.2 Light verbs and lexical verbs in negated sentences	63
	3.5.2.1 Data for the –AUX group	63
	3.5.2.2 Data for the +AUX group	66
	3.5.3 Summary	68
3.6	The role of auxiliaries	69
	3.6.1 A closer look at learners' use of auxiliaries ..	69
	3.6.2 Do auxiliaries lead to finiteness?	72
3.7	Conclusion and discussion	74

4	Further support for the role of 'hebben': Evidence from production, imitation and processing	79
4.1	Background	80
	4.1.1 Production studies	80
	4.1.2 Processing studies	82
4.2	Research questions	85
4.3	The study	87
	4.3.1 Participants	87
	4.3.2 Tasks: What they measure and how	88
	4.3.3 Production tasks	89
	4.3.4 Elicited-imitation task	89
	4.3.5 Sentence-matching task	91
4.4	Results for production	94
4.5	Results for elicited imitation	96
	4.5.1 Coding and scoring	96
	4.5.2 Results	96
	4.5.3 Summary	102

4.6	Results for sentence-matching	103
4.6.1	Analyses	103
4.6.2	Results for the native speakers	104
4.6.3	Results for the +AUX group	105
4.6.4	Results for the –AUX group	106
4.6.5	Summary	106
4.7	Discussion	107
5	Is there a relation between verb morphology and verb placement? Evidence from production and imitation	113
5.1	Finiteness and verb-raising	115
5.2	Functional categories in L2 acquisition	117
5.3	Aim of the study	120
5.4	Study I: Finiteness and verb-raising in production	123
5.4.1	Participants and data	123
5.4.2	Results	123
5.4.2.1	Finiteness in negated utterances	124
5.4.2.2	The role of proficiency: Two learner groups	130
5.4.3	Summary	132
5.5	Study II: Finiteness and verb-raising in imitation	133
5.5.1	Participants	133
5.5.2	Materials	134
5.5.3	Coding and analyses	135
5.5.4	Results	137
5.5.4.1	Changes from finite to non-finite verbs and vice versa	137
5.5.4.2	Changes from raised to non-raised verbs and vice versa	139
5.5.5	Summary	141
5.6	Discussion	142
6	On the role of scope marking: Comparing negated sentences and sentences with adverbials	147
6.1	Adverbials in natural language	151

6.1.1	Different types of temporal adverbials and scope marking	151
6.1.2	Adverbials in the source and target languages	153
6.2	Research questions	154
6.3	The study	155
6.3.1	Participants	155
6.3.2	Tasks	156
6.3.3	Coding and scoring	157
6.4	Results	158
6.4.1	Adverbial versus negation placement	158
6.4.2	Different types of adverbials	159
6.5	The different behavior of TAPs and TACs	161
6.5.1	Background: Finiteness in L2 Dutch	161
6.5.2	Different functions of TAPs and TACs	164
6.5.3	Double adverbial constructions	165
6.5.4	Fronted adverbials	166
6.5.5	Interaction with finiteness marking	167
6.6	Conclusion and discussion	170

7	Further investigating the influence of semantic scope marking: Evidence from production and processing	175
7.1	Verb placement in L2 acquisition	178
7.2	Verb placement in negated sentences: Recap of Chapter 4	182
7.3	Research questions	184
7.4	The study	186
7.4.1	Participants	186
7.4.2	Production tasks	187
7.4.3	Sentence-matching task	187
7.4.4	Coding and scoring	189
7.5	Results	190
7.5.1	Results for production	190
7.5.2	Results for processing	194
	7.5.2.1 Analyses	194
	7.5.2.2 Results for all adverbials	194

	7.5.2.3	Adverbials of position versus adverbials of frequency	197
	7.5.3	Summary	199
	7.5.4	Adverbials in sentence-initial position	199
7.6		Discussion	205
8		Summary of the results and implications	209
	8.1	Summary of the main findings	209
	8.2	From a non-finite to a finite system in L2 Dutch	212
	8.3	General contributions to L2 research on finiteness ...	220
	8.4	Limitations	222
	8.5	Open issues	223
		References	225
		Appendices	237
	A	Abbreviations used in the examples	237
	B	Biographical information about the learners	238
	C	Picture stories	248
	D	Items	252
		Samenvatting	261

Chapter 1

General introduction

When people start learning a second language, they typically produce utterances that look like the following, produced by a Turkish learner of Dutch. In this short stretch of speech, the learner explains that some of her family members who have lived in the Netherlands for a relatively long time do not speak Dutch and do not understand her desire to go to a Dutch language class. The English translations in the column on the right-hand side are literal translations of the learner's utterances.

(1)	Mijn man hier vijf broer	'My husband here five brother'
	Broer andere vrouw niet praten	'Brother other woman not talk'
	Niet verstaan	'Not understand'
	Bijna tien jaar vijf jaar hier	'Almost ten year five year here'
	Altijd lachen voor mij	'Always laugh for (at) me'
	Lachen "waarom school?"	'Laugh "why school?"'
	Ik vind belangrijk	'I think important'
	Mijn leven hier	'My life here'

These utterances exemplify a few typical characteristics of beginning L2 speech. First, the learner uses verbs that do not agree with the subject in person and number, but look like infinitives, such as *praten* 'talk' and *lachen* 'laugh'. Second, she places verbs after the negator *niet* 'not' and adverbials like *altijd* 'always', rather than before such elements as would a native speaker of Dutch: *Niet verstaan* 'Not understand', *Altijd lachen voor mij* 'Always laugh at me'. Lastly, the data show that the learner does not make use of light verbs such as copula or auxiliary verbs. In the final utterance, for example, no form of *zijn* 'be' is used, resulting in the verbless utterance *Mijn leven hier* 'My life here'.

Taken together, these are indications that the learner has not yet acquired 'finiteness'. Finiteness is a property of utterances that, as we will see below, concerns the form and position that verbs take in an utterance. The aim of this dissertation is to investigate how L2 learners of Dutch acquire finiteness. In a series of studies, it will be shown that Moroccan and Turkish learners start out with a system in which finiteness is not marked in the same way as in the target language. On their way to target-like finiteness marking, they pass

through a series of stages that are internally consistent and remarkably alike for Moroccan- and Turkish-speaking learners.

1.1 Finiteness

Finiteness has traditionally been understood as a property of verbs: verbs that are marked for tense, person, mood and number are considered finite, whereas verbs that are unmarked for such features, such as infinitives and past participles, are considered non-finite.¹ Furthermore, most languages mark finiteness at the level of word order: finite and non-finite verbs occupy different positions within the sentence. As we will see in more detail below, finite verbs must occupy the second sentence position in declarative main clauses in Dutch, while non-finite verbs appear sentence-finally.

The opposition between ‘finite’ and ‘non-finite’ can be illustrated with the sentences in (2) below. Sentence (2a) is clearly finite: the verb is marked for person, number and tense and it is placed in second position. In (2b) the verb is finite, but it appears in final position, and in (2c) the verb appears in second position, but it is non-finite: it does not agree with the subject ‘Ahmed’. Sentence (2d) is clearly non-finite since it contains a non-finite verb in final position.

- (2) a. Ahmed spreekt niet goed Nederlands ‘Ahmed speaks not good Dutch’
 b. Ahmed niet goed Nederlands spreekt ‘Ahmed not good Dutch speaks’
 c. Ahmed spreken niet goed Nederlands ‘Ahmed speak not good Dutch’
 d. Ahmed niet goed Nederlands spreken ‘Ahmed not good Dutch speak’

Apart from a morphological and syntactic component, finiteness has been argued to involve a semantic component. More specifically, Klein (1994, 2006) assumes that finiteness expresses ‘assertion’: finiteness expresses that a certain state of affairs is true for a given topic. This assertion function of finiteness can be easily illustrated with the following utterance (Klein, 1994: 226):

- (3) The book was on the table

¹ In some languages (e.g., Arabic, French), past participles can be marked for number, however.

INTRODUCTION

If one stresses the finite verb ‘was’ in this utterance (‘The book **WAS** on the table’), the sentence evokes a clear contrast with the sentence ‘The book was **NOT** on the table’. This shows that stressing a finite verb that does not have much semantic content of its own, such as the copula, leads to highlighting the assertion component of finiteness. The finite verb asserts that a certain state of affairs (‘being on the table’) is true of a certain topic (‘the book’) at a given point in time. Furthermore, finiteness marks tense. This becomes apparent when the copula in (1) is stressed and a contrast is evoked with the sentence ‘The book **IS** on the table’.

Since finiteness plays a role at the morphological, syntactic and semantic level, it can be considered an important property of languages. This is not to say, however, that finiteness is indispensable. Typically, beginning L2 learners as well as young children learning their mother tongue do not mark finiteness and yet, they can convey rather complicated messages. Moreover, there are natural languages such as Creole languages and Mandarin Chinese in which finiteness marking is not grammaticalized.

Even though beginning L2 learners and young children do not mark finiteness in the same way as adult native speakers, there is a clear difference between L1 and L2 acquisition: virtually all children acquire finiteness in a relatively effortless manner, but this is not the case for (adult) L2 learners. Klein and Perdue (1997) investigated L2 data from over forty learners of five different target languages and found that about one-third of these learners stagnated at a level at which finiteness was not (consistently) marked. Instead, these learners developed a system, called ‘basic variety’, in which semantic and pragmatic constraints determine how the information in a sentence is organized. A typical characteristic of the basic variety is that learners do not mark tense with verbal morphology, but use temporal adverbials or apply a principle of chronological order (i.e., the order of mention corresponds to the order of events in time, Klein & Perdue, 1997: 322).

For those learners who do not stagnate at the basic variety level, the acquisition process is notoriously difficult and there is often an extended stage during which learners produce both finite and non-finite utterances. The following utterances illustrate this and show a Moroccan learner’s struggle with the use of the correct Dutch verb forms (the /-symbol in these examples indicates a self-correction):

(4) Ik bellen/ik bel /ik heb gebeld bij die brandweer

I call.*inf*/I call.*1.sg* /I have call.*pp* at the fire brigade
 ‘I have called the fire brigade’

- (5) Haar hond eten/gege... /hee... /heeft eten /ge... gegeten
 Her dog eat.*inf* /ea.../ha... /has eat.*inf* /ea... eat.*pp*
 ‘Her dog has eaten (the cake)’

Presumably, the complexity of the task for the L2 learner has at least in part to do with the fact that finiteness plays a role at different levels. The question of how learners go about acquiring finiteness in a new language, once they have already learnt a first language, is the overarching research question of this dissertation.

1.2 Finiteness in Dutch

In Dutch, finite verbs occupy different positions within the sentence, depending on whether they appear in a main or subordinate clause and - in the case of main clauses - whether the sentence is a declarative, a question, or an imperative. In declarative main clauses, the finite verb must appear in second clausal position: it can be preceded by only one major constituent. This major constituent can be the subject or some other argument or an adverbial, as can be seen from (6) to (8):

- (6) Jan leest een boek
 John read.*3.sg* a book
 ‘John reads/is reading a book’
- (7) Een boek leest Jan
 A book read.*3.sg* John
 ‘A book, John reads/is reading’
- (8) Vandaag leest Jan een boek
 Today read.*3.sg* John a book
 ‘Today, John reads/is reading a book’

INTRODUCTION

When there is a compound verb, the finite element is placed in second position and the non-finite verb appears in final position.² This is illustrated in (9) and (10) with sentences containing a modal verb and an auxiliary verb, respectively:

(9) Jan wil een boek lezen
John want a book read.*inf*
'Jan wants to read a book'

(10) Jan heeft een boek gelezen
John have.*3.sg* a book read.*pp*
'John has read a book'

There are two other positions in which finite verbs can occur. First, they occur in sentence-final position in subordinate clauses, as shown in (11).³ Note that in such clauses there is an alternation between two possible orders when the verb is a compound verb: the finite verb can follow the non-finite verb, resulting in structures such as (12), but it can also precede the non-finite verb, as in (13).⁴

(11) Ik denk dat Jan een boek leest
I think.*1.sg* that John a book read.*3.sg*
'I think that John reads/is reading a book'

(12) Ik denk dat Jan een boek gelezen heeft
I think.*1.sg* that John a book read.*pp* have.*3.sg*
'I think that John has read a book'

(13) Ik denk dat Jan een boek heeft gelezen
I think.*1.sg* that John a book have.*3.sg* read.*pp*
'I think that John has read a book'

² Part of the lexical verb can also be left behind, as is the case with the verb *nitschakelen* 'switch off' in a sentence like *Nu schakelt hij het licht uit* 'Now, he switches the light off'.

³ Rather than a simple past participle or infinitive, a verb cluster may also be used in this position: *Ik denk dat Jan een boek had willen lezen* 'I think that John would have wanted to read a book'.

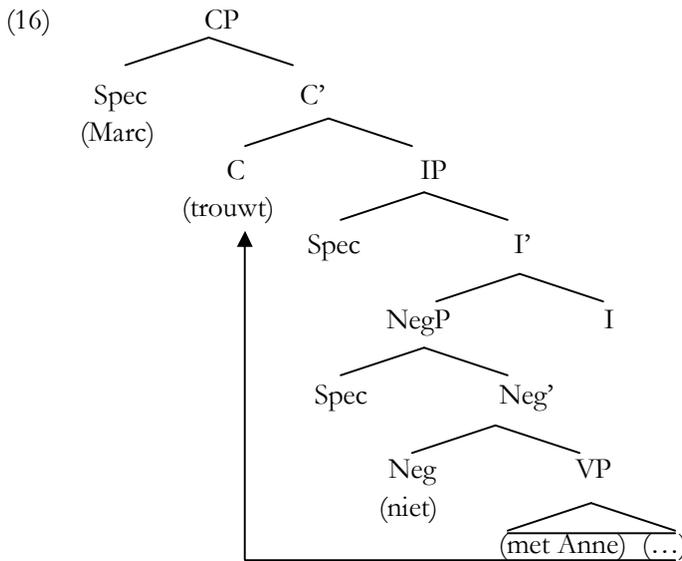
⁴ Corpus research has shown that the order in (13) is more frequent in written than in spoken language (Pauwels, 1953) and subject to regional variation: it is used less frequently in the Eastern and Southern parts of the Netherlands than in other regions (De Schutter, Speelman & Geeraerts, 2005).

A second exception to the placement of finite verbs in second position involves yes/no-questions and imperatives where the finite verb is in initial position:

- (14) Leest Jan een boek?
 Read.3.sg John a book?
 Does John read a book?

- (15) Lees dit boek: het is geweldig!
 Read this book: it is great!
 ‘Read this book; it’s great!’

There have been several attempts to cover these facts in a theoretical framework (Den Besten, 1985, Koster, 1975; Zwart, 1993), but there is no consensus across frameworks on how the rules should best be characterized. A dominant idea in most accounts is that Dutch has ‘verb-raising’. According to this idea, there is a first level of representation at which the finite verb is in final position. At a second level of representation, this verb is ‘shifted’ to a position higher in the tree structure: it is ‘raised’ to this position. The tree structure in (16) illustrates this raising operation for a sentence with the negator *niet* ‘not’:



Marc trouwt niet met Anne ‘Marc marries not with Anne’

INTRODUCTION

Verb-raising does not affect the position and the scope of other elements in the sentence. Thus, in (16), the negator remains where it was in the underlying structure and the finite element is raised past negation. Consequently, the finite verb precedes negation in the surface structure, but it can still be in the scope of negation. Finite verbs are also raised past adverbials, but since adverbials can also appear in initial position (see (8) above), finite verbs do not necessarily precede adverbials.

When we restrict the description to Dutch declarative main clauses, four types of structure can be distinguished, depending on the type of finite verb that is used. In the following examples, the subscripts 'fin' and 'inf' mean 'finite' and 'non-finite', X is any major constituent and y stands for all possible other elements such as objects and prepositional phrases.

- | | | | | |
|------|---|-----------------------|----------------------------|----------------------|
| (17) | X | V _{fin} | (y) | |
| | Op donderdag | gaat | Suzan naar een taalcursus | |
| | On Thursday | go. _{3.sg} | Suzan to a language course | |
| | 'On Thursdays, Suzan goes to a language course' | | | |
| | | | | |
| (18) | X | MOD _{fin} | (y) | V _{inf} |
| | Pascal | kan | niet naar school | komen |
| | Pascal | can | not to school | come. _{inf} |
| | 'Pascal is not able to come to school' | | | |
| | | | | |
| (19) | X | AUX _{fin} | (y) | V _{inf} |
| | Gelukkig | heeft | Esther haar examen | gehaald |
| | Fortunately | have. _{3.sg} | Esther her exam | pass. _{pp} |
| | 'Fortunately, Esther has passed her exam' | | | |
| | | | | |
| (20) | X | COP _{fin} | y | |
| | Gewoonlijk | is | Bob een aardige jongen | |
| | Usually | be. _{3.sg} | Bob a nice guy | |
| | 'Usually, Bob is a nice guy' | | | |

As can be noted from (18), negation is part of *y*: it must follow the finite verb and precede the non-finite verb (if there is one). Adverbials also belong to *y* or fill the first position.⁵

When acquiring Dutch as a second language, the task for the L2 learner is to figure out that finite verbs behave differently from non-finite verbs. The learner has to determine where finite verbs are placed in the target language and how they are marked morphologically. To determine whether verbs occur in a finite or non-finite position in L2 speech, researchers have often looked at utterances containing negation and adverbials. Assuming that the position of such elements is invariant, the placement of a verb to the left of negation or adverbials indicates that the verb is in a finite position (i.e., it has been raised), whereas its placement to the right of negation or adverbials indicates that it is in a non-finite position (i.e., it has not been raised).

1.3 Finiteness in a second language

Broadly speaking, two lines of research into the acquisition of finiteness can be distinguished in the L2 literature. First, there are form-oriented studies in which the role of Universal Grammar (UG) in L2 acquisition is investigated. The main assumption in such studies is that an innate grammar system of abstract rules (UG) determines language acquisition. For L2 acquisition, the question is whether L2 learners can still make use of this innate system when learning an L2: Is it possible for them to access the innate knowledge about their native language and can they ‘reset’ the parameters of the L1 to those of the L2?

As for finiteness, UG-based studies have concentrated on the question of whether L2 learners have access to that part of UG that is responsible for finiteness marking: the functional category system. It is beyond the scope of this introduction to describe finiteness in UG-terms in detail, but what is noteworthy here is that within UG, a close connection is assumed between finite morphology and finite syntax. Roughly speaking, the prediction that follows from this connection is that if L2 learners still have access to UG, they should produce utterances with a finite verb in raised position (see (2a) above)

⁵ According to some accounts, adverbials are in *y* at the first level of representation and then, in turn, raised to an initial position. Since this possibility is usually not considered in acquisition studies, it is not further discussed.

INTRODUCTION

or a non-finite verb in non-raised position (see (2d)). What they should not produce are utterances with a finite verb in non-raised position (see (2b)) or a non-finite verb in raised position (see (2c)).

The second line of research is more functionally oriented. Here, the focus is not on the acquisition of formal, abstract rules that are assumed to be part of an innate system. Rather, function-oriented studies have considered the acquisition of finiteness in terms of the communicative function of language. Given that beginning L2 learners have a restricted set of linguistic elements at their disposal, how do they put these elements together to express the semantic functions of finiteness: tense, assertion, and perhaps also other functions?

A clear difference between form- and function-oriented studies relates to the way L2 forms are interpreted by the researcher. In form-oriented studies, a common assumption is that if a learner uses a form that has a certain function in the target language, the function the learner attributes to the form is exactly the same. In function-oriented studies, such a one-to-one relationship between learner language and target language is not taken for granted: learners may use a certain form or structure to express a different function than would native speakers using the same form or structure. To illustrate this, consider the utterance in (21) from a Turkish learner of Dutch. While the utterance contains a non-finite form in a non-finite position, it has been argued by researchers working within a function-oriented paradigm that utterances like this one are semantically finite (Dimroth, et al. 2003; Jordens & Dimroth, 2006; Schimke et al., 2008). More specifically, the idea is that the particle *ook* 'also' fulfills the assertion function of finiteness, even though particles do not serve this function in the target language.

- (21) Vader ook Turkije wonen
Father also Turkey live.*inf*
'(My) father also lives in Turkey'

Earlier studies of L2 Dutch have typically taken a function-oriented approach and most of these are based on the longitudinal data from the ESF corpus (cf. Perdue, 1993). The learners in this naturalistic corpus were Moroccan and Turkish learners of Dutch who learnt the L2 in an immersion setting. The data were collected in interviews, role-plays and film-retelling tasks in different sessions over a period of two and a half years.

Klein et al. (1995) investigated the acquisition of temporality in the data from two Moroccan and two Turkish learners from the ESF corpus. Their results indicated that initially, these learners did not use finiteness marking to express temporality, but instead used a small set of temporal adverbials and the principle of chronological order. Later, they started to mark temporality by means of finite lexical verbs and auxiliary verbs. The data showed, however, that all learners of Dutch (as well as of the other languages in the ESF corpus) continued to use non-finite verb forms in addition to finite forms up until the end of the data collection period.

Starren (2001) took the findings of Klein et al. (1995) as a starting point, and investigated the acquisition of temporality more closely in the same dataset. Her findings corroborated the idea that learners at beginning stages of acquisition use adverbials to mark tense and aspect. Moreover, Starren's results showed that the placement of adverbials within a sentence is determined by scope marking in early L2 acquisition: beginning learners place temporal adverbials adjacent to the elements in the sentence that they semantically affect. Or, as formulated by Starren (2001: 8): "learners put together what belongs together before the target language specific (morpho)syntactic properties come into play". This can be illustrated with the following example in which a temporal adverbial is placed in initial position to mark the time about which the rest of the utterance makes a claim. Note that the verb is unmarked for tense and agreement:

- (22) Gisteren ik bergen gaan naar
 Yesterday I mountains go.*inf* to
 'Yesterday, I went to the mountains' (Starren, 2001: 149)

For those learners who acquire morphosyntactic finiteness marking, Starren found that they go through a stage at which they produce proto-copula and proto-auxiliary forms. The proto-copula is placed in topic position and marks tense, while the proto-auxiliary appears close to the predicate and marks aspect. As shown in (23), the two types of proto-verb may also co-occur:

- (23) Toen was die meisje heeft brood stelen
 Then be.*3sg.pst* that girl have.*3sg* bread steal.*inf*
 'Then, the girl stole the bread' (Starren, 2001: 149)

INTRODUCTION

Although this dissertation concentrates on the acquisition of agreement marking and verb placement, rather than tense and aspect marking, it shares two important findings with Starren's work. First, the present data confirm that scope marking is an important principle at early stages of acquisition and that this holds not only for the relative placement of verbs and temporal adverbials within the sentence, but also for the placement of verbs relative to negation (Becker, 2005; Dimroth, 2008). Second, the results confirm that auxiliary verbs play a crucial role in the acquisition process. In fact, it will be shown that the acquisition of the auxiliary verb *hebben* 'have' constitutes the L2 learner's route into target-like finiteness marking.

The idea that auxiliary verbs are important for the acquisition of finiteness has also been put forth by Jordens and Dimroth (2006). Like Starren (2001) and Klein et al. (1995), these authors studied the Dutch data from the ESF corpus, but they concentrated on the acquisition of finiteness rather than temporality. The results showed that Moroccan and Turkish learners of Dutch start out using lexical means such as particles and adverbs to express finiteness (see example (21) above) and acquire the morphological and syntactic means to mark finiteness only later in the acquisition process. Crucially, the authors found that the transition from a system in which finiteness is expressed lexically to a system in which it is expressed by finite morphology and syntax is marked by the acquisition of auxiliary verbs.

The question of whether learners' L1 influences the acquisition of finiteness was not in the focus of attention in these studies. In earlier work by Jansen, Lalleman and Muysken (1981) and Jordens (1988), however, an important question was to find out whether there are L1-based differences between Moroccan and Turkish learners. Jansen et al. concentrated on the acquisition of verb placement and aimed to test the so-called 'Alternation Hypothesis'. This hypothesis states that, whenever there are two alternative structures in the target language, L2 learners prefer the type of structure that matches the structure of their L1. As we have seen above, there is an alternation between verb-second structures (main clauses) and verb-final structures (subordinate clauses) in Dutch. In Moroccan Arabic, finite verbs can only occur in initial or second position, whereas in Turkish they are always placed in final position. According to the Alternation Hypothesis, then, Moroccan learners of Dutch should predominantly place verbs in first or second position in the L2, while Turkish learners of Dutch should place these at the end of the sentence. This is precisely what the authors found.

This overview of studies shows that the L2 acquisition of finiteness in Dutch has only been investigated in the data from relatively small learner groups. Moreover, data analyses were restricted to production data, elicited in free conversations or film-retellings. It has been argued, however, that production data do not allow a full investigation of learners' linguistic knowledge, in the sense that learners often have more linguistic knowledge than they can use actively for production (Epstein, Flynn & Martohardjono, 1996; Grüter, 2005/06; Naiman, 1974; Schimke, 2009; White, 1992). Tasks in which learners respond to a linguistic stimulus that is presented to them (for example, by repeating it), rather than produce language on their own, may therefore reveal linguistic knowledge that cannot (yet) be detected in production.

1.4 Aims of the dissertation

The overall aim of this dissertation is to investigate the acquisition of finiteness by Moroccan and Turkish learners of Dutch. To this end, empirical data will be analysed that were collected in a series of tasks: production data from film-retelling tasks and picture stories, imitation data from tasks in which learners had to repeat sentences that were manipulated for grammatical structure, and reaction-time data that indicate how fast learners processed certain linguistic structures. The data from different tasks will be compared to find out how production relates to imitation/ processing in the acquisition of finiteness. The aim of this comparison is twofold. First, by considering data from different tasks, a more complete picture of the acquisition process can be obtained. Second, the question can be answered of whether learners have linguistic knowledge of finiteness before they can use this knowledge for production.

Important questions to be addressed are the following: How do L2 learners learn that finite verbs should appear in a finite position in Dutch? Do they know from early on that verbs that appear in a finite position bear finite morphology, whereas verbs that occur in a non-finite position do not?

As in previous studies, the placement of verbs relative to negation and adverbials will be analysed to answer these questions: the placement of a verb to the left of negation or adverbials indicates that it occurs in a finite position, whereas the placement of a verb to the right of such elements indicates that it appears in a non-finite position. The terms 'raised' and 'non-raised' will also be used to refer to these positions, but it is important to note that these terms are

intended descriptively. Thus, when it is said that a learner has placed a verb in raised position, this should be interpreted as another way of saying that the learner has put the verb to the left of negation or an adverbial. It is not necessarily equivalent to saying that the learner has a grammatical representation of the target language that corresponds to the hierarchical structure in (16) above.

To the best of my knowledge, there are no previous studies on L2 Dutch in which comprehension or processing tasks have been used to assess learners' linguistic knowledge of finiteness. More generally, it seems that L2 research on finiteness in different target languages is characterized by a strong focus on production data. With very few exceptions (Beck, 1998; Eubank & Grace, 1996; Schimke, 2009), researchers have investigated the acquisition of verb morphology and verb placement by studying spontaneous or elicited production data. The data presented in this dissertation show that for different types of structures, the data from production and imitation/processing show a convergent picture. Where differences are found, learners typically show linguistic knowledge in imitation/processing that they cannot yet use in production, but will be using when they become more proficient in the L2.

1.5 Participants and methodology

The participants whose data will be described belong to the two largest immigrant groups in the Netherlands: Moroccans and Turks. The majority of these participants had immigrated to the Netherlands to reunite with their families. They constituted a rather homogeneous group in terms of socio-economic background and educational level. All were poorly educated: many learners had only passed a few years at primary school, while others had spent a few years at secondary school or received professional training, but none had studied at university level. The level of contact with the target language varied across participants, but none of them reported Dutch as their main language of use. Most participants were unemployed and only used the L2 for daily conversations outside the house, but some of them worked as cleaners or dishwashers in restaurants and thus had a little more contact with the target language.

All participants were recruited at schools where they followed a Dutch course that is obligatory for immigrants in the Netherlands. At these schools,

called *Regionaal Opleidingscentrum* 'Regional Education Center', they were enrolled in courses that are specially designed for learners with a low educational level. The main class activities in such courses involve conversation-oriented exercises and role-play. Explicit grammar instruction plays only a minor role. A few learners who were illiterate in their native language had learned how to write and read in a special course before entering the Dutch language course.

Participants' level in the L2 was basic: they were all at level 1 or 2 out of a total of six levels, which roughly correspond to the levels A1 and A2 as defined in the Common European Framework of Reference (Council of Europe, 2001). According to this framework, learners at the A1 level "can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type" and "interact in a simple way provided the other person talks slowly and clearly and is prepared to help" (Council of Europe, 2001: 24). At the A2 level, learners "can understand sentences and frequently used expressions related to areas of most immediate relevance" and "communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters" (Council of Europe, 2001: 24).

The fact that participants were at an early stage of acquisition does not imply that they had just started to learn the target language. In fact, it was not uncommon for participants to have been in a language class for more than a year before they reached the A1 level. Due to their relatively low level of education, as well as little contact with the target language, most learners progressed rather slowly. As noted by other researchers (Van de Craats, Kurvers & Young-Scholten, 2006), a clear advantage of studying data from learners that do not progress fast in the target language is that the acquisition process is more transparent. Whereas highly educated learners, in general, quickly pass through the different acquisition stages or might even skip stages, learners with a low education usually slowly pass from one stage to the next. Hence, a more transparent, clear-cut picture of the acquisition process can often be obtained from the latter type of learners. Another advantage of studying poorly educated learners is that they are often not familiar with experimental setups and hence, lack the test-wiseness that is typical of university students, often tested in acquisition studies.

1.6 Organization of the dissertation

This dissertation contains five content chapters, in addition to this introduction chapter, a chapter that describes finiteness in the source and target languages (Chapter 2), and a result summary at the end (Chapter 8). In each of these five chapters, a separate study is described that can be read in isolation.

Chapter 3 and 4 address the acquisition of verb placement in negated sentences. Here, the question is addressed how learners pass from a system in which they place the verb in a non-raised position relative to negation (e.g., *De jongens niet lopen* ‘The boys not walk’) to a system in which the verb is raised (e.g., *De jongens lopen niet* ‘The boys walk not’). In Chapter 3, production data are investigated and the focus is on the different behavior of light verbs and lexical verbs. Thus far, almost all studies of the L2 acquisition of finiteness, both form- and function-oriented, have shown that learners place light verbs such as modal verbs and auxiliaries in a target-like position with respect to negation before they do so with lexical verbs. The precise role of light verbs in the acquisition of finiteness has not often been the focus of attention, however. Therefore, Chapter 3 investigates how the acquisition of verb placement in sentences with light verbs relates to the acquisition of verb placement in sentences with lexical verbs. The results corroborate earlier findings for the L2 acquisition of Germanic languages that the acquisition of the auxiliary verb *hebben* ‘have’ is crucial for the acquisition of verb placement (Becker, 2005; Jordens & Dimroth, 2006). More precisely, the findings of Chapter 3 show that L2 learners of Dutch only place lexical verbs in a raised position (e.g., *De jongens gooien niet* ‘The boys throw not’) after they have acquired the auxiliary verb *hebben* ‘have’.

The aim of Chapter 4 is to investigate whether the important role of *hebben* for the acquisition of verb placement is reflected in experimental data collected in an elicited-imitation task and a sentence-matching task. The results from both tasks indicate that this is indeed the case: learners who did not produce *hebben* behaved differently from learners who did. The results of this chapter also show that the learners who did not produce *hebben* showed a target-like preference for the placement of *hebben* relative to negation in elicited imitation and sentence matching. This suggests that learners’ linguistic knowledge can exceed the knowledge that can be used actively for production. Altogether, these results provide strong support for the idea of *hebben* as a crucial step towards verb-raising.

Chapter 5 asks whether there is a relation between verb morphology and verb placement. Unlike the previous two chapters, in which the data were predominantly analysed in line with function-oriented views on L2 acquisition, this chapter takes a form-oriented approach. Two UG-based claims are contrasted: (i) beginning L2 learners do not have access to UG versus (ii) L2 learners can access the functional categories from UG from the earliest stages of acquisition onwards. Unlike earlier studies in which these claims were tested against production data alone, the current study also presents data from elicited imitation. The results suggest that beginning learners of Dutch do not have access to functional categories from UG when they start out learning the L2. The main evidence for this is that finite verbs are allowed in a non-raised position in both production and imitation. When learners become more proficient, however, they typically produce finite verb forms in a raised position and non-finite forms in a non-raised position. Non-finite verbs can sometimes occupy a raised position, but the opposite does not occur. This suggests that functional categories are intact in the learners' grammar as soon as they become available.

Unlike the previous chapters, which all focused on the acquisition of finiteness in negated sentences, Chapter 6 presents evidence from sentences with temporal adverbials. More precisely, this chapter compares verb placement in sentences with temporal adverbials and sentences containing negation. It is shown that L2 learners of Dutch less often raise verbs over temporal adverbials than over negation. Unlike in earlier studies in which similar findings have been explained in light of UG, the current data are accounted for in terms of two semantic principles: scope marking and assertion. The main reason for adopting a semantic account is that learners differentiate between different types of adverbials: they typically place verbs to the left of adverbials such as 'still' and 'again' but to the right of adverbials such as 'now' and 'today'. To explain this difference, it is argued that temporal adverbials such as 'still' have the same assertion and scope marking properties in early L2 acquisition as negation and finite verbs, but adverbials such as 'today' do not.

The last content chapter, Chapter 7, expands on the findings from Chapter 6 and investigates verb placement in negated sentences and sentences with temporal adverbials in sentence processing. The aim of this comparison is to evaluate form- and function-oriented views on the acquisition of verb placement. Like the production data from Chapter 6, the processing data show clear differences between learners' placement of verbs relative to negation and

INTRODUCTION

temporal adverbials. Effects of the L1 and of adverbial type are also found in learners' processing of sentences with adverbials. On the basis of these results, it is argued that a purely syntactic (UG-based) theory of verb placement is less able to account for the data than a function-oriented view that takes into account semantic scope marking as well as other factors such as L1 influence and L2 input frequency.

1.7 Outline

The dissertation presents data from three studies that will henceforth be called the 'negation study', the 'agreement study', and the 'adverbial study'. The same production tasks were used in all studies and the comprehension/processing tasks differed only in the target structures being tested (negated sentences vs. sentences with adverbials). The learners that took part in the different studies were recruited at the same schools, and also partly, from the same classes. Due to this overlap across studies (both with respect to experimental design and participants), the results from the different studies can be directly compared.

Table 1 maps the three studies onto the organization of the dissertation. It indicates for each study what topic was investigated, what tasks were used and where in the dissertation the study's results will be described. As can be seen from this table, a chapter on a certain phenomenon in production is typically followed by a chapter in which these production data are compared to imitation and/or processing data on the same topic. For the agreement study, however, this is not the case; here, only one chapter presents the data from production and elicited imitation.

CHAPTER 1

Table 1. *Schematized overview of the dissertation*

Study	Topic	Tasks	Relevant chapter	
Negation study	Finite syntax: Verb placement in negated sentences	Production	Chapter 3	Chapter 4
		Imitation		
		Processing		
Agreement study	Finite morphology/syntax: Agreement marking in negated sentences	Production	Chapter 5	
		Imitation		
Adverbial study	Finite syntax: Verb placement in sentences with adverbials	Production	Chapter 6	Chapter 7
		Processing		

Chapter 2

Finiteness in the source and target languages

This chapter outlines the typological properties that are relevant for the study of finiteness for the target language, Dutch, as well as the source languages of the learners, Moroccan Arabic and Turkish. For each of these languages the following properties will be described: the placement of finite and non-finite verbs, the placement of negation, subject-verb agreement, and the type of light verbs found. Since only basic facts that are relevant to the current studies will be addressed, the description leaves uncovered many subtleties of the languages' typological systems.

2.1 Word order and finiteness

2.1.1 Dutch

A description of the word order properties and the placement of finite verbs in Dutch was already given in section 1.2 of the previous chapter. In this section, it was shown that finite verbs occur in second position in declarative main clauses, but in final position in subordinate clauses. In yes/no-questions and imperative statements, finite verbs are placed sentence-initially. The following is a brief summary of the types of structure found in Dutch declarative main clauses. The other clause types are not further considered, because they are not directly relevant to the discussion of the L2 data.

The examples in (1) and (2) illustrate that the finite verb appears in second position in Dutch: it follows one major constituent that may be the subject, but also another constituent, such as an adverbial.

(1) Emma kijkt elke zondag een mooie film
Emma watch.3.sg every Sunday a nice movie
'Emma watches a nice movie every Sunday'

(2) Elke zondag kijkt Emma een mooie film
Every Sunday watch.3.sg Emma a nice movie

‘Every Sunday, Emma watches a nice movie’

When there is a compound verb, the finite (modal or auxiliary) verb appears in second position and the non-finite lexical verb occurs in final position:

(3) Emma wil elke zondag een mooie film kijken
 Emma want every Sunday a nice movie watch.*inf*
 ‘Emma wants to watch a nice movie every Sunday’

(4) Elke zondag heeft Emma een mooie film gekeken
 Every Sunday has.*3.sg* Emma a nice movie watch.*pp*
 ‘Every Sunday, Emma has watched a nice movie’

2.1.2 Moroccan Arabic

In Moroccan Arabic, the finite verb appears in initial position and thus precedes the subject (if expressed) and other arguments (Harrell, 1962: 160).

(5) Ka-nšuf-hom koll nhař
Dur-see.1.sg-them every day
 ‘I see them every day’ (Harrell, 1962: 152)

In sentences with compound verbs, both the auxiliary or modal verb and the lexical verb precede the other arguments and both are marked for finiteness:

(6) Xeşşni nexdem l-yum
Must.3.sg.past-to-me work.*1.sg* the-day
 ‘I must work today’ (Harrell, 1962: 180)

Moroccan Arabic has pro-drop: reference to subjects is typically expressed by verbal inflections, and the use of an overt pronoun is often contrastive. This is illustrated in (7).

(7) Mšit ana
Go.1.sg.past I
 ‘I went (not you)’ (Harrell, 1962: 160)

Harrell (1962: 160-161) describes two types of construction in which the subject occurs in initial position. First, in equational, copula-less sentences such as (8), the subject precedes the predicate. Second, nouns or pronouns can occur as ‘pre-stated topics’, meaning that they appear in sentence-initial position and co-refer to the same referent as a pronoun that is either independent or marked by verbal inflection and occurs later in the sentence. The following utterances illustrate the two types of construction:

(8) Ana hna
I here
‘I am here’

(9) Le-mğarba ka-yaklu tlata wella řeba de-l-meřratfe-n-nhař
The-Moroccans *dur-eat.3pl* three or four of-the-times in-the-day
‘(As for) the Moroccans, they eat three or four times a day’
(Harrell, 1962: 161)

2.1.3 Turkish

Turkish is a pro-drop language in which the finite verb appears in sentence-final position. Turkish has agglutinative morphology: words consist of roots or stems to which suffixes marking case, mood, and tense are attached. The following utterance illustrates the final placement of the finite verb in Turkish:

(10) Hasan kitab-ı oku-du
Hasan book-acc read-past
‘Hasan read the book’

Turkish does not have auxiliary verbs, but it has a modal verb, *istemek* ‘want’, that carries person and tense marking and appears sentence-finally:

(11) Hasan yarış-ı azan-mak isti-yor
Hasan race-acc win-inf want-prog.3sg
Hasan wants to win the race (Kornfilt, 1997: 407)

Although the canonical word order is considered to be SOV, several authors have noted that Turkish allows different word orders dependent on information structure (Erguvanlı, 1984; Kiliçaslan, 2004; Kornfilt, 1997). Three positions have been assigned a special status: (i) sentence-initial (topic), (ii) immediately pre-verbal (focus), and (iii) post-verbal (background). Erguvanlı (1984) illustrates this with the following examples: (12) has unmarked word order, (13) is an answer to the question ‘What did Murat give to the man’, and (14) answers the question ‘To whom did Murat give the money?’

- (12) Murat para-yı bu adam-a ver-di
 Murat money-acc this man-dat give-past
 ‘Murat gave the money to this man’
- (13) Murat bu adam-a para-yı ver-di
 Murat this man-dat money-acc give-past
- (14) Para-yı Murat bu adam-a ver-di
 Money-acc Murat this man-dat give-past
 (Erguvanlı, 1984:38)

2.2 Negation

2.2.1 Dutch

Dutch negation is expressed with a free morpheme *niet* ‘not’ that follows the finite verb and precedes the non-finite verb in declarative main clauses:

- (15) Peter heeft niet gelopen
 Peter have.3sg not walk.pp
 ‘Peter has not walked’

When a sentence does not contain a modal verb or an auxiliary, the lexical verb is raised and the negator remains where it was in the underlying structure. This results in constructions of the type in (16), where the finite lexical verb precedes *niet* (see also section 1.2 of Chapter 1).

- (16) Peter loopt niet
 Peter walk.*3sg* not
 ‘Peter does not walk’

As noted earlier, finite verbs do not raise in subordinate clauses:

- (17) Ik denk dat Peter niet loopt
 I think that Peter not walk.*3sg*
 ‘I think that Peter does not walk’

- (18) Ik denk dat Peter niet gelopen heeft
 I think that Peter not walk.*pp* have.*3sg*
 ‘I think that Peter has not walked’

Niet usually does not precede indefinite constituents. In (19), *niet* is fused with the indefinite article into a new form *geen* ‘no’. Other forms are *niets* ‘nothing’ (*niet iets*) and *niemand* ‘nobody’ (*niet iemand*).

- (19) Peter koopt geen boek
 Peter buy.*3sg* not a book
 ‘Peter buys no book’

2.2.2 Moroccan Arabic

Negation is marked by a split morpheme in Moroccan Arabic. This morpheme consists of a prefix *ma-* and a suffix *-š* that are both attached to the finite verb.¹ As in Dutch, verbs raise over negation to a higher position in the sentence (Ouhalla, 1994).

- (20) Ma-ka-yakol-š
 Not-*dur*-eat.*3sg*-not

¹ The form *-šgy* rather than *-š* is often used to express emphatic negation (Harrell, 1962: 152).

‘He does not eat’ (Harrell, 1962: 152)²

In the case of compound verbs, the negator is attached to the auxiliary or the modal verb that precedes the lexical verb:

- (21) Ma-bğit-š nddi-ha
 Not-want.1*sg.past*-not take.1*sg*-her
 ‘I do not want to take it’ (Harrell, 1962: 155)

If the direct object refers to a whole category rather than some specific item, the verb is negated by *ma-* alone. Moreover, when there is no verbal predicate, the negator *maš* is placed before the item to be negated. These two uses of negation are illustrated in (22) and (23), respectively.

- (22) Ma-kla xobz
 Not-eat.3*sg.past* bread
 ‘He did not eat bread’ (vs. ‘this bread’) (Harrell, 1962: 154)

- (23) Huwa maši hna
 He not here
 ‘He is not here’ (Harrell, 1962: 155)

2.2.3 Turkish

In Turkish, negation is marked with a suffix *-ma*, which occurs after the verb stem and before other (tense and mood) suffixes:

- (24) Hasan kitab-ı oku-ma-dı
 Hasan book-*acc* read-not-*past*
 ‘Hasan did not read the book’ (Kornfilt, 1997: 123)

² Unlike what can be found in Harrell (1962), who alternates between different spellings and uses ‘i’, ‘j’ and ‘y’, ‘y’ is always used for verb forms like *ka-yakol* in the current examples.

In copula sentences, the negative copula *değil* is used. As can be seen from (25), *değil* is a free morpheme to which inflectional suffixes for agreement and tense can be attached.

- (25) (Ben) hasta değil-di-im
 (I) sick not.be-past-1.sg
 ‘I was not sick’ (Kornfilt, 1997: 124)

In colloquial language, the negative marker *yok*, which has the same properties as *değil*, can also be used. For the negation of possession, only *yok* is appropriate:

- (26) (Ben-im) araba-m yok
 (I-gen) car-1.sg not
 ‘I have no car’ (Kornfilt, 1997: 125)

Although verbs are assumed to raise over the negation marker *-ma* in Turkish (Ouhalla, 1991), they do not raise over the negative copula *değil* and the negative marker *yok* (Haznedar, 1997).

Kornfilt (1997) mentions a further use of *değil*, which is widely attested in colloquial language, but less so in written language: in constructions of the type in (27), the negative copula is placed after the verbal predicate, which bears tense suffixes but no agreement markers. Instead, the agreement markers are attached to *değil*.

- (27) (Ben) iş-im-i bırak-acak değil-im
 (I) work-1.sg-acc leave-fut not.be-1.sg
 ‘I shall not leave my job’ (Kornfilt, 1997: 125)

2.3 Subject-verb agreement

In the following, only agreement paradigms for the present tense are given since past tense marking was almost absent from the L2 data and will therefore not be investigated.

2.3.1 Dutch

In Dutch, verbal suffixes mark the person and number of the grammatical subject. Table 1 lists the forms for the present tense as well as the infinitive and past participle for the verb *werken* ‘to work’.

Table 1. *Non-finite forms and agreement paradigm for Dutch ‘werken’ (‘to work’)*

	Non-finite	Finite (present)
Infinitive	werk <i>-en</i>	
Past participle	<i>ge-</i> werk <i>-t</i>	
1sg		werk <i>-0</i>
2sg		werk <i>-t</i>
3sg		werk <i>-t</i>
1pl		werk <i>-en</i>
2pl		werk <i>-en</i>
3pl		werk <i>-en</i>

Table 1 shows that the same suffix is often used to mark several functions: *-t* marks both 2nd and 3rd person singular and also often occurs on past participle forms. The *-en* ending is used for plural forms and also occurs on the infinitive. Finally, although not indicated in this table, *-0* is used for 1st person singular, but also occurs in questions containing a 2sg-pronoun (e.g. *Ga je naar school?* ‘Lit. Go you to school’) and on the imperative.

2.3.2 Moroccan Arabic

There are two types of non-finite forms in Moroccan Arabic (active and passive participles) as well as two types of finite forms (perfect and imperfect). There is no infinitive. The imperfect is formed by means of prefixes in the singular and by the same set of prefixes plus a set of suffixes in the plural. The perfect is formed by suffixes only. Due to vowel harmony rules, the paradigm given in Table 2 is not exhaustive: morphemes may be realized differently depending on the vowels in the verb stem.

Table 2. *Non-finite forms and agreement paradigm for Moroccan Arabic 'kteb' ('he wrote')*

	Non-finite	Finite: perfect	Finite: imperfect
Active participle	kateb		
Passive participle	mektub		
1sg		kteb <i>-t</i>	ka- <i>n-</i> kteb
2sg		kteb <i>-ti</i>	ka- <i>t-</i> kteb
			ka- <i>t-</i> ketb <i>-i</i>
3sg-masc.		kteb <i>-Ø</i>	ka- <i>y-</i> kteb
3sg-fem.		ketb <i>-et</i> or ketb <i>-at</i>	ka- <i>t-</i> kteb
1pl		kteb <i>-na</i>	ka- <i>n-</i> ketb <i>-u</i>
2pl		kteb <i>-tiw</i> or kteb <i>-tu</i>	ka- <i>t-</i> ketb <i>-u</i>
3pl		ketb <i>-u</i> (but: dda <i>-w</i>)	ka- <i>y-</i> ketb <i>-u</i>

As for the gender distinction in the 2sg form of the imperfect, Harrell notes that “most urban speakers do not make a gender distinction in the second person and use such forms as *tekteb* ‘you (sg.) write’ in addressing both men and women” (Harrell, 1962: 40). As for the alternate forms for 3sg feminine forms, he notes that *-et* and *-at* are used interchangeably. The same holds for *-tiw* and *-tu*: some speakers use *-tiw*, while others use *-tu*. However, there is no free alternation between the *-u* and *-w* endings for 3pl forms: *-u* occurs after stems ending in a consonant, while *-w* is used after stems ending in a vowel.

2.3.3 Turkish

The inventory of verbal suffixes in Turkish is presented in Table 3. Only suffixes for the verb *okumak* ‘read/study’ are given. Like Moroccan Arabic, Turkish has vowel harmony rules, so suffixes may contain different vowels depending on whether the vowel in the last syllable of the stem is a front or back vowel (e.g., *-im*, *-um*, *-üm*, *-üm* for 1sg present tense). Note that the non-

finite verb is also marked for person and number and so has as many different morphological endings as the finite verb.³

Table 3. *Non-finite forms and agreement paradigm for Turkish ‘okumak’ (‘to study/read’)*

	Non-finite	Finite: present
1sg	oku <i>-yım</i>	okuyor <i>-ım</i>
2sg	oku <i>-Ø</i>	okuyor <i>-sun</i>
3sg	oku <i>-sun</i>	okuyor <i>-Ø</i>
1pl	oku <i>-yahm</i>	okuyor <i>-uz</i>
2pl	oku <i>-yun</i>	okuyor <i>-sunuz</i>
3pl	oku <i>-sunlar</i>	okuyor <i>-lar</i>

2.4 Light verbs

In line with previous work (Dimroth, 2008; Parodi, 2005), the term ‘light verb’ is used in this dissertation to refer to verbs that have little semantic content of their own such as copulae, modal verbs, and auxiliaries.⁴ Light verbs can be contrasted with lexical verbs that have clear semantic content such as ‘walk’ and ‘eat’. In the literature, the terms ‘thematic’ and ‘non-thematic’ have also been used to refer to this distinction (Eubank, 1996; White, 1991).

³ These non-finite forms carry the same agreement suffixes as head nouns in nominal possessive constructions of the type ‘John’s book’. Nominalized clauses are used frequently in Turkish and involve, among others, subordinate clauses expressing indirect speech and relative clauses (Kornfilt, 1997).

⁴ Verbs such as ‘do’, ‘make’ and ‘go’ have also been termed ‘light verbs’ in some studies, but they are not included in the definition here, since their semantic content is less ‘thin’ than that of copulas, modal verbs, and auxiliaries. Although the verb *doen* ‘do’ can function as a semantically empty verb in constructions with another lexical verb in Dutch and, in fact, has been shown to be frequent in L1 acquisition, it is not further discussed, since it was almost absent from the L2 data.

⁵ The verb *zullen* ‘shall’ can also be used to mark future tense in Dutch, but it is much less frequent than the verb *gaan* ‘go’, at least in oral language. Moreover, it can have a modal meaning and express likelihood without future reference. Since the L2 learners in the current studies did not produce *zullen*, this verb is not further discussed.

2.4.1 Dutch

Dutch has a number of light verbs. First, there is an obligatory copula *zijn* ‘be’, which expresses a state or property.

- (28) Hij is aardig
 He be.3sg nice
 ‘He is nice’

There is also a copula *worden* ‘become’, which denotes a change of state: *Hij wordt 10 jaar* ‘He turns ten’. Dutch also uses a number of modal verbs, which express notions such as volition, obligation, ability, and permission. These modal verbs combine with infinitives that are placed sentence-finally, such as in (29), which contains a form of *willen* ‘want’. As can be seen from this example, modal verbs are not marked for person:

- (29) Hij wil vandaag een film zien
 He wants today a movie watch.inf⁶
 ‘He wants to see a movie today’

There is also a light verb *gaan* ‘go’, which is commonly used to mark (near) future or inchoative aspect and, like modal verbs, occurs in periphrastic constructions with an infinitival form⁵:

- (30) Hij gaat slapen
 He go.3sg sleep.inf
 ‘He is going to do (some) shopping’

Lastly, Dutch has two auxiliary verbs that co-occur with past participles and mark perfective aspect: *hebben* ‘have’ and *zijn* ‘be’.⁶ Of these forms, *hebben* is the most frequent, since *zijn* is only used with unaccusative and ergative verbs:

⁶ Dutch also has a number of aspectual auxiliaries that express durative aspect and are derived from lexical verbs such as *zitten* ‘sit’, *staan* ‘stand’, and *liggen* ‘lie’ (e.g., *Jan zit de hele tijd te praten* ‘John is talking all the time’). A few occurrences of such verbs were found in the L2 data, but the data suggest that, aside from being infrequent, they involved rote-learning rather than productive use.

- (31) Hij heeft vandaag een film gezien
 He have.3.sg today a movie watch.pp
 ‘He has watched a movie today’
- (32) Hij is naar de bioscoop gegaan
 He be.3.sg to the cinema go.pp
 ‘He has gone to the cinema’

2.4.2 Moroccan Arabic

Simple equational sentences in Moroccan Arabic consist of a subject and a predicate without a copula linking these two sentence parts. For an example, consider (33).

- (33) Had ř-řažel nežžar
 This the-man carpenter
 ‘This man is a carpenter’ (Harrell, 1962: 159)

The language has a large set of modal and auxiliary verbs. Harrell (1962: 179) provides a list of these verbs, of which the most common are exemplified below.

The verb *kan* ‘be’ can express past habitual, repetitive, durative or progressive action. An example of an utterance in which *kan* marks past progressive is given in (34):

- (34) Kan wažed l-hom
 Be.3.sg.past wait.act.part for-them
 ‘He was waiting for them’ (Harrell, 1962: 180)

Moroccan Arabic has two auxiliaries that specify that an action or situation begins (*bda*) or continues (*bqa*):

- (35) Bda ka-yeum
 Begin.3.sg.past dur-swim.3.sg
 ‘He began to swim’ (Harrell, 1962: 181)

CHAPTER 2

- (I) sick-1_{sg}
 ‘I am sick’ (Kornfilt, 1997: 217)

There is a copula, however, that occurs as a free morpheme, *olmak*, and is often ambiguous between ‘be’ and ‘become’:

- (42) (Biz) satıcı ol-acağ-ız
 (We) seller be/become-*fut-1pl*
 ‘We will be/become sellers’ (Kornfilt, 1997: 88)

Olmak can also function as a free auxiliary that carries tense and mood suffixes and “supplements the tense/aspect marking that is already present on the lexical verb” (Göksel & Kerslake, 2005: 142). This is illustrated in (43):

- (43) Bu arada da ders-imiz-i bitir-miş ol-acağ-ız
 Meanwhile and lesson-1_{pl,poss-acc} finish-*perf* aux-*fut-1pl*
 ‘And in the meantime we will have finished our homework’
 (Göksel & Kerslake, 2005: 142)

The modal verb *istemek* ‘want’ can also be used (see (11) above) and this verb, like *olmak*, appears in final position and so follows the lexical verb. Aside from *istemek*, *olmak*, and a similar but infrequent form *bulunmak*, Turkish does not have auxiliary verbs that can occur as free morphemes. The verb *etmek* ‘to do’ can be combined with other verbs into a periphrastic construction, but this device is not very productive, since it can only be used with loan words such as Arabic *kabul etmek* ‘to accept’ and French *organize etmek* ‘to organize’ (Lewis, 1967: 154).⁷

⁷ There are certain verbs in Turkish that express modal meanings or modify the predicate in various ways but these are not independent verbs. Rather, they are attached to the verb stem, as in (i), where *bilmek* ‘can/be able to’ is attached to the verb stem:

- (i) Ayse altı yaş-ın-da ama gazete oku-ya-biliyor
 Ayse six year-*pos-loc* but newspaper read-*can,prog.3sg*
 ‘Ayse is six years old, but she can read the newspaper’ (Türkmen et al., 1988)

2.5 Summary

The main typological properties of the three languages are summarized in Table 4. This table shows that Dutch and Moroccan Arabic have verb-raising, whereas Turkish has not. A clear difference between Dutch and Moroccan Arabic, however, is that finite verbs must occupy the second clausal position in Dutch declarative clauses, but appear in initial or medial position in Moroccan Arabic. A further difference between the two languages relates to compound verbs: while non-finite verbs remain sentence-final in Dutch, the entire verb phrase is raised in Moroccan Arabic. In Turkish, there are virtually no compound verbs, except for a modal verb *istemek* and an infrequently used verb *olmak*, which both appear sentence-finally.

Negation follows the finite verb in all three languages. In Moroccan Arabic, however, there is an additional element that precedes the verb, which can, in fact, function as the sole negator in specific constructions where the post-verbal element is not obligatory. A crucial difference between Dutch, on the one hand, and Moroccan Arabic and Turkish, on the other, involves the type of negation morpheme that is used: whereas Dutch has a free morpheme, the other two languages use a bound morpheme.

As for subject-verb agreement, Moroccan Arabic and Turkish are most similar: both languages have a rich agreement paradigm with clear one-to-one relationships between forms and functions. The Dutch agreement paradigm, in contrast, contains homophonous verb endings: the same form can express several functions. Finally, with respect to light verbs, Moroccan Arabic and Dutch behave most similarly. In both languages, a relatively large set of ‘semantically empty’ verbs is used, as opposed to Turkish, where such verbs are rare.

Table 4. *Summary of main typological properties of Dutch, Moroccan Arabic, and Turkish*

	Dutch	Moroccan Arabic	Turkish
Position of V _{fin} (decl. main clause)	Second position	Initial position (also: after subject)	Final position
Pro-drop	No	Yes	Yes
Verb-raising	Yes	Yes	No ⁸
Position of negator	Post-verbal	Pre- and post-verbal	Post-verbal
Type of negator	Free morpheme	Bound morpheme	Bound morpheme
Agreement (present tense)	3 person distinctions	6 person distinctions	6 person distinctions
Light verbs	Copula, Modals, Aspectual auxiliaries	Copula, Modals Aspectual auxiliaries	Copula, Modal 'want'

⁸ As noted in section 2.2.3, verbs have been assumed to raise over the negation suffix *-ma* in Turkish (Ouhalla, 1991). However, they not raise over objects, adverbials or the negation markers or the free negation morphemes *değil* and *yok*.

Chapter 3

Light verbs and lexical verbs in negated sentences: On the role of the auxiliary ‘hebben’¹

Contrary to what has been observed for first language acquisition, the development of finiteness in adult second language acquisition is a slow and gradual process that does not necessarily result in a stable target-like system. It is not unusual to find variability in the use of finite morphology and the placement of finite verbs, even in the data from L2 learners who have reached a high level of proficiency.² To account for the complexity of the task in L2 acquisition, several explanations have been proposed, which range from UG-based theories concerning the availability of functional categories (Meisel, 1997; Parodi, 2000; Prévost & White, 2000) to functional accounts that stress the importance of information structure and scope marking in L2 acquisition (Becker, 2005; Jordens & Dimroth, 2006).

Despite these diverging explanations there is a strong consensus on the actual data showing learners’ acquisition of finiteness. Most researchers agree that light verbs such as copulas, modal verbs, and auxiliaries are used as finite forms at a stage at which most lexical verbs are still non-finite. Parodi (2000) investigated data from Italian and Spanish learners of German and found that these learners used correct subject-verb agreement on auxiliaries, modals and the copula, while agreement marking on lexical verbs was absent or highly variable. Parodi also looked at the position of the verb relative to negation to find out whether the verb had been raised. Her results showed that learners consistently placed light verbs before negation, and lexical verbs after negation. In other studies, very similar results were obtained for L2 English (Giuliano, 2003; Ionin & Wexler, 2002; Lardiere, 1998), L2 French (Giuliano & Véronique, 2005; Meisel, 1997), and L2 German (Becker, 2005; Dimroth, 2008).

¹ An adapted version of this chapter will appear in P. Jordens & C. Dimroth (Eds.), *Functional elements: Variation in learner systems*. Berlin/New York: Mouton de Gruyter.

² The obligatory placement of the finite verb in second position, for instance, has been shown to remain problematic, even for advanced learners of Dutch and German (Becker, 2005; Dimroth et al., 2003; Klein & Perdue, 1992).

Although many researchers have observed that light verbs appear in finite constructions long before lexical verbs in adult L2 acquisition, only a few studies have focused on this phenomenon. The study presented in this chapter aims at filling this gap in part by taking a close look at light verbs, in particular auxiliary verbs, in L2 Dutch. Unlike in previous work where different types of light verbs were collapsed, a distinction is made between different types of light verbs (copula, auxiliaries, modals), so that we can determine not only whether there are differences between light verbs, on the one hand, and lexical verbs, on the other, but also whether there are differences *within* the class of light verbs.

The organization of the chapter is as follows. Section 3.1 discusses earlier findings on the behavior of light verbs and lexical verbs and considers how these findings have been dealt with in different theoretical frameworks. Section 3.2 presents previous findings from L2 German that show that the acquisition of auxiliaries is important for the acquisition of verb-raising (Becker, 2005; Dimroth, 2008). Section 3.3 addresses the study's research questions: (i) When do Moroccan and Turkish learners of Dutch acquire light verbs? (ii) Where do they place these verbs in relation to negation?, and (iii) Does the acquisition of auxiliary verbs 'trigger' verb-raising of lexical verbs in L2 Dutch? The study's methodology is described in section 3.4 and the findings are presented in the sections 3.5 and 3.6. Taken together, the results support the idea that light verbs behave differently from lexical verbs in the acquisition of verb placement in L2 Dutch, with auxiliary verbs playing a major role in the acquisition process.

3.1 Background

3.1.1 Form-oriented studies

Studies on the acquisition of finiteness in L1 acquisition have shown that there is a relation between verb morphology and verb placement (Clahsen & Penke, 1992; Poeppel & Wexler, 1993): children place finite verbs in a position used for finite verbs from the earliest occurrences of finite verbs on, whereas they place non-finite verbs in a position for non-finite verbs. Verb placement has typically been defined in relation to negation in such studies. The placement of a verb to the left of negation implies that the verb is raised, whereas its

placement to the right of negation implies that it is non-raised. According to Universal Grammar (UG), languages with verb-raising such as German and French have ‘strong’ verb features in INFL, and since finite verbs have to be checked against these features, they are raised to INFL (Pollock, 1989).³ As we have seen above (section 1.2 of Chapter 1), the position of negation is not affected by this raising operation. So when sentences are negated, the finite verb is raised over negation and appears to its left. Non-finite verbs need not be checked and thus remain to the right of negation. The finding that children learning their mother tongue consistently place finite verbs to the left of negation but non-finite verbs to the right has been taken as evidence that they have access to the functional category INFL.

Starting from these findings as well as from generative theory, L2 researchers working within a form-oriented paradigm became occupied with the question of whether the same relationship could be found for L2 acquisition. If so, this would suggest that L2 learners have still access to UG once they have already learnt a first language, including functional categories such as INFL. The empirical evidence for L2 acquisition is far from conclusive, however. Some researchers have argued that there is no relation between finite morphology and verb-raising in L2 acquisition (Meisel, 1997; Vainikka & Young-Scholten, 1996a, b). Meisel (1997) found, for example, that finite and non-finite verbs could appear on either side of the negator in L2 German and L2 French. He concluded that, unlike in L1 acquisition, the development of verb-raising is not related to finite morphology in L2 acquisition. Other researchers have claimed that L2 learners do have access to functional categories (Haznedar & Schwartz, 1997; Herschensohn, 2001; Prévost & White, 2000). They found that learners systematically placed finite verbs in a raised position, but non-finite verbs in a non-raised position in L2 French and German.

Given these opposing views, it is surprising to find that there is almost no disagreement across studies regarding the different behavior of light verbs

³ In generative grammar it is also assumed that INFL can be split into AgrP and TP (Pollock, 1989). Throughout this dissertation, INFL will be used as a cover term for these two functional projections.

and lexical verbs in L2 acquisition.⁴ Almost all researchers agree that light verbs are found in a finite position from these verbs' emergence on, while this is typically not the case with lexical verbs (Clahsen, 1988; Hyltenstam, 1977; Stauble, 1984; Thomaselli & Schwartz, 1990). Meisel (1983) noted that at a stage where 'negator-verb' seems to be the dominant pattern, the negator tends to be placed to the right of modals and auxiliaries in L2 German. Nevertheless, the precocious finite behavior of light verbs has not been an important topic of interest in the literature, since the focus in most studies was on the morphosyntactic behavior of lexical verbs. Clahsen (1988) observed, for instance, that modals and auxiliaries regularly preceded negation in L2 German at a stage at which lexical verbs followed negation, but he took this finding as evidence against transfer since post-verbal negation was not an option in learners' L1, Italian and Spanish. Other researchers have collapsed the two types of verb in their analyses, because they assumed that the verb features of light verbs, like those of lexical verbs, have to be checked in INFL (Lardiere, 1998; Prévost & White, 2000).

An exception to this is a study by Parodi (2000). As briefly pointed out above, Parodi studied the acquisition of subject-verb agreement and verb-raising in longitudinal data from Romance learners of German, thereby distinguishing between light verbs (i.e., modals, auxiliaries, and possessive 'have') and lexical verbs. She found that agreement with lexical verbs showed a slow development towards the target system, whereas agreement with light verbs was sudden and correct. For verb placement with respect to negation, Parodi observed that learners consistently placed light verbs before negation, while they placed lexical verbs after negation as long as they did not bear correct verb agreement. She concluded on the basis of these results that there is a relation between subject-verb agreement and verb-raising in L2 acquisition that becomes especially clear when one looks at light verbs and lexical verbs separately. Parodi proposed that, in early stages of acquisition, there is a "division of labor" between the two verb classes such that "lexical verbs are responsible for lexical information, while light verbs are the main carriers of syntactical information" (Parodi, 2000: 373). More precisely, the idea is that

⁴ More generally, it has been claimed that the more transparent character of free morphology (as opposed to bound morphology) leads to a preference for free morphemes in beginning L2 acquisition (Zobl & Licerias, 1994).

light verbs spell out the functional category INFL, and specifically its AGR component, to the L2 learner. In such a view, light verbs are considered target-like finiteness markers from their emergence on (they reflect a functional category that is the same as in the native grammar), but lexical verbs do not yet have this function (they are carriers of semantic information). Hence, according to Parodi, the only difference between the L2 grammar and the native grammar concerns the use of lexical verbs that are not yet markers of finiteness in the former type of grammar. This view is different from the assumption in function-oriented research that neither light verbs nor lexical verbs are target-like markers of finiteness at an early stage of L2 acquisition. In the following, the main ideas behind function-oriented views on the L2 acquisition of finiteness are discussed.

3.1.2 Function-oriented studies

A core assumption in function-oriented research is that the forms L2 learners use when they start learning a new language do not necessarily have the same function as the corresponding forms of the target language. Based on an analysis of L2 data from over 40 learners of five different target languages, Klein and Perdue (1997) argued that, in particular, morphological marking becomes functional only at later stages of development. Beginning L2 learners may use verb forms that look finite, but these forms do not yet reflect functional use of finiteness marking. The following illustrates the authors' view:

“[L]exical items typically occur in one invariant form. It corresponds to the stem, the infinitive or the nominative in the target language; but it can also be a form, which would be an inflected form in the target language. Occasionally, a word shows up in more than one form, but this (rare) variation does not seem to have any functional value...”

(Klein & Perdue, 1997: 311)

Another important assumption in function-oriented studies of finiteness is that finiteness has a semantic function. Following Klein (1994, 1998, 2006), it is assumed to be a carrier of two semantic features that were briefly introduced in Chapter 1. First, it carries the topic time of the utterance: the time span about which the utterance makes a claim. Secondly, it carries the feature ‘assertion’,

which means that it validates the state of affairs expressed in the utterance with respect to the topic. These two functions can be illustrated with the following example from Klein (1994: 226):

- (1) The book was on the table

Klein argues that putting contrastive stress on the copula provokes two contrasts that illustrate the two semantic functions of finiteness. First, there is a tense contrast that becomes clear when the above sentence is opposed to ‘The book IS on the table’. What is contrasted here is the time span about which the utterance makes a claim: the topic time. Second, a contrast regarding the claim becomes apparent when (1) is opposed to ‘The book was NOT on the table’. Now, it is the assertion component that is stressed: the book’s being on the table is true for a given topic time.

Klein (1998) also assumes that finiteness is a scope-bearing operator: on some level of representation, finite clauses contain an operator FIN that marks assertion (AST) and has scope. It precedes the elements over which it has scope, the focus part of the utterance. In a sentence with a semantically light verb such as *Het meisje heeft een broodje gegeten* ‘The girl has a sandwich eaten’, the scope of the assertion is transparent: finiteness marking on the auxiliary specifies that ‘eating a sandwich’ holds for ‘the girl’ at a particular time span and place (or ‘topic situation’, cf. Klein, 1998). FIN can also fuse with lexical, non-finite information (INF) in a sentence with a finite lexical verb such as *Het meisje eet een broodje* ‘The girl eats a sandwich’. In such a sentence, the scope of FIN is less transparent than in the auxiliary sentence: the finite verb contains the lexical (focus) information and the assertion information at the same time.

Various studies have shown that L2 learners express the assertion function of finiteness from the very first stages of acquisition on (Bernini, 2003; Dimroth et al., 2003; Giuliano, 2003; Jordens & Dimroth, 2006). Initially, learners do not yet use morphosyntactic marking, however, but they employ lexical devices such as adverbials and particles to assert that a state of affairs is true of a given topic. Such devices have been called ‘linking elements’: morphologically fixed expressions that are used to validate relations between the predicate and the topic’ (Jordens & Dimroth, 2006: 178). In example (2), taken from Dimroth et al. (2003), the negator functions as a linking element: it indicates that the state of affairs expressed by the predicate (*hapis gaan* ‘prison

go’) does not hold for the topic (*ik* ‘I’). Negation typically precedes the domain over which it has semantic scope at this stage, that is, the elements that it semantically affects. This means that it precedes the predicate part of the utterance, which contains the lexical information:

- (2) Ik niet hapis⁵ gaan
 I not prison go.*inf*
 ‘I don’t go to prison’⁶ (Dimroth et al., 2003: 79)

Note that the functions of negation and finiteness are very similar: both ‘link’ the information expressed by a predicate to a topic and both are assumed to have semantic scope over the predicate. In (3), there is no linking element, so the default relation of assertion applies and the utterance simply expresses that *hoofdpijn* holds for *vandaag*. In this utterance, the topic time is marked, but the topic entity is left implicit.

- (3) Vandaag 0 hoofdpijn
 Today 0 headache
 ‘Today, I have a headache’ (Dimroth et al., 2003: 79)

As illustrated in (4), light verbs can also function as linking elements. Modal verbs are used frequently and qualify the assertion relation in several ways by marking notions such as volition, permission, and obligation. According to Jordens & Dimroth, modal verbs can also occur with negation, resulting in an unanalyzed expression marking illocutionary force, such as *kanniet* ‘cannot’ in (5).

- (4) Vrouw moet keuken
 Woman must kitchen
 ‘Woman should be in the kitchen’ (Jordens & Dimroth, 2006: 176)
- (5) Ik kanniet praten Nederlands

⁵ The word *hapis* seems to be a case of transfer from Turkish *hapishane* ‘prison’.

⁶ English translations and glosses have been added to all examples taken from Dimroth et al. (2003) and Jordens and Dimroth (2006), who only provided literal word-by-word translations.

I	cannot			speak. <i>inf</i>		Dutch
'I cannot speak Dutch'						(Jordens & Dimroth, 2006: 176)

Thus, in contrast to what we have seen in the previous section for form-oriented studies, an important assumption in function-oriented studies is that morphosyntactic principles do not yet determine the shape of utterances at early stages of acquisition. The presence of finiteness marking does not imply the mastery of finiteness, and the placement of negation and light verbs is determined by principles of scope marking and information structure. Negation and light verbs are considered 'linking elements': they express or qualify the assertion relation between the topic and the predicate, and as such, have a similar function as finiteness.

Jordens and Dimroth (2006) argue that this semantic-pragmatic system changes when the auxiliaries *hebben* 'have' and *zijn* 'be' are acquired. These are the first verbs to be consistently marked for finiteness, and after their emergence a clear restructuring of the learner system is observed: learners start to mark lexical verbs for finiteness and place these in a finite position. Jordens & Dimroth therefore conclude that auxiliary verbs "serve as a bootstrap into the functional category system of the target language" (Jordens & Dimroth, 2006: 186).

To sum up, function-oriented approaches to finiteness assume that finiteness is a carrier of semantic features: topic time (tense) and assertion. At an early stage of acquisition, L2 learners do not yet express these features on the lexical verb, but they employ lexical means such as particles to mark assertion. They also use light verbs, but these elements do not yet carry a verbal status. They function as linking elements that qualify the assertion relation between the focus or predicate part of an utterance and the topic. Negation also serves this linking function and expresses that the information expressed by the predicate does not hold for the topic. The acquisition of auxiliary verbs seems crucial for the transition to morphosyntactic finiteness marking.⁷ A similar claim has been made by Becker (2005), who examined in great detail the

⁷ The idea that auxiliary verbs are important for the acquisition of finiteness is based on findings for L1 Dutch (Jordens, 2000). Jordens and Dimroth (2006) present data from L1 and L2 Dutch and show that the same development holds for both types of acquisition.

Interestingly, Becker observes that the copula can appear in complementary distribution with negation in the L2 data. Based on this finding as well as the observation that no contrastive tense forms of the copula are found, Becker proposes that the copula is an assertion marker – and not yet a tense marker – at the current stage.

The second stage is characterized by the emergence of the auxiliary verb *haben* ‘have’. According to Becker, the acquisition of the ‘auxiliary-past participle’ construction marks an important step in acquisition, since it spells out the finite and non-finite parts of a sentence to the learner. While auxiliaries typically appear as morphologically finite forms, past participles are overtly marked for non-finiteness by means of a *ge*-prefix. It is not surprising, then, that Becker finds that “morphological marking of finiteness first appears on auxiliaries in aux – V constructions, i.e., in cases where the separation between FIN and INF is transparent” (p. 293).

As for their positioning with respect to negation, Becker notes that auxiliary verbs consistently precede negation from the learners’ first uses of auxiliaries on. As with the copula, she explains this in terms of semantic scope marking: auxiliaries lack clear semantic content and therefore occur outside the negator’s scope domain:

- (8) Er hat nicht die zug gesehen
 He have.3.sg not the train see.pp
 ‘He has not seen the train’ (Becker, 2005: 293)

Following Klein (1998), Becker assumes that finiteness is a scope operator that marks assertion. Thus, in a negated sentence containing a finite verb such as (8), there are two scope operators: AST and NEG. Both have scope to the right, over the focus part of the utterance. Hence, the scope relations in an auxiliary-containing utterance are transparent. This can be illustrated with the following representation of (8) in which AST and NEG indicate the scope domain of the assertion operator and the negation operator: Er hat [AST nicht [NEG die zug gesehen]].

A similar claim has been made by Bernini (2003). Bernini reviewed data from Bardel (2000) that showed that Swedish learners of Italian sometimes place light verbs such as the copula *essere* ‘be’ and the auxiliary *avere* ‘have’ in front of the negator, even though such verbs follow the negator in the target

The final stage involves an important reorganization of the learner system, caused by the fact that auxiliaries do not have clear semantic content. More specifically, the idea is that due to their semantic ‘emptiness’ and co-occurrence with non-finite forms (past participles), auxiliaries lead to the acquisition of finiteness marking on lexical verbs in L2 German. While finiteness marking on such verbs is less sudden and correct than on auxiliary verbs, learners now start to mark finiteness on lexical verbs and raise these verbs to a position higher up in the sentence. In negated sentences, this means that lexical verbs are raised over *nicht*:

- (12) Er arbeit nicht gut
 He work.Ø not well
 ‘He does not work well’ (Becker, 2005: 298)

This is a complicated step: learners have to give up the previous utterances in which the scope relations were transparent because negation directly preceded the non-finite lexical information or ‘focus’. First, finiteness is now fused with the lexical verb into one form for which scope relations are much less clear: the assertion operator no longer precedes the focus but both are part of the same form. Second, negation now follows the finite verb over which it has scope. This can be represented as follows: Er [AST [NEG arbeit] nicht] gut. Hence, finite sentences in which the lexical verb is the carrier of finiteness are less transparent in terms of their scope relations than sentence in which an auxiliary carries assertion and both this auxiliary and negation precede the non-finite lexical verb.

In short, Becker’s results show that three stages characterize learners’ development from a semantic system in which the scope relations of finiteness and negation are kept transparent into a target-like system in which finite, lexical verbs precede negation and scope relations are less transparent. These findings were corroborated in a longitudinal study by Dimroth (2008). More precisely, Dimroth investigated the placement of light verbs and lexical verbs in the negated utterances of a Russian (adolescent) learner of German and found

that “lexical verbs with post-verbal negation became productive only after the acquisition of the perfect” (p. 133).⁹

3.3 Research questions

The main aim of this chapter is to investigate the role of light verbs, in particular of auxiliaries, in the acquisition of finiteness in L2 Dutch. The first question to be answered is when L2 learners of Dutch acquire the different light verbs of the target language: Do they start out with the copula and then acquire modal verbs and auxiliaries, as found for L2 German? Further, do learners of Dutch initially also place light verbs to the left of negation, but lexical verbs to the right? If so, when do they start to place lexical verbs in a position preceding negation? Based on the results from Becker (2005), Dimroth (2008), and Jordens and Dimroth (2006), it can be hypothesized that this happens only after auxiliary verbs are acquired. Unlike Becker, who studied only one group of (Italian) L2 learners, the current study presents data from learner groups with Moroccan or Turkish as their L1. An interesting question, then, is whether there are differences between these groups that can be traced back to L1 influence. In sum, the following questions will be addressed:

1. In what order do Moroccan and Turkish learners of Dutch acquire the Dutch light verbs?
2. Do learners initially place light verbs to the left of negation, but lexical verbs to the right?
3. Do they raise lexical verbs over negation only after they have acquired auxiliary verbs?
4. Is there evidence for L1 influence?

⁹ Dimroth’s (2008) results also differ from Becker’s, however: whereas the learners in Becker’s study produced pre-verbal negation with lexical verbs until they acquired *haben*, the adolescent in Dimroth’s study (aged 14) avoided using negation with lexical verbs until she could raise such verbs over negation. Prior to this stage, she only produced light verb constructions. A younger child in this study (aged 8) did not show evidence for a relation between auxiliaries and verb-raising, since she could produce finite verbs to the left of negation before she acquired *haben*.

Table 1 summarizes the relevant typological properties for Dutch, Moroccan Arabic, and Turkish (for more details, see Chapter 2).

Table 1. *Summary of relevant typological properties for Dutch, Moroccan Arabic, and Turkish*

	Dutch	Moroccan Arabic	Turkish
Position of V _{fin} (decl. main clause)	Second position	Initial position (also: after subject)	Final position
Verb-raising	Yes	Yes	No ¹⁰
Position of negator	Post-verbal	Pre- and post-verbal	Post-verbal
Type of negator	Free morpheme	Bound morpheme	Bound morpheme
Light verbs	Copula, Modals, Aspectual auxiliaries	Copula, Modals, Aspectual auxiliaries	Copula, Modal 'want'

3.4 The study

3.4.1 Participants

A group of 55 Moroccan learners and 46 Turkish learners of Dutch participated in the study. These participants were recruited at schools where they took language courses that are obligatory for new immigrants in the Netherlands. They had a beginning level of acquisition that roughly corresponds to the levels A1 and A2 of the European framework of reference (Council of Europe, 2001; see section 1.5 of Chapter 1). Learners' average length of residence in the Netherlands at the time of the experiment was 3:6 years for the Moroccan learners and 5:3 years for the Turkish learners. In general, participants' level of

¹⁰ As noted in section 2.2.3, verbs have been assumed to raise over the negation suffix *-ma* in Turkish (Ouhalla, 1991). However, they not raise over objects, adverbials or the negation markers or the free negation morphemes *değil* and *yok*.

education was low: the Moroccan learners had received nine years of education on average (including primary school) and the Turkish learners 7.6 years.

Most of the Turkish learners were monolingual, but fourteen learners reported some basic knowledge of English, two learners spoke German and one learner reported some knowledge of French. As for the Moroccan learners, almost all learners had some knowledge of French (varying proficiency levels, mostly in oral language only) and fourteen of them had basic knowledge of English. Eleven Moroccan learners had also a relatively good command of Spanish and sixteen learners spoke Berber in a native or near-native manner. Importantly however, Berber does not differ significantly from Moroccan-Arabic with respect to the relevant typological properties.¹⁰ For both language groups, learners' age ranged between 18 and 42, with an average age of 28. For more details about the learners, see Appendix B.

Apart from these learners, 28 native speakers of Dutch participated. The main purpose of presenting the tasks to Dutch controls was to test whether the tasks actually elicited the intended auxiliary constructions and negated sentences from native speakers.

3.4.2 Tasks

Two film-retelling tasks and two picture stories were presented. The first film-retelling task was a 10-minute film fragment from Charlie Chaplin's "Modern Times". This fragment was chosen because it provided participants with clear contexts for the use of auxiliaries. One of the scenes, for example, showed a woman who talked about a previous scene in which a girl had stolen a loaf of bread. For Dutch native speakers, it is natural to describe this scene by making use of an auxiliary construction such as *Zij heeft het brood gestolen* 'She has stolen the bread'. The entire film fragment was cut into shorter fragments that were shown to participants one by one. After having watched a fragment,

¹⁰ In the Berber variety spoken by a subset of the Moroccan learners (Tamazight), the negator also consists of a pre-verbal and post-verbal element (*ur* and *ša*). However, according to Lucas (2007), these are clitics rather than suffixes (see below for an example). Like Moroccan Arabic, Berber has pro-drop and basic word order is SVO.

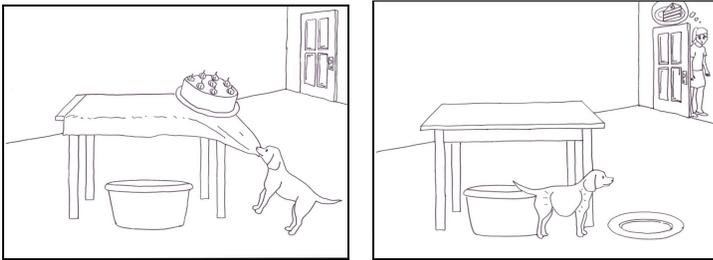
Ur	iffiγq	ša
Not	exit.past.3masc	not
'He didn't go out'		

(Boumalk, 1996: 36)

participants were asked to retell what had happened in response to a broad focus question such as ‘What happened?’ or ‘And then?’.

The second film-retelling task involved a video that had been designed to elicit, among other things, the use of negation. This film, called “The Finite Story” (Dimroth, 2005), showed the story of three characters (mister Red, mister Blue, and mister Green), whose house was set on fire and who, after a series of simple events, were saved by the fire brigade. The entire film was cut into short fragments, which participants retold immediately after having watched a fragment, just as in the Modern Times film-retelling task.

Apart from these film-retelling tasks, two picture stories were presented: a ‘ball story’ and a ‘cake story’ (see Appendix C). Both stories consisted of a series of pictures that together formed a simple story. Participants’ task was to tell the story while looking at the pictures. Prior to their storytellings, they watched all pictures of a story to become familiar with the story line. The main aim of the task was to elicit the auxiliary *hebben*. To this end, both stories contained ‘target events’: a picture showed that something was likely to happen and the immediately following picture showed the result of this action. The action itself was not depicted. For an example, consider the following two pictures, taken from the ‘cake story’.



In the first picture, a dog is trying to get at a cake. In the next picture, the dog is depicted with a fat belly and the cake is no longer there. Presenting participants with pictures depicting a resultant state (but not the action itself) creates a condition for the use of *hebben*. Indeed, as can be seen from Table 2, the control data showed that all native speakers used forms of *hebben* in their picture storytellings. However, this table also shows that the native speakers produced even more auxiliary verbs in the Modern Times film-retelling task. This was

clearly due to the context described above, in which a woman stole a loaf of bread, which elicited several auxiliary verbs from all native speakers.

Table 2. Use of 'hebben' by native speakers (*n*=28 for picture stories, *n*=10 for film-retelling tasks)¹¹

Task	Mean number per subject	Range	Total
Picture stories	1.9	1-4	54
Modern Times task	4.8	3-7	48
Finite Story task	1.2	1-3	12

3.4.3 Coding and scoring

After all recordings had been digitized and transcribed, all verbs were coded in CHILDES¹² for verb type (i.e., copula, lexical verb, etc.) and morphological markings on the verb. Third person singular contexts were highly prevalent in the dataset. In the following, lexical verbs ending in *-en* and *-o* will be glossed 'inf' (infinite), while lexical verbs ending in *-t* will be glossed 'fin' (finite). The reader should keep in mind, however, that *-en* is homophonous between the infinitive and the plural, and *-o* is also used to mark first person singular. Moreover, *-t* is used for third person singular as well as second person singular.

Still, it seems warranted to treat verbs ending in *-t* as finite forms and verbs ending in *-en* or *-o* as non-finite forms. In line with earlier findings for the L2 acquisition of Germanic languages (Blom, 2008; Vainikka & Young-Scholten, 1996a, b), the data showed that the learners abundantly produced verb forms ending in *-en* and *-o* in 3sg-contexts. They did not, however, overgeneralize verb forms ending in *-t* to 1sg and plural contexts.¹³ This

¹¹ The picture stories, which mainly aimed at the elicitation of auxiliaries, were carried out by all control participants, but the film-retelling tasks, which mainly aimed at the elicitation of negation, were performed by (two different) subgroups of ten participants only. The reason for this is that it was felt crucial to elicit control data for auxiliaries (but less so for negation), since the presence of auxiliaries in learners' production formed the basis for dividing learners into subgroups in the current study.

¹² See MacWhinney (1991) for a description of the CHILDES annotation system.

¹³ More precisely, an analysis of all verb forms in relation to subject type showed that if learners produced a verb ending in *-t*, it occurred with a 3sg-subject in 96% and 92% of the cases for the

finding casts doubt on the claim by Klein & Perdue (1992), above, that finiteness is not yet systematic at early stages of acquisition, since it indicates that verb forms ending in *-0* and *-en* are used as ‘default forms’, but verb forms ending in *-t* are not. A final remark about coding relates to the fact that the stems of some Dutch verbs end in *-t* (e.g., *zitten* ‘sit’), making it impossible to decide whether a verb actually ends in *-t* or in a *-0*. In such cases, the gloss ‘fin’ is used, but the reader should keep in mind that the use of a null suffix cannot be excluded.

3.5 Results

The presentation of the results follows the four research questions from section 3.3, repeated here:

- 1'. In what order do Moroccan and Turkish learners of Dutch acquire the Dutch light verbs?
- 2'. Do they initially place light verbs to the left of negation, but lexical verbs to the right?
- 3'. Do they raise lexical verbs over negation only after they have acquired auxiliary verbs?
- 4'. Is there evidence for L1 influence?

3.5.1 Acquiring Dutch light verbs

3.5.1.1 A fixed order

The following light verbs occurred in the data¹⁴:

Moroccan and Turkish learners, respectively. If they produced a *-0* ending, however, the corresponding subject was a 1sg pronoun in only 15% and 23% of the cases, respectively, and the same held for verbs ending in *-en* that occurred in a correct plural contexts in 27% and 15% of the cases, respectively. These percentages provide clear evidence that L2 learners use *-0* and *-en* endings as ‘default forms’, but not *-t*, which overwhelmingly appears in a correct context from its emergence on.

¹⁴ The verb *zullen* ‘shall’ and aspectual auxiliaries such as *zitten te* ‘sit to’ were too scarce to yield informative data and will therefore not be considered.

- Copula verb *zijn* 'be'
- Modal verbs *willen* 'want', *moeten* 'must', *kunnen* 'can', and *mogen* 'may'
- Aspectual verb *gaan* 'going to'
- Auxiliary verb *hebben* 'have'

Apart from these verbs, the learners often produced a combination of *is* with a lexical verb. Examples of such constructions are given in (13) and (14):

(13) Charlie Chaplin is steel de brood
 Charlie Chaplin be.3sg steal.0 the bread
 ?'Charlie Chaplin is steal the bread'

(14) De jongens is spelen
 The boys be.3sg play.inf
 ?'The boys is play'

As can be seen from these utterances, the lexical verbs that co-occurred with *is* could take different forms: they could look like verb stems, as in (13), but also like infinitives, as in (14). The utterance in (14) is representative of the data, since it shows that *is* typically occurred as an invariant form, lacking person or number agreement. In the next subsection, the construction will be discussed in more detail and a few proposals made in the L2 literature regarding its function will be evaluated.

An analysis of all light verbs suggested an interesting and systematic pattern across learners. Some learners only produced the copula and modal verbs (or the verb *gaan* 'going to'), but there was no learner who produced modals or *gaan*, but no copula. Moreover, there was a large group of learners who produced the copula, modals/*gaan*, and the verb form *is*, but no learner produced *is* in the absence of modals/*gaan* or the copula. These findings suggest that Moroccan and Turkish learners of Dutch acquire the light verbs of the target language in the following order:

copula < modals/*gaan* < *is* < auxiliary *hebben*

The auxiliary verb *hebben* was only found in the data of learners who also produced all the other types of light verb, suggesting that this type of verb is

acquired last. No relative ordering for modals and *gaan* could be determined: some learners produced both verb types, whereas others only used modal verbs or *gaan*.

Tables 3 and 4 show how often the different light verbs occurred in the data of each learner. Table 3 presents the data for the Moroccan learners and Table 4 for the Turkish learners. For the analysis, all repetitions of either the researcher's or participant's own speech, false starts, and constructions that are likely to be rote-learned were discarded.¹⁵ Forms of *zijn* 'be' that co-occurred with a lexical verb were counted as *is*-constructions of the type illustrated above, whereas other forms of *zijn* were counted as instances of the copula.

Table 3. *Number of light verbs (tokens) produced by each learner (Moroccan learners)*

Learners	Copula	Modals/ <i>Gaan</i> 'going to'	<i>Is</i> 'is'	Auxiliaries
1	1	22	-	-
2	3	44	-	-
3	14	18	15	-
4	13	31	20	-
5	1	27	2	-
6	31	36	17	-
7	10	20	5	-
8	19	97	8	-
9	9	33	2	-
10	20	14	4	-
11	26	42	10	-
12	16	29	7	-
13	63	18	11	-
14	34	11	53	-
15	29	19	13	-

¹⁵ The term 'rote-learned' is used in the dissertation to refer to a form or structure that seems to be unanalysed or only partly analysed by the L2 learner, and therefore does not reflect productive L2 knowledge. For example, the utterance *Ik heb vergeten* 'I have forgotten' was not considered as an instance of an auxiliary construction, since it is probably rote-learned in the data of beginning L2 learners.

LIGHT VERBS AND LEXICAL VERBS IN NEGATED SENTENCES

16	14	2	27	-
17	6	1	1	-
18	17	19	19	-
19	6	21	8	-
20	21	16	6	-
21	14	21	8	-
22	35	92	33	-
23	42	18	6	-
24	4	5	5	-
25	21	22	6	21
26	42	10	26	42
27	14	17	12	24
28	13	36	1	31
29	11	15	1	22
30	13	16	3	4
31	19	12	12	6
32	16	24	16	20
33	47	57	14	1
34	24	15	7	1
35	13	27	3	22
36	17	25	18	20
37	17	36	9	6
38	28	25	9	6
39	64	47	27	4
40	22	12	12	27
41	22	14	6	28
42	25	27	11	27
43	14	16	12	6
44	30	36	3	19
45	20	47	5	2
46	12	29	6	8
47	25	50	20	1
48	25	21	16	3
49	66	60	14	47

CHAPTER 3

50	8	15	3	2
51	27	8	9	16
52	22	8	2	14
53	28	43	1	2
54	16	22	11	15
55	44	44	19	6
Total	1213	1492	594	453

Table 4. *Number of light verbs (tokens) produced by each learner (Turkish learners)*

Learners	Copula	Modals/ <i>Gaan</i> 'going to'	<i>Is</i> 'is'	Auxiliaries
1	3	-	-	-
2	1	3	-	-
3	2	4	-	-
4	2	14	-	-
5	2	21	1	-
6	52	9	61	-
7	7	18	13	-
8	16	34	13	-
9	39	7	38	-
10	13	2	8	-
11	4	1	4	-
12	9	10	1	-
13	7	12	28	-
14	20	5	12	-
15	5	8	4	-
16	50	1	23	-
17	20	1	23	-
18	5	19	5	-
19	11	8	10	-
20	8	9	1	-
21	13	10	49	-
22	2	5	2	6
23	17	10	19	1

LIGHT VERBS AND LEXICAL VERBS IN NEGATED SENTENCES

24	6	6	2	1
25	16	13	25	3
26	36	38	16	23
27	7	13	5	13
28	22	5	39	1
29	5	14	4	7
30	15	4	22	2
31	20	23	14	23
32	7	7	3	1
33	12	8	23	3
34	10	21	5	27
35	10	12	24	3
36	43	20	32	6
37	24	18	28	1
38	16	16	10	3
39	16	17	25	4
40	12	22	10	1
41	22	5	50	2
42	19	7	22	2
43	10	1	16	2
44	5	9	1	1
45	18	11	15	8
46	11	6	10	3
Total	668	507	716	147

The data show considerable variation regarding learners' use of light verbs: some learners use only five instances of the copula, while others produce over 40 occurrences. Yet, none of the learners presents counterevidence to the above order by, for example, using auxiliary verbs but not modal verbs. A remark of caution has to be made, however. As can be noted from the tables, some of the subgroups are small: there is only one (Turkish) learner who used the copula verb, but no other light verbs and there are only two Moroccan and three Turkish learners who produced the copula, modals/*gaan*, but not other light verbs. Hence, the largest subgroups involve learners who produced all light verbs except auxiliaries (22 Moroccan learners and 17 Turkish learners)

and learners who produced all light verbs, including auxiliary verbs (31 Moroccan and 25 Turkish learners).

There are two clear differences that stand out if we compare the data for L2 German that were discussed above. First, modal verbs are acquired earlier than auxiliary verbs in Dutch: there are many learners who produce such verbs in the absence of the auxiliary verbs, but the opposite does not occur. For L2 German, Becker found that these two verbs emerged around the same time. Second, almost all learners in the current sample produced the construction ‘is-lexical verb’, which was not reported for L2 German. The construction makes up 15.8% of all light verb constructions produced by the Moroccan learners and is even more frequent in the data from the Turkish learners (35.1% of all light verb constructions). Since the high frequency with which it appears suggests that it might fulfill an important function for the learner, the construction will be looked at in more detail in the next section.

3.5.1.1 ‘Is-lexical verb’

Constructions in which a form of ‘be’ (usually *is*) co-occurs with a lexical verb have been reported in various studies on different target languages. For some of these target languages, similar constructions occur to a high degree in the input (e.g., progressive in English), but this is not necessarily the case for all languages. The Dutch progressive constructions *is aan het* as well as German *ist am* also contain the form *is*, but these constructions are relatively infrequent, especially the German variant.

Huebner (1989: 130) found that a Punjabi-speaking learner of English in the ESF database produced utterances in which *is* preceded a noun phrase, a verb, or occurred twice - before and after a noun phrase, such as ‘Is cakeman coming’, ‘Is look’, ‘Then is girl is push policeman’.¹⁶ Based on the fact that viewpoint is grammaticalized in Punjabi, Huebner proposed that the learner used *is* to mark viewpoint in English. According to Huebner, *is* has a referring function in the L2 data and is used to introduce new, indefinite referents or a

¹⁶ As this example shows, Huebner found that *is* can also precede the topic in L2 English. A similar observation was made by Van de Craats (to appear) who found that *is* can appear twice in constructions of the type *Is papa is niet komen* ‘Is father is not come’ in L2 Dutch. Such constructions were also found in the present dataset, but since they made up a minor part of all *is*-constructions, they are not further discussed.

referent known to the listener but unknown to the protagonist in a story whose perspective is taken. It can also introduce referents that are known to both but unexpected for the protagonist. For a critical discussion of these ideas, see Haberzettl (2003).¹⁷

Starren (2001) studied data from Turkish and Moroccan learners of Dutch and concluded that *is* marked perfective or durative aspect. She based this finding on an analysis of structures in which temporal adverbials occurred in the same position as *is*. More precisely, Starren found that L2 learners initially produced constructions in which temporal adverbials mark tense and aspect such as *Gisteren-jaar ik altijd ongeluk maken* ‘Last year, I always accident make’ (Starren, 2001: 151). Later in development, the verb form *is* could occupy one of the positions previously taken by adverbials, resulting in structures like *Dan hij is lopen* ‘Then he is walk’, in which *is* occupies the same position as *altijd* in the earlier utterance. According to Starren, the function of the adverbial and the ‘proto-auxiliary’ are the same: both mark aspect, either durative or perfective, depending on the context an utterance occurs in.

Contrary to the idea that *is*-constructions serve a semantic (aspect or viewpoint marking) function, it has been argued that their function is purely structural. Haberzettl (2003) observed a large number of *is(t)*-constructions of the type *Das Kind ist Auto spielen* ‘The child is car play’ in the data from two Turkish (child) learners of German. Since an aspectual reading was compatible with only part of the data, Haberzettl proposed that the function of *is(t)* is structural: learners use *is(t)* as a linking element between frequently used chunks, more or less in the same way as the cut-and-paste strategy described by Tomasello (2000) for a two-year old child learning (L1) English.

Van de Craats (to appear) also argued that *is* has a purely structural function in the L2 data of Turkish learners of Dutch. She proposed that, after a stage at which learners only produce non-finite lexical verbs in final position, they use *is* as a syntactic link to these verbs. More specifically, *is* indicates a landing position of verb movement and acts as a spell-out of the morphosyntactic features of the lexical verb.

¹⁷ Klein and Perdue (1997: 318) also refer to this learner’s use of *is* and argue that it marks the topic-focus boundary of an utterance just like other elements that appear in between the topic and focus, such as negation and particles. Haberzettl (2003) makes a similar claim when she argues that most of Huebner’s data are compatible with *is* as a focusing device.

In line with the analyses proposed by Haberzettl and Van de Craats, the current data do not support the idea that *is* has an aspectual function, at least not at early stages of development. Rather, they can best be explained if it is assumed that *is* constitutes a lexical linking element in line with the analysis outlined above by Dimroth et al. (2003) and Jordens & Dimroth (2006). According to this idea, light verbs, particles and negation are used to ‘link’ a predicate to a topic and mark or specify the assertion relation between these two parts.¹⁸ Unlike modal verbs and *gaan*, which modify the assertion relation in several ways, *is* simply marks assertion. Evidence for this idea comes from a number of findings. First, the data showed that learners often produced several utterances that described the exact same event, some with *is* and others without it. For an illustration, consider the following utterances, which were produced by a Turkish learner to describe three adjacent scenes in the Finite Story task, each showing the exact same event, a protagonist going to bed:

- (15) Hij blauwe is bed slapen
 He blue is bed sleep.*inf*
 ‘The blue man is sleeping in his bed’
- Hij groene 0 bed slapen
 He green 0 bed sleep.*inf*
 ‘The green man is sleeping in his bed’
- Hij rode 0 bed slapen
 He red 0 bed sleep.*inf*
 ‘The blue man is sleeping in his bed’

The fact that there is no meaning difference between such utterances speaks against the idea that *is* has an aspectual function.¹⁹ It is in line, however, with

¹⁸ In fact, Jordens and Dimroth give an example of an utterance in which *is* occupies the slot for linking elements (i.e., *Hij is liegt* ‘He is lies’, p. 177), but they do not further discuss the use of *is* or relate it to earlier proposals in the literature.

¹⁹ It should be noted, however, that, when learners get more advanced in the L2, *zijn* will be used with an aspectual function, that is, in auxiliary constructions expressing perfective aspect. For some learners in the current learner group, *is* already seems to function as an aspectual auxiliary. Consider for example the following utterances produced by a Moroccan learner in the Finite Story task, where *is* clearly marks a resultant state and contrasts with *gaan*:

the view that linking elements mark assertion but can also be left empty when the default relation of assertion applies. A further indication that *is* marks assertion comes from utterances in which it occurred in complementary distribution with negation. Consider the following utterances from a Moroccan learner, who described two adjacent scenes in the Finite Story task, one in which mister Red does not jump out of the house, and the other in which mister Blue does.

- (16) De meneer rood niet springen
 The mister red not jump.*inf*
 ‘Mister red does not jump’
 -
 De meneer blauw is springen
 The mister blue is jump.*inf*
 ?‘Mister blue does jump’

Similarly, in (17), *is* occurs in the affirmative utterance but not in the negated one. This utterance was produced by a Turkish learner to describe a scene in the Modern Times film-retelling task, where an eye witness told a police officer that not Charlie Chaplin, but a woman had stolen a loaf of bread.

- (17) Die man niet doen, de zij is doen
 That man not do.*inf* the she is do.*inf*
 ?‘The man has not done (this), but she has done (this)’

Utterances of the type in (16) and (17) clearly support the idea that *is* marks assertion: it indicates that the state of affairs expressed by the predicate applies to the topic. Since negation marks the opposite relation, *is* and *niet* can occur in complementary distribution. A further indication that *is* marks assertion rather than aspect comes from utterances in which *is* co-occurred with modal verbs. Such utterances were rather frequent, and alternated freely with utterances in which only a modal verb was used. The utterance in (18) was used to describe a

De eerst / eerst keer hij is bang	‘The first / first time he is afraid’
Maar probeer en <i>ga</i> springt in de grond	‘But try and go jumps on the floor’
De brandweer zeg met deez man, meneer groen	‘The fire brigade tell this man, mr green’
‘Kijk jouw vriend <i>is</i> springt in de grond’	‘Look, your friend has jumped on the floor’

scene where mister Blue has to jump out of his window since his room has been set on fire, and (19) was produced to describe a scene where mister Green went to bed.

(18) Hij is moet beneden
 He is must down
 ?‘He must jump down’

(19) Misschien hier hij is wil slapen
 Maybe here he is want sleep.*inf*
 ?‘Maybe he wants to go to sleep now’

Both utterances have a clear modal meaning, suggesting that *is* does not have an aspect marking function. The analysis of *is* as a lexical linking element fits well with the idea that it appears as an invariant form. Van de Craats analyzed *is* as a morphosyntactic link to finiteness in L2 Dutch, but the present data do not support this idea, given that *is* was unmarked for person and number in almost all cases. The analysis of *is* as a lexical linking element is also in line with the finding that the Turkish learners produced more *is*-constructions than the Moroccan learners. Coming from a verb-final language, the Turkish learners typically placed lexical verbs in final (predicate) position, while the Moroccan learners also placed such verbs in second position (especially in later stages of acquisition), due to their first language being verb-initial/medial. Hence, the use of *is* as a linking element might be a particularly useful device for the Turkish learners. In addition, as we have seen above, the Moroccan learners produced more modal verbs and *gaan* than the Turkish learners, resulting in a lower proportion of *is*-constructions.²⁰

²⁰ It is also not unlikely that the Turkish learners’ abundant use of ‘is-lexical verb’ is related to the occurrence of the copula form *-dir* in Turkish. The suffix *-dir* ‘to be’ can occur with nouns to express emphasis (in informal speech): *Vesika kasa-da-dir* ‘The document is surely in the safe’ (Lewis, 1967: 97). It can also be used with finite verbs to express that “the speaker is stating as a fact something of which he has no positive knowledge but only a strong feeling or impression”. Compare: *biliyorsunuz* ‘you know’ versus *biliyorsunuzdur* ‘you surely know/I presume you know’ (Lewis, 1967: 139).

3.5.2 Light verbs and lexical verbs in negated utterances

In this section, the placement of light verbs and lexical verbs in relation to negation will be analyzed with the aim of determining whether light verbs precede negation from early on, while lexical verbs initially follow negation. An important question is also whether lexical verbs can occupy a finite (raised) position only after learners have acquired auxiliary verbs. To answer this question, a distinction will be made between two learner groups: a –AUX group consisting of the learners who did not use the auxiliary *hebben* and a +AUX group consisting of the learners who did (see Table 3 and 4 above). These groups' composition was as follows:

1. –AUX group: 24 Moroccan and 21 Turkish learners
2. +AUX group: 31 Moroccan and 25 Turkish learners

On the basis of earlier results (Becker, 2006; Jordens & Dimroth, 2006), it is predicted that the –AUX group will place lexical verbs after negation. The +AUX group, in contrast, will place lexical verbs in a raised position with respect to negation, presumably in addition to placing such verbs after negation, due to gradual development. For light verbs, no differences are expected: such verbs have been found in a target-like position from the earliest stages of acquisition on, so they should precede negation in both groups.

3.5.2.1 Data for the –AUX group

Tables 5 and 6 show how often light verbs and lexical verbs preceded and followed *niet* 'not' in the data from the learners who did not use auxiliary verbs, the –AUX group. Table 5 presents the data for the Moroccan learners and Table 6 for the Turks. Utterances involving false starts, repetitions or formulaic language were not included in the analysis.²¹

²¹ The following structures were excluded, since they are likely to be rote-learned: *Ik weet niet* 'I don't know', *Ik begrijp/snap niet* 'I don't understand', and *Ik houd niet van* 'I don't like'. A number of idiomatic constructions were also excluded: *Dat gaat niet* 'That is not possible', *Dat geeft niet* 'That is no problem', and *Dat maakt niet uit* 'That does not matter'. Finally, modal verbs that occurred in isolation (e.g., *Dat kan* 'That can/That is possible') were excluded, since there is no focus or predicate in such utterances so their structure is different from that of other light verb constructions in which the light verb role links the focus information to a topic.

Table 5. *Verb placement in negated sentences for Moroccan –AUX group (n=24)*

	V – NEG		*NEG – V		Total
Copula	100%	(13)	0%	(0)	13
Modals/ <i>Gaan</i> ('going to')	93.5%	(43)	6.5%	(3)	46
<i>Is</i> ('is')	90.9%	(30)	9.1%	(3)	33
Auxiliaries	-	-	-	-	-
Lexical verbs	8.6%	(8)	91.4%	(85)	93

Table 6. *Verb placement in negated sentences for Turkish –AUX group (n=21)*

	V – NEG		*NEG – V		Total
Copula	100%	(8)	0%	(0)	8
Modals/ <i>Gaan</i> ('going to')	61.5%	(8)	38.5%	(5)	13
<i>Is</i> ('is')	88.9%	(16)	11.1%	(2)	18
Auxiliaries	-	-	-	-	-
Lexical verbs	3.5%	(6)	96.5%	(170)	176

The data show that the copula consistently preceded negation in the data from both language groups. The following utterance from a Moroccan learner illustrates this:

- (20) Maar dat is nog niet laat
 But that be.3_{sg} yet not late
 'But it is not yet (too) late'

A closer look at the data showed, moreover, that the copula was often left out in negated utterances, in line with the idea that the copula and negation appear in complementary distribution in early L2 acquisition (Becker, 2005). The utterance in (21) illustrates this pattern: it expresses that one of the protagonists of the Finite Story task should not be afraid of leaving his burning house, but, rather, of the fire in his room.

- (21) De bang niet daar, is daar
 The scared (=danger) not there, be.3_{sg} there
 'The danger is not there, but there'

For the other types of light verb, the data show a less consistent pattern: while such verbs predominantly preceded negation, they sometimes also followed negation, especially in the data from the Turks. For an illustration of the variable placement of modal verbs with respect to negation, consider the following utterances, produced by a Turkish learner:

(22) Groene man niet wil springen
 Green man not wants jump.*inf*
 ‘The green man does not want to jump’

(23) Meneer rood ook wil niet springen
 Mister red also wants not jump.*inf*
 ‘Mister red does not want to jump either’

The utterances in (24) and (25) from a Moroccan learner illustrate that *is* could also precede and follow the negator:

(24) Een meisje is niet krijgen een brood
 A girl is not get.*inf* a bread
 ?‘A girl has not taken a bread’

(25) Die man niet is stolen
 That man not is steal.*inf*/*ll*²²
 ?‘The man has not stolen’

In sum, these data show that light verbs do not consistently precede negation: modals/*gaan* and *is* sometimes also follow the negator. A clear difference can be observed, however, when these data are compared with the placement of lexical verbs: lexical verbs almost never precede negation in the data. A Pearson’s chi-square test shows that the differences between light and lexical verbs are highly significant for both groups ($\chi^2(1) = 97.730$, $p < .001$ for the Moroccans; $\chi^2(1) =$

²² This verb form does not correspond to the infinitive *stelen* ‘steal’ in Dutch and actually looks like the past participle *gestolen*, except that it does not contain a *ge*-prefix. Since it is hard to determine how it should be analyzed, the gloss ‘ll’ is used, indicating that the form is a case of ‘learner language’.

135.697, $p < .001$ for Turks), indicating that light verbs preceded negation significantly more often than lexical verbs.

A closer look at the data suggests, moreover, that the placement of lexical verbs in a raised position is not very productive for the –AUX group. Some instances involved self-corrections in which learners switched the verb from a position following negation to a position preceding *niet*, such as (26). Moreover, a number of utterances was found in which the negator had narrow scope: in (27), for example, *niet* has scope over *boven* ‘up’ rather than over the entire sentence. Additional evidence that verb-raising was not productive for the current learner comes from the utterance in (28), which he produced a few utterances later to refer to the exact same scene as (27).

(26) Niet pakken telefoon/ pak niet
 Not take.*inf* phone / take.*inf* not
 ‘(He) does not pick up the phone’

(27) Maar hij kijkt niet boven, alleen achter
 But he look.*fin* not up, only behind
 ‘But he does not look up, but behind’

(28) Niet kijken boven
 Not look.*inf* up
 ‘He does not look up’

Summarizing, the learners who did not yet produce auxiliary verbs nearly always placed lexical verbs in a non-raised position. With light verbs, correct placement was predominant, but there were slight differences between the different types of light verb: while the copula consistently preceded negation, modals, *gaan*, and *is* could also follow negation.

3.5.2.2 Data for the +AUX group

Tables 7 and 8 show the placement of light verbs and lexical verbs relative to negation for the Moroccan and Turkish learners who produced auxiliaries, the +AUX group.

Table 7. *Verb placement in negated sentences for Moroccan +AUX group (n=31)*

	V – NEG	*NEG – V	Total
Copula	100% (31)	0% (0)	31
Modals/ <i>Gaan</i> ('going to')	100% (69)	0% (0)	69
<i>Is</i> ('is')	100% (6)	0% (0)	6
Auxiliaries	100% (25)	0% (0)	25
Lexical verbs	78.4% (138)	21.6% (38)	176

Table 8. *Verb placement in negated sentences for Turkish +AUX group (n=25)*

	V – NEG	*NEG – V	Total
Copula	100% (14)	0% (0)	14
Modals/ <i>Gaan</i> ('going to')	100% (22)	0% (0)	22
<i>Is</i> ('is')	100% (20)	0% (0)	20
Auxiliaries	100% (22)	0% (0)	22
Lexical verbs	37% (71)	63% (121)	192

These data show two clear differences with the data from the –AUX group. First, not a single light verb followed negation in the data from the +AUX group, unlike what was found for the learners in the –AUX group. Second, the +AUX group frequently placed lexical verbs in a raised position with respect to negation. In the data from the Moroccan learners, 138 out of all 176 lexical verbs preceded negation, which amounts to 78% of all verbs. The Turkish learners placed lexical verbs in a raised position less frequently (37%), but much more often than in the –AUX group (3.5%). A chi-square test shows that for both language groups, verb-raising of lexical verbs is significantly more frequent in the +AUX group than in the –AUX group: $\chi^2(1) = 119.478$, $p < .001$ for the Moroccan learners and $\chi^2(1) = 62.544$, $p < .001$ for the Turkish learners. A significant difference is also found when the number of raised lexical verbs is compared between the Moroccan and Turkish learners in the +AUX group ($\chi^2(1) = 64.231$, $p < .001$).

The utterances in (29) from a Moroccan learner describe adjacent scenes in the Finite Story task: they illustrate that lexical verbs can occur in raised as well as non-raised positions in the data from the same learner. In otherwise identical utterances used to describe the same event (a fire fighter

does not answer the phone), the verb *pakken* ‘take/pick up’ appears both before and after negation:

- (29) En nu man van brandauto zit in de wc
 And now men of ambulance sit.*fin* in the toilet
 ‘And now the fire fighter is sitting on the toilet’
 -
 En telefoon doet
 And phone do.*fin*
 ‘And the phone is ringing’
 -
 Maar hij pakt niet die
 But he take.*fin* not that
 ‘But he does not pick up’
 -
 En hij ga weg uit die wc
 And he leave.*inf* from that toilet
 ‘And then, he leaves the toilet’
 -
 Maar nog niet pak die telefoon
 But yet not take.*inf* that phone
 ‘But he does not pick up the phone yet’

3.5.3 Summary

The findings suggest the following answers to the four research questions. First, Dutch light verbs seem to be acquired in a fixed order: first the copula, then modals/*gaan* and the verb form *is*, and finally the auxiliary *hebben*. Second, light verbs were more often placed to the left of negation than lexical verbs in the data from both language groups. This difference was not categorical, however: in the –AUX group, modals and *is* could precede as well as follow negation. In the +AUX group, all light verbs preceded negation. Third, the data showed that verb-raising was almost absent in the data from the learners who did not use auxiliary verbs, but relatively frequent in the data from the learners who could use auxiliary verbs. This finding supports the idea that the acquisition of auxiliaries is an important step towards verb-raising. As for L1 influence, finally, the data showed remarkably similar patterns for the Moroccan

and Turkish learners, although some quantitative differences were found. The Moroccan learners produced a higher proportion of modals/*gaan* and *hebben* than the Turkish learners, while the Turkish produced *is* more often. Furthermore, the Moroccan learners used verb-raising significantly more often than the Turks.

3.6 The role of auxiliaries

The finding that the learners in the –AUX group placed lexical verbs almost exclusively in a non-raised position, whereas the learners in the +AUX group often raised such verbs over negation, presents evidence for a relation between the acquisition of auxiliaries and verb-raising. But is this relationship indeed causal, as argued by Becker (2005)? This issue will be addressed in the remainder of this chapter.

3.6.1 A closer look at learners' use of auxiliaries

At first glance, it seems unlikely that another factor, such as a general difference in proficiency level, can account for the differences between the two learner groups: the learners who produced *hebben* had a slightly higher proficiency level than the learners who did not, but this difference was rather small. Recall from section 3.2 that Becker (2005) assumed that both the explicit marking of the auxiliary as a finite verb and the explicit marking of the past participle as a non-finite verb are crucial: both enable the learner to distinguish between the non-finite part of a sentence and its finite part and hence, to acquire finiteness marking. Do the present data support this hypothesis?

The individual learner data presented in the Tables 3 and 4 above showed a large variability across learners in how many auxiliary constructions they produced: some produced only one or two instances, whereas others produced over 30. Interestingly, however, all learners who produced more than one token of the auxiliary combined these with different lexical verbs. This supports earlier findings from Jordens (2004), who found that L2 learners of Dutch (from the ESF corpus) used auxiliary constructions productively as soon as they occurred. An analysis of all verb forms co-occurring with *hebben* showed that past participles were by far most frequent: they made up 89% and 83% of

all verb forms in the data from the Moroccan and Turkish learners, respectively.

There were four learners in the +AUX group who produced *hebben*, but never raised lexical verbs over negation. These learners behave in accordance with Becker's second stage, and confirm that there is indeed a stage at which auxiliaries are used but lexical verbs do not yet appear in a raised position. A closer look at these learners' data shows that one of the learners did not use productive past participle marking. Altogether, this Moroccan learner produced 42 auxiliary constructions containing 20 different types of lexical verb. Crucially, 19 of these 20 types occurred either with or without a *ge*-prefix and there was only one verb (*doen* 'do') that occurred both as a past participle and as another form (an infinitive). This suggests that *ge*-prefixation was not yet productive for the learner.

The other Moroccan learner who produced auxiliary verbs, but did not yet raise verbs to a finite position, used eight auxiliary constructions, which all contained the form *heb*, irrespective of the subject:

(30) Hij politie heb gepakt hem
 He police have.0/1.sg catch.pp him
 'The police officer has caught him'

(31) Als jij heb brief krijg
 When you have.0/1.sg letter get.0/1.sg
 'When you have gotten a letter'

Although the form *heb* is allowed in some Dutch dialects²³ and might therefore be considered correct in the above sentences, it is clear that the current learner deviates from the other learners in the sample: there was no other learner in the database who produced more than four tokens of *hebben*, but only produced one type. The evidence from the Turkish 'stage 2' learners is less suggestive, however: these learners' utterances did not show the absence of morphological marking on either the auxiliary or the past participle.²⁴

²³ There was one control participant who used this form in a 3sg-context, but she did so only once (i.e., *Ze heb de taart eruit gebaald* 'She have-1sg taken out the cake').

²⁴ The possibility cannot be excluded that these two learners did produce post-verbal negation but this was not captured in the sample.

Becker's idea that finiteness marking on auxiliaries and *ge*-marking on past participles are both important for the acquisition of finiteness receives additional support from a Moroccan learner, who produced auxiliary-like forms but was not included in the +AUX group. This learner used auxiliary forms of the type in (32) and (33), in which a form of *hebben* was contracted with the pronoun *je* 'you'.²⁵ In none of these utterances was a past participle used.

(32) Meneer blauw hebje kijket bij die brandweer
 Mister blue have-you look.*fin* at that fire brigade
 'Mister blue has looked at the fire brigade'

(33) Hebje misschien een roken of stinken
 Have-you maybe one smoke.*inf* or smell.*inf*
 '(Charlie Chaplin) has maybe smoked or smelt something'

In negated utterances, this learner placed lexical verbs in a non-raised position and thus behaved in accordance with the other learners in the –AUX group.

Taken together, these data present further support for the idea that auxiliary constructions lead to the acquisition of verb-raising in Dutch. They also suggest that it is indeed both the marking of the auxiliary as a finite form and the marking of the past participle as a non-finite form that are crucial. A question that remains, then, is whether the presumed relation between the acquisition of auxiliaries and verb-raising indeed results from the acquisition of finiteness marking on lexical verbs, as suggested by Becker. The following section investigates the use of finiteness marking, both on auxiliaries and lexical verbs, with the aim of determining whether auxiliaries lead to the acquisition of agreement on lexical verbs, and in turn, to verb-raising.

3.6.2 Do auxiliaries lead to finiteness?

In order to find out whether *hebben* indeed appeared more often as a finite form in the L2 data than other light verbs, a comparison was made between *hebben*

²⁵ Verbs ending in *-je* were relatively frequent in the data and also involved modal verbs (*wilje*, *moetje*) and the verb *gaan* (*gaje*). Such forms seem to be unanalysed forms taken from the input, where finite verbs frequently precede pronouns due to topicalized structures in which the subject follows the verb.

and *gaan*. Modal verbs were not considered because they do not bear much marking in the target language (i.e., they lack person marking). Subject-verb agreement was used to analyze whether a verb was finite. Tense marking could not be analyzed because past tense markings were virtually absent. When learners produced self-corrections, only the last form was taken into account. Table 9 shows how often the +AUX group marked subject-verb agreement on the two types of light verb.

Table 9. *Agreement on 'gaan' and 'hebben' for the +AUX groups*

	Moroccan learners	Turkish learners
<i>Gaan</i> 'going to'	89.2% (165/185)	73.9% (34/46)
<i>Hebben</i> 'have'	98% (444/453)	97.3% (142/147)

As shown by these data, finiteness marking on *hebben* is more often correct than on *gaan*. This difference is significant for both language groups: $\chi^2(1) = 23.573$, $p < .001$ for the Moroccan learners and $\chi^2(1) = 22.448$, $p < .001$ for the Turks.

Let us now compare the data from the -AUX and +AUX groups to see whether there was a difference between both groups in the degree to which finiteness was marked on lexical verbs. Assuming that *hebben* leads to the acquisition of finiteness (Becker, 2005; Jordens & Dimroth, 2006), it can be predicted that finiteness marking is more frequent in the +AUX group than in the -AUX group. Again, subject-verb agreement was analyzed to determine whether verbs were finite. Formulaic utterances, repetitions and false starts were not taken into account. Since the overall aim was to have a global proficiency measure rather than present a detailed analysis of agreement marking, the data were collapsed over different syntactic contexts (i.e., 1sg, 3sg, and plural contexts; 2sg was not taken into account due to the scarcity of the data). Table 10 presents the data.

Table 10. *Agreement on lexical verbs for the -AUX and +AUX groups*

	Moroccan learners	Turkish learners
-AUX group	56% (879/1569)	38% (392/1031)
+AUX group	70% (1341/1916)	53% (682/1287)

For both language groups, it is clear that finiteness is marked more often in the +AUX group than in the –AUX group. A chi-square test shows that these differences are highly significant: $\chi^2(1)= 72.771$, $p< .001$ for the Moroccan learners and $\chi^2(1)= 51.591$, $p< .001$ for the Turkish learners. A quantitative difference can again be noted between the Moroccan and Turkish learners: finiteness marking is correct more often in the data from the Moroccans than in the data from the Turks, and this holds for both the –AUX and +AUX groups ($\chi^2(1)= 80.688$, $p< .001$ for the –AUX group and $\chi^2(1)= 95.599$, $p< .001$ for the +AUX group).

Interestingly, a closer look at the data showed that the learner groups overused different verb endings. In contexts with a 3sg-subject, which were prevalent in the dataset, the Moroccan learners produced more –*o* than –*en* suffixes when they did not use a correct –*t* suffix (58.4% vs. 41.6%). The Turkish learners, in contrast, used –*o* much less often and had a clear preference for verbs ending in –*en* (26.1% vs. 73.9%). This corroborates earlier results that suggest that L2 learners with different L1 backgrounds prefer different ‘default forms’ in the L2 (Jansen, Lalleman & Muysken, 1981; Prévost & White, 2000). The differences between the two language groups can be illustrated with the examples in (34) to (37). The utterances in (34) and (35) were produced by Moroccan learners and those in (36) and (37) were produced by Turkish learners to refer to the same scenes in the Finite Story task.

(34) Hij klop bij die deur
 He knock.*inf* with the door’
 ‘He knocks on the door’

(35) En ook de rode man slaap op de bed
 And also the red man sleep.*inf* on the bed
 ‘And the red man is sleeping in the bed, too’

(36) Hij kloppen deur
 He knock.*inf* door
 ‘He knocks on the door’

(37) Meneer groen slapen op de bed
 Mister green sleep.*inf* on the bed

‘Mister green is sleeping in the bed’

Chapter 5 of this dissertation deals in more detail with the question of whether finiteness marking is related to syntactic context: Do learners place finite verbs in raised position, but non-finite verbs in non-raised position? For the current purposes, no distinction between syntactic contexts was made, since the main goal was to find out whether finiteness marking was more frequent in the data from learners who produced *hebben* than in the data from learners who did not, both with respect to the auxiliary verb itself and lexical verbs. The data showed that both questions can be answered in the affirmative, which supports the claim that auxiliaries play an important role in the acquisition of finiteness.

3.7 Conclusion and discussion

The aim of this chapter was to investigate the role of light verbs, in particular auxiliary verbs, in the acquisition of verb placement in Dutch. The findings support earlier observations in the L2 literature that light verbs precede negation at a stage at which lexical verbs follow negation for L2 Dutch (Ionin & Wexler, 2002; Meisel, 1983; Parodi, 2000). They also indicate that one should not only distinguish between light verbs and lexical verbs, but also take into account the behavior of specific light verbs when studying the acquisition of finiteness. These verbs not only show up at different stages of acquisition, but also differ in the positions they occupy with respect to negation. As such, the results are in line with previous findings in function-oriented studies, in which it has been assumed that different light verbs fulfill different functions in L2 acquisition (Becker, 2005; Jordens & Dimroth, 2006), rather than with form-oriented studies, which assume that all are instantiations of a functional category (Hawkins, 2001; Parodi, 2000; Vainikka & Young-Scholten, 1996a, b).

The auxiliary *hebben* is acquired last, and it restructures the learner system in a major way. With few exceptions, only those learners who had acquired *hebben* raised lexical verbs past negation and they also used finiteness (agreement) marking significantly more than learners who had not acquired *hebben*. These findings corroborate earlier findings in the literature (Becker, 2005; Dimroth, 2008; Jordens & Dimroth, 2006). Some evidence was found that this is due to auxiliaries’ co-occurrence with non-finite (past participle)

verbs: some learners who produced auxiliaries, but not yet verb-raising, showed absent or unproductive morphological markings on either the auxiliary verb itself or the past participle. Interestingly, whether or not learners' L1 had auxiliary verbs and verb-raising did not matter for the acquisition pathway: the Moroccan learners, coming from a language with the same features, showed the same development as the Turkish learners, whose native language lacks them.

All in all, the findings are more compatible with a function-oriented than form-oriented approach to the acquisition of finiteness in L2 acquisition. More precisely, they suggest that, prior to the stage where *hebben* is acquired, the copula, modal verbs/*gaan* and *is* do not yet constitute instantiations of finiteness in a target-like way in L2 Dutch. This contrasts with what has been claimed in form-oriented studies, where the earliest occurrences of light verbs have been taken as evidence of a functional category (Haznedar, 1997; Lardiere, 2000; Parodi, 2000). There are several reasons why a function-oriented approach is more satisfactory. First of all, if we take a form-oriented approach (except Parodi's), it is hard to explain why initially only light verbs can precede negation. In a function-oriented view, in contrast, this can be easily accounted for by assuming that light verbs have little semantic content of their own and therefore fall outside the scope of negation. Second, if one assumes that all light verbs are spell-outs of INFL, then, it remains unclear why some light verbs less consistently preceded negation than others. If we take into account that some light verbs are semantically less 'empty' than others this difference becomes immediately plausible, however: verbs that have less semantic content more clearly fall outside the negator's scope and therefore more consistently precede negation. Finally, if one adopts a form-oriented approach, it is difficult to explain why learners used an invariant verb such as *is* in a position before negation. Nor can the fact that this form sometimes occurred in complementary distribution with negation be straightforwardly accounted for if semantic functions are not considered. In short, it seems that the current results can best be accounted for in a function-oriented approach, according to which principles of information structure and scope marking determine word order at the early stages and morphosyntactic principles (finiteness and verb-raising) only come into play after the auxiliary *hebben* is acquired.

An interesting question remains why learners start to use 'is-lexical verb', given that there is no clear equivalent of this construction in the target language. A possible answer is that *is* occurs frequently in copula constructions

of the type *Hij is weg* ‘He is away’, which may lead to overgeneralization in constructions with lexical verbs. Support for this idea comes from constructions in which learners produced finiteness marking on elements that would have to be analyzed as adverbials or adjectives in the target language. The utterances in (38) and (39) suggest that for beginning learners of Dutch, the distinction between an adverbial like *wakker* ‘awake’ or *bang* ‘afraid’ and a verbal construction like *wakker worden* ‘wake up’ or *bang worden* ‘become afraid’ might not at all be clear-cut.

(38) Maar allebei niet wakkert
 But both not awake.3sg
 ‘But neither of them wakes up’

(39) En dan allemaal bangen
 And then all afraid.inf/pl
 ‘And then, all are/become afraid’

Thus, the semantic similarity between adverbials and adjectives on the one hand and verbs on the other might explain why learners produce *is* in combination with lexical verbs. The following utterance is illustrative in this respect, as it shows the co-occurrence of *is* with an element that would be an adverbial in the target language but seems to have a verb-like status in learner language.

(40) Die vrouw is wegt
 That woman be.3sg away.3sg
 ?‘The woman is go’

Before concluding this chapter, it is worth pointing out that the Moroccan and Turkish learners showed a remarkably similar development towards morphosyntactic finiteness in the target language, even though their L1s are very different. Some differences between the two language groups were also found, but these concern the extent to which a certain form was used, rather than the type of form. First, the Moroccans showed an advantage over the Turkish learners with respect to both finiteness marking and verb-raising, in the sense that they produced more target-like structures. This is not surprising,

given that Moroccan Arabic has verb-raising but Turkish does not. Second, the data showed that the Moroccan learners made more frequent use of light verbs, in particular *gaan* and auxiliary verbs, than the Turkish learners. Van de Craats (to appear) suggests that the use of *gaan* might be a case of direct transfer from the Moroccan light verb *ga(di)*, which expresses near future and is therefore almost identical to the Dutch light verb in both form and meaning. Finally, a difference was found in learners' preferences for 'default forms': while the Moroccan learners predominantly produced lexical verbs ending in *-o*, the Turkish learners mainly used *-en*. Despite such differences, the results of this chapter show that Moroccan and Turkish learners of Dutch acquire finiteness in a step-wise manner. Auxiliary verbs play a crucial role in the acquisition process and they do so not only for Moroccan learners who are familiar with auxiliaries and verb-raising from their L1 but also for Turkish learners, whose L1 lacks these properties.

Chapter 4

Further support for the role of ‘hebben’: Evidence from production, imitation and processing

Most research on L2 acquisition looks either at production or processing, and comparisons between the two domains are rare. The study of verb placement is not exceptional in this respect. On the one hand, scholars have investigated how L2 learners acquire verb placement by looking at spontaneous or elicited production data, taken from interviews or production tasks. Such studies have typically led to the characterization of the acquisition process as a series of successive stages, each with their own internal logic and increasing similarity to the grammar of the target language (Becker, 2005; Cancino, Rosansky & Schuman, 1978; Clahsen, 1983). On the other hand, researchers have studied how L2 learners deal with verb placement in controlled processing experiments (Beck, 1998; Eubank & Grace, 1996). In the latter studies, not much information is generally available about learners’ production, apart from measures taken from judgement or translation tasks that serve to group learners according to proficiency.

As outlined in the previous chapter, a robust finding in L2 research is that light verbs such as modals and auxiliaries precede the negator from their first emergence, whereas lexical verbs initially follow the negator (Ionin & Wexler, 2002; Meisel, 1983; Parodi, 2000). In particular, auxiliaries have been claimed to fulfill a crucial role: since such verbs lack a clear lexical meaning of their own and occur with non-finite lexical verbs (past participles), they spell out finiteness marking to the L2 learner. For L2 German, Becker (2005) and Dimroth (2008) found that L2 learners only raised lexical verbs over negation after they had acquired the auxiliary *haben* ‘have’. In Chapter 3, similar evidence was presented for L2 Dutch: learners who had not acquired the auxiliary *hebben* almost exclusively placed lexical verbs in a non-raised position with respect to negation, whereas learners who had acquired *hebben* also produced raised verbs.

This chapter builds on the idea that auxiliaries lead to the acquisition of verb-raising in L2 Dutch. In particular, it addresses the question whether there is evidence for the important role of auxiliaries when data other than production data are investigated: controlled data from an elicited-imitation and

sentence-processing task. Do learners who produce auxiliaries behave differently from learners who do not produce auxiliaries in imitation/processing? And do learners have linguistic knowledge in imitation and processing that is not (yet) visible in their production?

The chapter is organized as follows: section 4.1 presents an overview of earlier studies of both production and processing of negation in L2 acquisition. Section 4.2 addresses the present study's research questions and 4.3 is the methodology section. Three types of task were conducted: elicited-production tasks, an elicited-imitation task, and a sentence-matching task. The results from the elicited-production tasks were described in detail in Chapter 3 and will be summarized in section 4.4. The main aim of the study, then, is to compare the production data with elicited imitation and processing data from the same L2 learners. The results from elicited imitation and processing are presented in the sections 4.5 and 4.6. Finally, in section 4.7, the main findings from the different tasks are summarized and compared.

4.1 Background

4.1.1 Production studies

There is ample evidence from L2 production studies that L2 learners of verb-raising languages initially place the verb in a non-raised position with respect to negation. However, they place light verbs such as modal verbs and auxiliaries to the left of negation from the time they first emerge (Giuliano, 2003; Meisel, 1983; Parodi, 2000; Schwartz & Sprouse, 1996; Vainikka & Young-Scholten, 1996a, b). In the following, an overview of the main outcomes of these studies is given. The background information presented here shows strong overlap with the literature overview in the sections 3.1 and 3.2 of Chapter 3. The informed reader might therefore skip the current subsection and proceed to section 4.1.2.

Parodi (2000) found that the copula, modals and auxiliaries preceded negation while lexical verbs followed negation in the production data from Romance learners of German. To account for these findings, Parodi argued that there is a 'division of labour' at early stages of acquisition such that "lexical verbs are responsible for lexical information, while light verbs are the main

Becker's data show that the post-verbal placement of negation in auxiliary sentences is extremely consistent: pre-verbal negation with auxiliaries does not occur. Moreover, auxiliary verbs consistently appear with correct finiteness marking. Becker argues that the fact that auxiliaries lack clear semantic content and co-occur with forms that are clearly marked for non-finiteness (i.e., past participles) makes the finite/non-finite distinction transparent. That is, due to the co-occurrence of a finite form (the auxiliary) and a clearly non-finite form carrying a *ge-*prefix, the different behavior of finite and non-finite forms becomes transparent to the L2 learner.

At the final stage, learners learn to extend finiteness marking from auxiliaries to lexical verbs and to raise such verbs over negation. This results in sentences of the type in (3), in which the negator follows the lexical verb.

- (3) Er arbeit nicht gut
 He work.Ø not well
 'He does not work well' (Becker, 2005: 298)

In sum, Becker's results show that L2 learners of German start out with pre-verbal negation for reasons of scope marking and only acquire post-verbal negation (verb-raising) after the acquisition of the auxiliary *haben*. In the current study, a number of predictions for L2 Dutch will be derived from these findings for production as well as imitation and processing. Before these predictions are outlined, the next section addresses the main outcomes of studies that have looked at verb placement in L2 processing.

4.1.2 Processing studies

Only very few studies on verb placement in L2 processing have appeared, and without exception they have focused on the question of whether verbal morphology and verb-raising are interrelated in L2 acquisition. The reason for investigating this relation is that, within UG, a relation is assumed between finiteness and verb-raising: finite verbs should occur in a raised position and non-finite verbs should appear in a non-raised position (Chomsky, 1995; Pollock, 1989). Specifically, researchers have analysed whether L2 learners place finite verbs in a raised position, but non-finite forms in a non-raised position. If so, this would constitute evidence that UG is still accessible to these learners.

The random placement of finite and non-finite forms in raised and non-raised position, however, would indicate that UG can no longer be accessed (see also Chapter 3, section 3.1.1).

Typically, verb placement with respect to adverbials rather than negation has been used to investigate verb-raising (and its relation to finiteness) in L2 processing. Within a UG-based framework, the same relation has been assumed between verb-raising, on the one hand, and adverbials and negation, on the other: the finite verb is assumed to raise to a higher position and leave negation and adverbials behind (see section 1.2 of Chapter 1). Therefore, the main outcomes of processing studies on the acquisition of verb-raising in sentences with adverbials are summarized below.³

In a reaction-timed study with English learners of German, Beck (1998) tested the two conflicting views on verb-raising in L2 acquisition: (i) the acquisition of finiteness leads to verb-raising versus (ii) finiteness does not lead to verb-raising. She performed a sentence-matching task, in which participants were asked to judge two visually presented sentences as being the same or different. In such a reaction-timed task, the time it takes participants to make this judgement is measured and taken as an indication of the sentences' grammaticality. The rationale behind this measurement is that native speakers take less time to match two identical grammatical sentences than two identical ungrammatical sentences. Since the task will be described in more detail below, it suffices to point out here that the task measures the processing of grammaticality and that it is covert. Participants are not directly asked for their judgements about grammaticality, but about whether two sentences are the same. When applied to L2 learners, the assumption is that longer times reflect ungrammaticality for the learner in the same way as for native speakers, with, as a major difference, that what is grammatical for the learner need not be grammatical in the target language and vice versa.

The task used by Beck contained German sentences in which a verb either was or was not raised over an adverbial, as exemplified in (4).

³ However, from the viewpoint of information structure, clear differences exist between negation and adverbials. Negation usually bears scope over the focus part of an utterance, whereas adverbials can be situated in the topic part, bearing scope over the entire utterance (e.g., 'Tomorrow, I will not go to work'). In Chapter 6 and 7, a comparison between negated sentences and adverbial sentences in learner language will be made.

- (4) a. Der Vater liest selten die Zeitung ‘The father reads seldom the paper’
 b. *Der Vater dann schreibt ein Lied ‘The father then writes a song’

These sentences were presented to native speakers and English learners of German. The learners had been subdivided into different groups on the basis of their scores on a written translation task: (a) learners who used agreement versus those who did not and (b) learners who used inversion versus those who did not.⁴ The results showed that both agreement groups responded equally fast to sentences with raised and non-raised verbs. Surprisingly, the no-inversion group responded faster to raised than non-raised verbs, while no effect was found for the inversion group. To explain the effect for the no-inversion group, Beck assumed that these learners lacked functional projections and represented the raised sentences as English-type sentences with heavy NP shift.⁵ She also assumed that the agreement and inversion groups did not demonstrate a processing preference because verb-raising was optional for these learners.

Eubank and Grace (1996) performed a similar study in which they investigated the processing of verb-raising by native speakers and Chinese learners of English (both languages lack verb-raising). The authors found a grammaticality effect for native speakers: processing times were shorter for non-raised verbs such as in ‘Mary often watches TV’ than for raised verbs as in ‘*Mary watches often TV’. For the advanced Chinese learners of English, who were assumed to have acquired subject-verb agreement based on their scores on an online translation task, no differences in response times were found. On the basis of this result, the authors conclude that verb-raising is optional for these learners, even though their L1 does not have verb-raising and despite learners’ relatively advanced level of acquisition.

⁴ The reason for Beck to split learners based on agreement scores was to test whether agreement leads to obligatory verb-raising (Eubank, 1993/94) or whether there is no such relation (Vainikka & Young-Scholten, 1996a, b). Beck wanted to test whether there is evidence for full transfer/full access (Schwartz & Sprouse, 1996), but since these authors assume no relation between agreement and verb-raising, Beck also subdivided learners into an inversion and no-inversion group (on the assumption that the learners who showed evidence of a CP should use verb-raising).

⁵ Lardiere (1998: 364) notes, however, that this account is problematic for two reasons: (i) in the absence of English native-speaker data, it is hard to predict whether (and how) heavy NP shift would affect processing and (ii) the objects in the stimuli were in fact not heavy and would have been ungrammatical in English.

Taken together, the results of these studies do not support the idea of a relation between finiteness (agreement) and verb-raising in L2 acquisition. The lack of effects might also be due to a number of methodological problems, however. First, the two studies seem to have compared 'apples and oranges', namely the *production* of agreement/inversion with the *processing* of verb-raising. It is well established in the L2 literature that learners may show knowledge in comprehension or processing before they can use this knowledge for production (Epstein, Flynn & Martohardjono, 1996; Krashen & Terrell, 1983). For this reason, it may be problematic to compare production and processing to find out whether two linguistic phenomena are related. In fact, it is not inconceivable that the learners in Beck's study had knowledge of agreement or inversion that they were not yet able to engage in production. A second problem is that no production data on verb-raising were collected, making it hard to interpret the results. In Beck's study, for example, we cannot be sure that 'optional verb-raising' in the advanced group did not result from conflating two learner groups: a group that used verb-raising in production and a group that did not. To avoid such problems, the present study looks at one linguistic phenomenon (verb-raising over negation) in data from different 'domains': production, imitation and processing.

4.2 Research questions

The aim of this study is to investigate the acquisition of verb placement in negated sentences in L2 Dutch, using various elicitation tasks. As a first step, production data will be analysed to test whether the acquisition stages that were found for L2 German also hold for Moroccan and Turkish learners of Dutch. This question was also investigated in Chapter 3. The results of this chapter are summarized and mainly serve to set up a comparison with data from controlled language tasks in the current chapter. As in Chapter 3, two groups of learners will be compared: a -AUX group consisting of learners that did not produce the Dutch auxiliary *hebben* 'have' and a +AUX group consisting of learners that did. The two research questions are:

1. Do the two groups differ in their placement of verbs with respect to the negation in production?

2. How do the groups deal with verb placement in imitation and processing?

A number of predictions can be derived regarding these questions. Based on Becker's findings for L2 German, the –AUX group is expected to place lexical verbs to the right of negation in production, since they have not yet acquired auxiliary verbs and are thus not expected to use verb-raising. The +AUX group, on the other hand, is predicted to raise lexical verbs over negation. Verb-raising may still coincide with no raising in this group, however, given that verb-raising is acquired gradually. In auxiliary sentences, the +AUX group is expected to place auxiliaries in a correct position with respect to negation in a consistent manner. As for imitation and processing, earlier research makes no clear predictions. If learners have a preference for the structures they produce themselves, the –AUX group can be predicted to prefer lexical verbs in a position following negation. Similarly, it can be hypothesized that the +AUX group prefers both lexical verbs and auxiliaries to precede negation. The preferred pattern for auxiliary verbs for learners in the –AUX group remains an open question: these learners do not yet use such verbs in their own speech, so it is difficult to predict whether they will show a preference for auxiliaries to precede or follow negation, or no preference at all.

Learners may also prefer raised or non-raised verbs, dependent on how negation is marked in their native language. More specifically, Moroccan learners of Dutch might have fewer difficulties with acquiring verb-raising than Turkish learners since Moroccan has verb-raising but Turkish has not (or less clearly so, see section 2.2.3 of Chapter 2). Table 1 briefly summarizes basic word order and the expression of negation for Dutch, Moroccan Arabic, and Turkish (see also Chapter 2).

Table 1. *Summary of the relevant typological properties for Dutch, Moroccan Arabic, and Turkish*

	Dutch	Moroccan Arabic	Turkish
Position of V _{fin} (in decl. main clause)	Second position	Initial position (also: after subject)	Final position
Verb-raising	Yes	Yes	No ¹¹
Position of negator	Post-verbal	Pre- and post-verbal	Post-verbal
Type of negator	Free morpheme	Bound morpheme	Bound morpheme
Light verbs	Copula, Modals, Aspectual auxiliaries	Copula, Modals, Aspectual auxiliaries	Copula, Modal 'want'

4.3 The study

4.3.1 Participants

Fifty-five Moroccan learners and 46 Turkish learners of Dutch participated in the study. These learners were recruited at schools where they took Dutch courses that are obligatory for new immigrants. All participants had a beginning level of acquisition and a relatively low level of schooling. Length of residence in the Netherlands varied, with a mean of 3:6 and 5:3 years for the Moroccan and Turkish learners, respectively. All but three learners were right-handed. See Appendix B and section 3.6.1 of Chapter 3 for more biographic details about the participants.

In addition to these learners, a control group of 28 Dutch native speakers carried out the production tasks and the sentence-matching task.⁶

¹¹ As noted in section 2.2.3, verbs have been assumed to raise over the negation suffix *-ma* in Turkish (Ouhalla, 1991). However, they not raise over objects, adverbials or the negation markers or the free negation morphemes *değil* and *yok*.

⁶ The native speakers also carried out the elicited-imitation task, but the task was not demanding enough for them to lead to active reconstruction, as signalled by the fact that they produced very few changes to the stimuli items. Therefore, these data will not be considered further.

These participants also had a relatively low level of schooling and all were right-handed. Their ages ranged between 16 and 21 years, with an average age of 18.

4.3.2 Tasks: What they measure and how

Two production tasks were used to elicit negated utterances: film-retelling and picture story tasks. To test learners' processing of lexical verb and auxiliary placement in negated sentences, a sentence-matching task was used. As we have seen above, participants judge two sentences as being the same or different in such a task and the time it takes them to give this judgement is measured. On the assumption that grammatical structures are processed faster than ungrammatical ones, participants' processing times are taken as an indication of a sentence's grammaticality (for a given participant). In addition to these tasks, an elicited-imitation task was presented. In elicited imitation, participants repeat sentences that are manipulated for linguistic structure. These sentences can be grammatical or ungrammatical, and ideally, they are constructed in such a way that they cannot easily be imitated verbatim, that is, they should be of sufficient length not to be stored as chunks. The rationale behind the task is that, since the sentences are too long to be stored as chunks in memory, they have to be reconstructed by participants.⁷ For (beginning) L2 learners, the task has proven useful in investigating learners' linguistic knowledge: learners make changes to the stimuli sentences and these changes are assumed to reflect subconscious, abstract grammatical knowledge (Munnich, Flynn & Martohardjono, 1994). It has also been shown that elicited imitation can reflect grammatical knowledge that learners cannot (yet) actively use (Naiman, 1974). It cannot be excluded that participants might sometimes repeat sentences verbatim, however. Also, unlike in a sentence-matching task, where participants need not produce language themselves but only give motor responses, language production (repetition) takes place in elicited imitation. For these reasons, it seems safe to assume that both tasks can tap into linguistic knowledge that is not available for

⁷ Hameyer (1980) found that sentence length determines to what extent the task is reconstructive: it correlates with the number of syntactic and semantic changes participants made. Typically, in most elicited-imitation studies sentence length is discussed as a variable that needs to be considered in relation to a specific population and test design rather than as an absolute measure (Bley-Vroman & Chaudron, 1994; Erlam, 2006; Munnich, et al., 1994). In the current study, piloting was used to determine optimal sentence length for the current learners.

active language production (creation), but that such knowledge is more likely to show up in sentence-matching. Thus, the three tasks used in this study form a scale representing the degree to which 'active' linguistic knowledge is involved: elicited production > elicited imitation > sentence matching. While ability to actively produce a certain form is necessary to be able to use this form in a film-retelling or picture story task, more 'passive' knowledge can do the job in elicited imitation, and this is even more clear in sentence-matching, where participants need not produce language themselves.

4.3.3 Production tasks

Two production tasks were used that have been described in relative detail in section 3.5.2 of Chapter 3. The first involved a 10-minute fragment from Charlie Chaplin's *Modern Times* that contained several contexts for the use of the Dutch auxiliary *hebben* as well as the negator *niet* 'not'. Altogether, this film elicited between one and four negated utterances (mean 2.8) from the native speakers. The second film ('The finite story', Dimroth, 2005) elicited between four and ten negated utterances from the native speakers (mean 6.8). Both films were cut into smaller fragments and participants retold what had happened immediately after they had watched a fragment. Participants were also presented with two picture stories to elicit the auxiliary *hebben* (i.e., 'cake story' and 'ball story', see Appendix C). These stories depicted simple events and contained a target event for which an auxiliary was likely to be used. Typically, the resultant state but not the preceding action was depicted for these target events: for example, two boys who are thinking of fetching a ladder to get a ball out of a tree in the first picture and the same two boys carrying a ladder towards a tree in the immediately following picture.

4.3.4 Elicited-imitation task

The elicited-imitation task contained 36 sentences that had to be repeated by participants. As noted above, the task is assumed to be 'reconstructive': the sentences are too long to store in short-term memory and must therefore be reconstructed before they can be imitated.

The task contained four sentence types that together presented two variables with two levels each: 'verb placement' (raised vs. non-raised) and 'verb

type' (lexical verb vs. auxiliary). This resulted in the following four sentence types:

- | | |
|---------------|---|
| 1. LEX – NEG | De minister <u>praat niet</u> over het grote probleem
'The minister talks not about the big problem' |
| 2. *NEG – LEX | *De minister <u>niet praat</u> over het grote probleem
'The minister not talks about the big problem' |
| 3. AUX – NEG | De minister <u>heeft niet</u> over het probleem gepraat
'The minister has not about the problem talked' |
| 4. *NEG – AUX | *De minister <u>niet heeft</u> over het probleem gepraat
'The minister not has about the problem talked' |

There were three items per sentence type, resulting in twelve target sentences.⁸ Twenty-four filler sentences were included to distract learners from the target structures. Half the filler sentences were ungrammatical and the other half were grammatical so that the overall grammatical:ungrammatical ratio was 1:1. The filler sentences involved (violations of) subject-verb inversion and (violations of) subject-verb agreement marking, as can be seen below:

- | | |
|------------------|--|
| 1. Inversion | Elke dag <u>rookt de oude meneer</u> een sigaret
'Every day smokes the old man a cigarette' |
| 2. *No inversion | *Elke dag <u>de oude meneer rookt</u> een sigaret
'Every day the old man smokes a cigarette' |
| 3. Agreement | De man <u>geeft</u> een mooi cadeau aan de directeur
'The man gives a nice present to the director' |
| 4. *No agreement | *De man <u>geven</u> een mooi cadeau aan de directeur
'The man give a nice present to the director' |

⁸ Perkins, Brutten and Angelis (1986) found for L2 learners of English that these learners could imitate 26 sentences before they began to exhibit response arbitrariness. Therefore, the current L2 learners were presented with two sessions containing no more than 18 sentences each. Although three data points per condition may seem too few, Fujiki and Brinton (1983) showed that three repetitions provided reliable data for each participant.

Item frequency and sentence length were kept constant across all target and filler sentences. To control for frequency, only lexical items from a combined frequency list of Dutch were used.⁹ All verbs were regular. As for length, all sentences contained eight or nine words and twelve or thirteen syllables. In order to keep sentence length equal across the different sentence types, the auxiliary sentences often lacked an adjective or noun that was present in the corresponding lexical verb sentences. Although this was not considered ideal, the alternative of comparing long auxiliary sentences to shorter lexical verb sentences was considered even less desirable. Finally, no lexical item occurred more than twice in the stimuli (see Appendix D1 for the stimuli sentences).

Four counterbalanced, pseudo-randomized lists were constructed. To avoid ordering effects, an additional version was constructed for each list in which the order of presentation of the sentences was varied.¹⁰ All lists started with the same two warm-up trials. The entire task was administered in two sessions: one for the lexical verb sentences and another for the auxiliary sentences. Half of the participants performed the lexical verb session first, while the other half carried out the auxiliary session first. To reduce carryover effects, the production tasks were administered to the participants between these two sessions.

All sentences were pre-recorded by a female native speaker of Dutch in a soundproof cabin and played to the participants via earphones. Participants were instructed to start their repetition only after they had listened to the entire sentence, and they were kept ignorant about the ungrammaticality of half of the sentences. When participants were not able to imitate the sentence for some reason, it was played again with a maximum of three repetitions.

4.3.5 Sentence-matching task

In a sentence-matching task, two sentences are presented to participants and the time it takes participants to judge whether these sentences are the same or different is measured (Chambers & Forster, 1975; Duffield & White, 1999;

⁹ This list contained all shared nouns and verbs in three frequency lists: a frequency list by Hulstijn and Hazenberg (for more information, cf. Hulstijn & Hazenberg, 1996), containing 2830 words, as well as two lists with the 2000 most frequent nouns and verbs of *Celex* and *Corpus Gesproken Nederlands* 'Corpus of Spoken Dutch'.

¹⁰ The second list started with the second half of the first list, followed by the first half.

Duffield et al., 2002; Freedman & Forster, 1985). The task is based on the finding that participants respond more quickly to grammatical sentence pairs like those in (13) than to ungrammatical pairs like those in (14) (Freedman & Forster, 1985):

(13) Dogs growl
Dogs growl

(14) Growl dogs
Growl dogs

The faster response time to (13) has been taken as evidence that the available structure in the grammatical sentences facilitates the same/different choice. A participant's reaction time to a given pair can thus be considered a function of the grammaticality of the paired sentences. Importantly, such a facilitation of grammatical over ungrammatical sentences typically holds for native speakers; the distinction between grammaticality and ungrammaticality becomes less clear-cut when the task is applied to language learners. Previous research has shown, however, that faster reaction times also reflect grammaticality for the learner, so the sentence-matching task has been considered a helpful tool for finding out what is grammatical in the L2 learner's grammar at a given point in development (Bley-Vroman & Masterson, 1989). The fact that L2 learners have a different mental grammar entails that they may show facilitation for structures that are ungrammatical in the L2 as well as inhibition for structures that are grammatical.

The task was auditory, in contrast to earlier sentence-matching tasks that were all performed in a visual mode. Piloting showed that auditory presentation of the stimuli yielded a grammaticality effect among native speakers (Roberts & Verhagen, 2006), so it enables investigations into the processing of grammaticality in populations that do not have (automatized) reading skills, such as children and beginning L2 learners. In the current study, auditory stimuli were used because participants were not proficient readers in the L2.

The target sentences were similar to those in the elicited-imitation task, with the exception that proper names instead of full nouns were used as sentential subjects. The reason for this was a pragmatic one: only a few animate

nouns appeared to be frequent enough in the target language to be used. Another exception is that the task contained only plural subjects of the type 'John and Anne'. This was done in order to obtain sentences that were as similar as possible to the structures that learners produced themselves. More precisely, the production data had shown that non-raised verbs overwhelmingly ended in *-en* instead of in a correct agreement suffix. To ensure that possible effects in the sentence-matching data were not due to an interaction between verb placement and agreement marking rather than to verb placement alone, only plural verb forms ending in *-en* were used (as plural verbs are homophonous with infinitives in Dutch).

The same conditions were used as in the elicited-imitation task. These are repeated below. Note that sentences were presented in pairs such that 1 was presented twice, 2 was presented twice, and so on.

- | | | |
|----|------------|---|
| 1. | LEX – NEG | Anna en Frank <u>koken niet</u> in de keuken
'Anna and Frank cook not in the kitchen' |
| 2. | *NEG – LEX | *Anna en Frank <u>niet koken</u> in de keuken
'Anna and Frank not cook in the kitchen' |
| 3. | AUX – NEG | Anna en Frank <u>hebben niet</u> in de keuken gekookt
'Anna and Frank have not in the kitchen cooked' |
| 4. | *NEG – AUX | *Anna en Frank <u>niet hebben</u> in de keuken gekookt
'Anna and Frank not have in the kitchen cooked' |

Six sentences per condition were presented, which resulted in a total of 24 target sentences. There were also 36 filler sentences, resulting in an overall target:filler ratio of 1:1.5. The sentences in a filler pair differed either lexically or syntactically from each other and these differences occurred at different positions within the sentence (initial-medial-final). All target sentences occurred in matching pairs, and of the filler pairs, 30 were non-matching and 6 were matching, resulting in an overall matching:non-matching ratio of 1:1. Thus, equal numbers of 'grammatical' versus 'ungrammatical' pairs and 'matching' versus 'non-matching' pairs were used to prevent any biases in the experiment. For an overview of all test sentences, see Appendix D3.

Four counterbalanced, pseudo-randomized lists as well as four additional lists in which the stimuli order was varied were constructed. Each list

started with the same two filler pairs. The stimuli were pre-recorded in a soundproof cabin by the same female native speaker of Dutch who read the stimuli for the elicited-imitation task, and they were implemented in the software program NESU (Baumann, Nagengast & Wittenburg, 1992). In the presentation during the experiment, a 150-millisecond break occurred between the two sentences of a pair, and reaction times were measured from the offset of the second sentence. At this point, a picture on the computer screen indicated that participants could give their responses. Importantly, yes/no questions were presented after each target sentence (after participants had given their responses) and also, at variable intervals, after a third of the filler sentences. These questions served as a measure to find out whether participants stayed 'online' during task performance.¹¹ Participants responded to the questions by pressing the 'different' button for 'no' and the 'same' button for 'yes'. Prior to the experiment, participants received oral instructions and performed a short training session. A self-paced break was allowed after participants had performed half of the task.

4.4 Results for production

The data of the production tasks were transcribed and all sentences containing a negator and a lexical verb or auxiliary verb were analysed for whether the verb preceded or followed the negator. Tables 2 and 3 provide the absolute and relative frequencies of the placement of lexical verbs and auxiliaries for the learners who produced the auxiliary *hebben* (+AUX group) and the learners who did not (-AUX group). In these tables, 'V' refers to both lexical verbs and auxiliaries: hence, in the second row of the tables, V – NEG indicates that the auxiliary preceded the negator, while NEG – V indicates that it followed the negator – which was, however, never the case.

¹¹ None of the earlier sentence-matching studies reports the use of questions. Since the inclusion of comprehension questions has been proven a useful method in other psycholinguistic methods such as self-paced reading and eye-tracking (Marinis et al., 2005; Roberts et al., 2008), it was adopted for the current study.

Table 2. *Verb placement in the production data of the +AUX group*

	Moroccan learners (n=31)		Turkish learners (n=25)	
	V – NEG	*NEG – V	V – NEG	*NEG – V
Lexical verbs	78% (138)	22% (38)	37% (71)	63% (121)
Auxiliaries	100% (25)	0% (0)	100% (22)	0% (0)

Table 3. *Verb placement in the production data of the –AUX group*

	Moroccan learners (n=24)		Turkish learners (n=21)	
	V – NEG	*NEG – V	V – NEG	*NEG – V
Lexical verbs	9% (8)	91% (85)	3% (6)	97% (170)
Auxiliaries	- -	- -	- -	- -

When we consider the data for the +AUX group, it appears that auxiliaries consistently preceded negation. Lexical verbs, in contrast, were found on both sides of negation. For the Moroccan learners, verb-raising is the dominant pattern (78%), while for the Turkish learners, non-raised verbs were produced more frequently than raised verbs (37% raised verbs only). This difference between the two language groups is significant by Pearson's chi-square ($\chi^2(1)=64.231, p < .001$), which indicates that the Moroccan learners produced verb-raising significantly more often than the Turkish learners.

In the –AUX group, verb-raising is almost negligible: over 90% of all verbs appeared in a non-raised position. Again, the predominant use of non-raised verbs is clearer in the Turkish group (97%) than in the Moroccan group (91%), but this difference is not significant ($\chi^2(1)=3.326, p > 1$).

Taken together, these results provide a positive answer to research question 1. The learners in the +AUX group produced raised verbs (in addition to non-raised ones), while the –AUX group almost exclusively produced verbs in a non-raised position with respect to negation. While verb-raising was more frequent in the Moroccan than in the Turkish group, highly significant differences are found between the –AUX and +AUX groups for both language groups: $\chi^2(1)=119.478, p < .001$ for the Moroccans; $\chi^2(1)=62.544, p < .001$ for the Turks. Thus, the results support the idea that auxiliaries are important for the acquisition of verb-raising in L2 Dutch. As a final remark, it is noteworthy that the use of verb-raising in the +AUX group was wide-spread: 29 out of 31 Moroccan learners and 23 out of 25 Turkish learners in the +AUX group

produced at least one raised verb. For examples and more details about learners' placement of lexical verbs and auxiliaries in negated sentences, see Chapter 3 (sections 3.5 and 3.6).

4.5 Results for elicited imitation

4.5.1 Coding and scoring

The results from the elicited-imitation task showed that learners frequently changed the original stimuli sentences in their responses. Syntactic, morphological and semantic changes were found, suggesting that the learners actively reconstructed the sentences rather than repeating them verbatim, at least in the overwhelming majority of cases. The responses in (15) and (16) illustrate a semantic and morphosyntactic change, respectively:

- (15) Target: *De burgemeester niet werkt op een groot kantoor
 'The mayor not works in a big office'
 Response: *Die burgemeester niet werk op de postkantoor
 'The mayor not work in the post office'
- (16) Target: De mannen hebben niet naar de muziek geluisterd
 'The men have not to the music listened'
 Response: Die mannen hebben niet luisteren muziek
 'The men have not listen music'

For all responses, whether the verb preceded or followed negation was determined. When learners repeated the sentence more than once or produced a self-correction, only their last response was considered. Responses in which a lexical verb had been changed to another lexical verb (e.g., *praten* > *luisteren* 'talk > listen') were retained for analysis.

4.5.2 Results

Table 4 and 5 show the data for the Moroccan and Turkish +AUX groups. The numbers in bold indicate the changes that learners made in their responses

FURTHER SUPPORT FOR THE ROLE OF 'HEBBEN'

concerning the position of the verb relative to negation for a given sentence type. Thus, 13.2% in the second column of Table 4 indicates that 12 out of all 91 responses to stimulus sentences with a lexical verb following negation (*NEG – LEX) were changed into sentences with a lexical verb preceding negation (LEX – NEG). The tables also show how many utterances could be analyzed ("total analyzed") and how often learners left out the verb or the negator in their responses (2/1 in the last column indicates that out of all responses in a given condition, 2 responses lacked a verb – a lexical verb or auxiliary depending on the condition – and 1 had a missing negation).¹²

Table 4. *Results from elicited imitation for the Moroccan +AUX group (n=31)*

Responses				
Stimuli	V – NEG	*NEG – V	Total analyzed	(no V/ NEG)
LEX – NEG	100% (93)	0% (0)	93	0/0
*NEG – LEX	13.2% (12)	86.8% (79)	91	2/1
AUX – NEG	100% (92)	0% (0)	92	1/0
*NEG – AUX	32.9% (28)	67.1% (57)	85	7/1

Table 5. *Results from elicited imitation for the Turkish +AUX group (n=25)*

Responses				
Stimuli	V – NEG	*NEG – V	Total analyzed	(no V/ NEG)
LEX – NEG	89% (65)	11% (8)	73	0/2
*NEG – LEX	7.2% (5)	92.8% (64)	69	2/4
AUX – NEG	100% (50)	0% (0)	50	22/2
*NEG – AUX	59.3% (32)	40.7% (22)	54	8/0

Table 4 shows that the Moroccan learners changed lexical verbs from a position following negation to a position preceding negation in their responses, but not vice versa (13.2% vs. 0%). The same holds for auxiliaries, where an even

¹² Sometimes responses could not be analyzed because they were inaudible or too many elements were left out. Hence, the numbers in the third and fourth column do not always add up to the total number of stimuli sentences presented (i.e., three per condition for each subject).

stronger preference for auxiliaries to precede negation was found: 32.9% of all auxiliary sentences in which the auxiliary followed negation was changed into a grammatical sentence, but the opposite type of change was never made. The following responses illustrate both types of change made by the Moroccan +AUX group: a change from *NEG – LEX into LEX – NEG and from *NEG – AUX into AUX – NEG, respectively.

- (17) Target: *De jongens en meisjes niet lopen op het strand
 ‘The boys and girls not walk on the beach’
 Response: Die jongens en meisjes loopten niet in het strand
 ‘The boys and girls walk not on the beach’
- (18) Target: *De meisjes niet hebben op het strand gelopen
 ‘The girls not have on the beach walked’
 Response: De meisjes hebben niet op het strand gelopen
 ‘The girls have not on the beach walked’

Comparing these findings to the data from the Turkish learners in Table 5, a clear difference can be observed: whereas the Moroccan learners shifted verbs from a position following negation to a position preceding negation, but never vice versa, the Turkish learners also switched lexical verbs to a position following negation. This is exemplified in (19) and (20):

- (19) Target: De mannen luisteren niet naar de mooie muziek
 ‘The men listen not to the nice music’
 Response: *Die mannen niet luisteren in de muziek
 ‘The men not listen in the music’
- (20) Target: De burgemeester werkt niet op een groot kantoor
 ‘The mayor works not in a big office’
 Response: De burgemeester niet werk op een kantoor
 ‘The mayor not work in an office’

In fact, they produced this type of response more often than the opposite type, in which they shifted a verb from a non-raised to a raised position (11% vs. 7.2%). Just like the Moroccan learners, however, the Turkish learners showed a

FURTHER SUPPORT FOR THE ROLE OF 'HEBBEN'

clear preference for auxiliaries to precede negation: no less than 59.3% of all sentences were changed from *NEG – AUX into AUX – NEG order in this language group, but the opposite type of change did not occur. Consider (21) for an example:

- (21) Target: *De koningin niet heeft naar de mensen gelachen
 'The queen not has to the people laughed'
 Response: De koning heeft niet naar de mensen gelacht
 'The queen has not to the people laughed'

For both language groups, the differences between the lexical verb and auxiliary condition are significant: $\chi^2(1) = 9.766$, $p = .002$ for the Moroccans; $\chi^2(1) = 38.965$, $p = .001$ for the Turks. This shows that both groups switched auxiliaries more often into a correct position in their responses than lexical verbs. Note, however, that the number of analyzable responses in the auxiliary condition is much lower than in the case of lexical verbs, in particular in the data from the Turkish learners. A look at the last column shows that this is due to the large number of responses in which the auxiliary was not repeated. The Turkish learners left out the auxiliary in 22 and 18 of all responses to *AUX – NEG and NEG – AUX items, respectively, which constituted 22% and 30% of all responses.

Tables 6 and 7 present the data for the Moroccan and Turkish –AUX groups.

Table 6. *Results from elicited imitation for the Moroccan –AUX group (n=24)*

Responses						
Stimuli	V – NEG		*NEG – V		Total analyzed	(no V/ NEG)
LEX – NEG	88.2%	(60)	11.8%	(8)	68	0/4
*NEG – LEX	1.4%	(1)	98.6%	(69)	70	0/2
AUX – NEG	100%	(66)	0%	(0)	66	4/2
*NEG – AUX	43.8%	(28)	56.2%	(36)	64	8/0

Table 7. Results from elicited imitation for the Turkish –AUX group (n=21)

Responses						
Stimuli	V – NEG		*NEG – V		Total analyzed	(no V/ NEG)
LEX – NEG	67.8%	(40)	32.2%	(19)	59	1/2
*NEG – LEX	0%	(0)	100%	(54)	54	0/9
AUX – NEG	95.2%	(20)	4.8%	(1)	21	40/0
*NEG – AUX	44.7%	(17)	55.3%	(21)	38	22/0

With one exception, the learners in the –AUX groups did not change non-raised lexical verbs into raised lexical verbs, so they behaved differently from both +AUX groups. Instead, they frequently switched lexical verbs from a raised into a non-raised position: 11.8% in the data from the Moroccans and 32.2% in the data from the Turks. This difference is significant ($\chi^2(1) = 11.655$, $p = .001$), showing that the Turkish learners changed raised into non-raised lexical verbs significantly more often than the Moroccan learners.

Strikingly, Tables 6 and 7 also show that the –AUX group often changed auxiliaries from a position following negation to a position preceding negation. These changes are remarkable given that the learners in the –AUX group could not produce auxiliaries. In fact, the number of ‘corrected’ auxiliary sentences produced by the Moroccan –AUX group outnumbers those made by the Moroccan +AUX group: 43.8% versus 32.9%. The Turkish–AUX group also frequently shifted the auxiliary from a position following to a position preceding negation (44.7%), but they did not do so more frequently than the Turkish +AUX group (59.3%).

Just as was observed for the +AUX group, the learners in the –AUX group often left out the auxiliary verb in their responses: 65.5% of the responses to AUX – NEG stimuli in the Turkish –AUX group did not contain an auxiliary and the same held for 36.7% of all responses to *NEG – AUX stimuli.¹³ For an illustration, consider (22) and (23):

¹³ It seems difficult to explain why the Turkish learners left out *hebben* more often in the grammatical condition than in the ungrammatical condition. One could assume that *hebben* is easier to notice or process when it follows negation than when it precedes negation, but this is hard to reconcile with the finding that learners frequently changed NEG – AUX into AUX – NEG. One possibility, then, might be that the learners who left out *hebben* formed a different subgroup than the learners who changed NEG – AUX into AUX – NEG. An analysis of the

FURTHER SUPPORT FOR THE ROLE OF 'HEBBEN'

- (22) Target: De mannen hebben niet naar de muziek geluisterd
 'The men have not to the music listened'
 Response: De mannen ∅ niet muziek luisteren
 'The men not music listen'
- (23) Target: De meisjes hebben niet op het strand gelopen
 'The girls have not on the beach walked'
 Response: De meisjes ∅ niet op het strand lopen
 'The girls not on the beach walk'

An interesting question is why learners left out *hebben* so frequently. To find out whether the phenomenon was somehow related to the presence of negation, the filler items containing auxiliaries were analyzed to see whether the learners showed the same behavior for these items. Recall from above that (some of) the filler items involved inversion/no-inversion sentences of the following type: *Elke dag heeft de meneer een sigaret gerookt* vs. **Elke dag de meneer heeft een sigaret gerookt* ('Every day has the man/*the man has a cigarette smoked'). Table 8 shows for all four learner groups how often they 'dropped' *hebben* in their responses to these items out of the total number of (analyzable) responses.

Table 8. 'Auxiliary drop' in the filler sentences from the elicited-imitation task

Stimuli	Moroccan learners		Turkish learners	
	+AUX group	-AUX group	+AUX group	-AUX group
Fillers (+inv.)	0% (0/93)	15.3% (11/72)	36% (27/75)	47.6% (30/63)
Fillers (-inv.)	2.3% (7/93)	23.6% (17/72)	40% (30/75)	50.8% (32/63)

Again, the data show that the tendency is particularly strong in the Turkish group: the Turkish -AUX group left out *hebben* in about half of the cases and even the learners of the Turkish +AUX group often 'dropped' the auxiliary (36% and 40%). The Moroccan -AUX group also left out *hebben* relatively

data suggests that this is not the case: in the Turkish -AUX group, where auxiliary omission was most frequent, most learners changed NEG - AUX into AUX - NEG and at the same time left out *hebben* in AUX - NEG stimuli, but not NEG - AUX stimuli (n=11). Smaller subgroups involved learners who changed NEG - AUX into AUX - NEG and left out *hebben* in NEG - AUX stimuli (n=3), produced omissions but no changes (n=4), or only changes and no omissions (n=1).

often, but much less often so than the Turkish –AUX group ($\chi^2(1) = 26.786$, $p < .001$, when both filler types are collapsed). For the Moroccan +AUX group, ‘auxiliary drop’ is close to absent, so the learners in this group performed very differently from the Turkish +AUX group. In the discussion, I will come back to these findings and propose an explanation of why learners ‘dropped’ the auxiliary as well as why the Turkish learners did so more frequently than the Moroccan learners.

4.5.3 Summary

The elicited-imitation data show some clear parallels to the production data. First, the +AUX group changed lexical verbs from a non-raised to a raised position, whereas the –AUX group changed lexical verbs from a raised to a non-raised position. Second, the +AUX group never shifted auxiliaries to the right of negation in their responses. Third, a language difference was found: the Turkish learners had a stronger preference for non-raised verbs overall, both in the +AUX and –AUX group, changes from raised into non-raised verbs were more frequent than in the data from the Moroccan learners. The elicited-imitation results also differed from the production data, however. First, the Moroccan +AUX group never switched raised lexical verbs into non-raised ones even though their production data did contain verbs in non-raised position. Second, and most interestingly, the –AUX group frequently switched auxiliary verbs to a correct position, even though they did not use such verbs in production. This finding suggests that learners who do not yet produce auxiliary verbs can be sensitive to the placement of such verbs relative to negation. The findings for production and elicited imitation are summarized in Table 9.

Table 9. *Result summary for production and elicited imitation*

	Production	Elicited imitation
+AUX group	LEX – NEG NEG – LEX AUX – NEG	LEX – NEG (Mor.) LEX – NEG, NEG – LEX (Tur.) AUX – NEG
–AUX group	NEG – LEX –	NEG – LEX AUX – NEG

4.6 Results for sentence-matching

Before presenting the results, section 4.6.1 addresses the analyses that were performed on the data from the sentence-matching task.

4.6.1 Analyses

As is standard in sentence-matching experiments, only reaction times to matching pairs were considered for analysis. All responses to non-matching pairs as well as incorrect responses to matching pairs were removed. Furthermore, all responses for which yes/no questions were wrongly answered were excluded. In determining the overall error rate for each participant, however, responses to non-matching pairs were taken into account, since it was assumed that such responses provide an indication of participants' overall task performance. In the control group, two participants with an error rate greater than 15% were excluded from the analysis (cf. Duffield et al. 2002). For the learner group, no such criterion was applied, because it was assumed that learners' errors, unlike native speakers' errors, could be due to problems with vocabulary or phonetic decoding instead of merely 'bad processing'.

Means and standard deviations were calculated for the scores of each participant on each of the four conditions separately. The reaction times that fell beyond the cut-off value of two standard deviations above or below a participant's individual mean for a given condition were excluded. As a result of error deletion and cleaning, 2.5% of all responses of the control group and 8.5% of all responses of the learner group were removed.

The remaining reaction times were analyzed with the General Linear Model repeated-measures procedure in SPSS for the native speakers and learners separately. In the analysis of the native speakers, there were two within-subject factors: 'verb placement' with two levels (raised vs. non-raised) and 'verb type' with two levels (lexical verb vs. auxiliary). In the analysis of the learner data, there were the same two within-subject factors as well as two between-subject factors: 'language' with two levels (Moroccan Arabic and Turkish) and 'learner group' with two levels (+AUX and -AUX group). In line with earlier sentence-matching studies, both F1 and F2 were calculated, which means that separate analyses were performed over subjects and items.

4.6.2 Results for the native speakers

The mean response latencies and standard deviations for the control group are presented in Table 10. A repeated-measures ANOVA showed that there was a main effect of ‘verb placement’, both by subject ($F(1,25)= 10.297, p= .004$) and by item ($F(1,23)= 4.508, p= .045$). This effect indicates that responses were faster to sentences with raised than to sentences with non-raised verbs.

Table 10. *Results from sentence-matching for the native speakers (n=26)*

	Mean response time in ms (SD)
1. LEX – NEG	341 (115)
2. *NEG – LEX	397 (137)
3. AUX – NEG	336 (123)
4. *NEG – AUX	390 (163)

No interaction with ‘verb type’ was found, which indicates that speakers responded faster to sentences with raised verbs independently of whether these sentences contained a lexical verb or an auxiliary. This finding is important since it shows that the sentence-matching task taps into the processing of grammaticality in the case of verb-raising, at least when data from native speakers are considered.

4.6.3 Results for the +AUX group

No effects were found for the learners in the +AUX group. The factor ‘verb placement’ did not yield a significant result ($F(1,55)=1.285, p> .1$ and $F(1,23)=.005, p> .1$) and neither did the factor ‘verb type’ ($F(1,55)=1.179, p> .1$ and $F(1,23)=.006, p> .1$). Table 11 presents the mean reaction times and standard deviations for this group.

Table 11. Results from sentence-matching for the +AUX group (n=56)

	Mean response time in ms (SD)
1. LEX – NEG	502 (228)
2. *NEG – LEX	501 (223)
3. AUX – NEG	554 (301)
4. *NEG – AUX	489 (239)

The data show that responses were equally fast to raised and non-raised verbs (lexical verbs) or even slightly faster to non-raised verbs (auxiliaries). A low power value (0.2) suggests, however, that there was high within-group variation in the +AUX group. A series of post-hoc (covariate) analyses was therefore performed to test whether general response speed, number of post-verbal negations in production, and number of auxiliaries in production influenced the results. Only 'auxiliary use' turned out to significantly influence the results of the Moroccan learners. More precisely, an interaction effect between 'verb placement' and 'auxiliary use' ($F(1,30)=4.659$, $p=.039$) showed that the Moroccan learners who used less than fifteen auxiliaries in the production tasks responded faster to non-raised lexical verbs, while the Moroccan learners who produced more than fifteen auxiliaries responded faster to raised lexical verbs. For the auxiliary sentences, no effects were found.

In sum, the results of the +AUX group did not show effects, with the exception of a preference for raised or non-raised verbs lexical verbs in the Moroccan group, depending on how frequently learners used *hebben* in production.

4.6.4 Results for the –AUX group

For the –AUX group, whose data are presented in Table 12, a main effect of 'verb placement' was found, both by subject and by item ($F(1,44)=8.544$, $p=.005$ and $F(1,23)=12.822$, $p=.002$). There was also an interaction effect between 'verb placement' and 'verb type' ($F(1,44)=18.597$, $p<.001$ and $F(1,23)=11.359$, $p=.003$). These effects show that learners responded significantly faster to non-raised verbs in the case of lexical verbs and raised verbs in the case of auxiliaries. A post hoc paired t-test showed that these differences were significant for the lexical verb sentences ($t(44)=3.235$, $p=.002$) and auxiliary sentences ($t(44)=3.437$, $p=.001$).

Table 12. *Results from sentence-matching for the –AUX group (n=45)*

	Mean response time in ms (SD)
1. LEX – NEG	525 (228)
2. *NEG – LEX	423 (193)
3. AUX – NEG	502 (212)
4. *NEG – AUX	683 (407)

The finding that non-raised lexical verbs were processed faster than raised lexical verbs is in line with learners' production. Learners' faster processing of raised auxiliaries than non-raised auxiliaries is clearly ahead of production, given that the –AUX group did not produce auxiliary verbs. Both results are comparable to those from the elicited-imitation task, where the –AUX group changed lexical verbs from raised to non-raised, but showed the opposite type of response in sentences with auxiliaries.

4.6.5 Summary

Like the results from elicited imitation, the sentence-matching results showed that the –AUX group preferred auxiliaries in a position preceding negation, but lexical verbs in a position following negation. For the +AUX group, no clear effects were found except that Moroccan learners who produced more than fifteen auxiliaries preferred raised over non-raised lexical verbs, while learners who produced fewer auxiliaries preferred non-raised over raised lexical verbs. The results for production, elicited imitation, and sentence-matching are summarized in Table 13.

Table 13. *Overall result summary*

	Production	Elicited imitation	Sentence-matching
+AUX group	LEX – NEG NEG – LEX AUX – NEG	LEX – NEG (Mor.) LEX – NEG and NEG – LEX (Tur.) AUX – NEG	No preference (but: LEX – NEG for proficient Mor.) No effects for AUX
–AUX group	NEG – LEX –	NEG – LEX AUX – NEG	NEG – LEX AUX – NEG

4.7 Discussion

The results of this chapter corroborate earlier findings for the acquisition of verb-raising in production and add to these findings a number of observations from elicited imitation and sentence-matching. Most importantly, these findings show that learners can be sensitive to the grammaticality of structures before they are able to produce such structures in their own speech. In the current study, this early sensitivity to grammaticality in comprehension reflected which structures learners will produce when they become more proficient in the L2.

How can we explain the finding that the learners preferred auxiliary verbs in a correct position before they produced such verbs? A possible answer is that the same principle is at work as in production, namely: semantic scope marking. According to this idea, sentences in which the negator precedes its domain of application are processed faster than sentences in which the negator is placed within this domain (LEX – NEG) or takes extra elements in its scope (NEG – AUX).¹⁴ Alternatively however, the results might be accounted for in terms of input frequency. While the negator follows finite verbs in Dutch main clauses, both the complex 'negator-lexical verb' and the complex 'negator-auxiliary' occur in the input. The former sequence occurs in imperatives (*Niet kijken!* 'Not watch!'), sentences with modal verbs (*Ik wil niet werken* 'I want not work'), and subordinate clauses (*Ik denk dat zij niet werken* 'I think that they not work'). However, the sequence negator-auxiliary is only found in subordinate clauses (*Ik denk dat zij niet hebben gewerkt* 'I think that they not have worked'). The fact that negator-auxiliary occurs less frequently than negator-lexical verb could thus explain why learners at a certain stage of acquisition prefer lexical verbs to follow negation, but auxiliaries to precede negation. It seems unlikely, however, that the results are due to input frequency alone: the preference for auxiliaries in a correct position with respect to negation in the –AUX group was remarkably strong and it does not seem very plausible that relatively small differences in input frequency caused this preference.

One finding that deserves further discussion is the null result for the +AUX group in the sentence-matching task. The absence of an effect for

¹⁴ This idea is interesting from the perspective of language change: for natural languages, it has also been claimed that pre-verbal negation is the basic structure and post-verbal negation results from diachronic change (Bernini & Ramat, 1996; Jespersen, 1917).

lexical verb sentences is not surprising, as the +AUX group produced both raised and non-raised lexical verbs in negated sentences. It is less clear, however why the +AUX group did not prefer auxiliaries in a correct position. Why didn't these learners show a processing preference for the type of structure they consistently produced in their own speech and never changed into an incorrect alternative in elicited imitation?

As discussed in section 4.2.1 above, Beck (1998) found that the least advanced learners in her study showed a processing preference for raising over non-raising that was not found for more advanced learners. Similarly, Eubank and Grace (1996) found that learners of English did not respond differently to raising and non-raising even though they were highly advanced in the L2. In both studies, optionality was proposed as an explanation: verb-raising is optional for these learners and therefore no processing preferences are found. While optionality might explain the present null result for lexical verbs, it is less clear how it could account for the lack of an effect for auxiliary sentences. Rather, the results might be due to a task artifact: the presentation of negated auxiliary sentences with incorrect auxiliary placement might have led to what could be called 'task-induced optionality'. In other words, on the basis of the ungrammatical sentences that were presented to them, learners might have created ad-hoc representations in which auxiliaries follow negation, in addition to their already existing representations in which auxiliaries precede negation. To test this idea, the responses of the +AUX group in the first half of the task were compared to those in the second half. The results were not significant ($F(1,55) = .000$, $p = .992$), which suggests that responses did not change as a function of learners' exposure to the stimuli items.

An alternative way to account for the null result is to assume that learners processed the sentences in a special manner. In studies on sentence processing, it has been argued that instead of creating fully specified syntactic representations of sentences, language users may create less detailed representations that are mainly based on lexical-semantic information. For native speakers, such 'shallow processing' has been found for ambiguous sentences (Ferreira & Patson, 2007; Ferreira, Christianson & Hollingworth, 2001) as well as certain types of ungrammaticality (Tabor, Galantucci & Richardson, 2004). For L2 processing, it has been argued that 'shallow processing' is even more plausible: learners' grammars are incomplete or different from the target language, so learners mainly rely on semantic

information (Clahsen & Felser, 2006). An important question that remains, however, is the following: Why did the –AUX group show clear effects instead of shallow processing? A possible answer is that optionality and shallow processing go together in L2 processing. That is, learners who have alternative representations of one linguistic phenomenon (i.e., optionality) might be more susceptible to the relaxation of formal constraints than learners who do not have optional syntactic structures. If so, the fact that the learners in the +AUX group showed optional verb-raising of lexical verbs might have led to optionality with auxiliary verbs. More precisely, the fact that learners' grammars allow for the coexistence of different syntactic structures with the same meaning might enhance the relaxation of syntactic constraints, resulting in a greater reliance on semantic information. No firm conclusions can be drawn on the basis of the current data, however, and the idea that optionality might promote shallow processing needs further investigation.

Learners' frequent omission of auxiliary verbs in their imitations of auxiliary sentences may also be due to 'shallow processing'. This idea is immediately plausible: auxiliaries lack a clear lexical meaning and therefore constitute good candidates for omission when sentences are mainly processed for semantic information. Other elements that were often left out by learners were also poor in meaning: articles, agreement morphemes, connectives such as 'and', and prepositions. The position of *hebben* in a sentence might also have facilitated its omission. Previous research has shown that L2 learners find it easier to imitate structures at the beginning of sentences than those at the end, which in turn are easier than those in the middle (Naiman, 1974). Clearly, auxiliaries might then also be difficult to process (and imitate) because of their sentence-medial position.

The finding that the Turkish learners dropped *hebben* more frequently than the Moroccan learners is likely to be due to L1 influence. First of all, unlike Dutch and Moroccan Arabic, Turkish lacks auxiliary verbs, which probably makes it harder for Turkish learners to perceive *hebben* in the input and/or figure out its function. Second, Moroccan Arabic and Turkish differ in their basic word order in that finite verbs occur in initial or second position in Moroccan Arabic, but sentence-finally in Turkish. Earlier research has demonstrated that this difference shapes word order preferences of Moroccan and Turkish learners of Dutch in production: Moroccan learners typically place verbs in sentence-medial position, while Turkish learners typically put them in

final position (Jagtman, 1994; Jansen, Lalleman & Muysken, 1981; Jordens, 1988). These patterns have been argued to result from L1-based processing differences: while Moroccan learners focus their attention on the middle part of a sentence, where they expect to find a verb, Turkish learners of Dutch look for the verb in final position. The finding that the Turks left out *hebben* far more often than the Moroccan learners (and sometimes even left out lexical verbs in the lexical verb sentences) fits well with this idea. Interestingly, this tendency was extremely persistent: even those Turkish learners who used over 20 auxiliaries in the production tasks abundantly left out *hebben* in elicited imitation.

Independent evidence for the idea of L1-based processing differences between Moroccan and Turkish learners of Dutch comes from the offline (accuracy) data collected in the sentence-matching task, where some non-matching fillers involved a lexical difference between the two sentences of a pair. Crucially, these changes could occur in first position (non-matching subjects), middle position (non-matching verbs) or final position (non-matching objects). An analysis of learners' accuracy scores showed that the Turks correctly judged 59% of all non-matching pairs with a change in the middle as being different, while the Moroccan learners correctly judged 73% of such pairs. No clear differences were found for the other filler pairs. This finding provides further support for the idea that the typological characteristics of the L1 may influence L2 processing.

Turkish and Moroccan Arabic also differ in how negation is marked: while Turkish has a negation suffix, Moroccan Arabic has a circumfix for which the suffix is not obligatory. One might therefore have expected Turkish learners to acquire the post-verbal placement of negation faster than Moroccan learners, but the opposite pattern was found. Both in production and elicited imitation, the Turks had a stronger preference for non-raised verbs than the Moroccans. This finding suggests that the position of the verb in the L1 has a stronger influence on the acquisition of negation than the placement of the negator.

Taken together, the results of this study corroborate earlier findings on the role of auxiliaries for the acquisition of verb-raising for L2 German and Dutch, and demonstrate that these findings also hold for data from imitation and sentence processing. The results also show that L2 learners can have grammatical knowledge before they are able to use this knowledge in production. More precisely, learners who do not produce auxiliary verbs show a

strong preference for auxiliaries to occur in a correct position with respect to negation in elicited imitation and sentence-matching. These outcomes not only show that a comparison of production and imitation/processing data may lead to a more complete picture of L2 acquisition, but also strengthen the idea that auxiliaries play a crucial role in the acquisition of verb-raising in L2 Dutch.

Chapter 5

Is there a relation between verb morphology and verb placement? Evidence from production and imitation¹

The acquisition of L2 morphosyntax has received much attention in the past few decades. A core question in form-oriented (UG-based) research is whether L2 learners of verb-raising languages have access to the functional categories necessary for verb-raising from the onset of acquisition. The aim of this chapter is to investigate this question in the L2 data from Moroccan and Turkish learners of Dutch. To this end, the morphological marking of verbs in raised and non-raised positions with respect to negation will be analyzed. Thus, unlike the previous two chapters, the present chapter investigates morphological marking on the verb in relation to verb placement, rather than verb placement alone. More precisely, the question is asked whether raised verbs are finite in beginning L2 learners' utterances, whereas non-raised verbs are non-finite. If so, this suggests that the functional category system is in place in early L2 acquisition. In investigating this question, two form-oriented views will be contrasted, unlike in the previous chapters, where function-oriented views were taken into account. Most function-oriented approaches do not make specific claims as to how the acquisition of verb morphology relates to verb placement and they will therefore not be further discussed.

There is contradictory evidence in the L2 literature regarding whether beginning L2 learners show a relation between verb morphology and verb-raising. On the one hand, researchers have argued that there is no such relation and consequently that functional categories are absent in early L2 acquisition. For L2 German, Vainikka and Young-Scholten (1996a, b) found that learners placed finite verbs in non-raised position and non-finite verbs in a raised position in addition to producing target-like constructions in which the finite verb was in raised position or the non-finite verb in non-raised position. They concluded that beginning learners of German do not have access to native-like functional projections, but only project lexical projections such as VP. Others

¹ An adapted version of this paper is currently under consideration for publication.

have assumed that functional categories are present in the L2 grammar, but that these categories or their associated verb features are impaired, resulting in finite verbs occupying both raised and non-raised positions (Beck, 1998; Eubank, 1993/94).

In contrast to views that assume functional categories to be absent or impaired, some researchers have argued that L2 learners have access to intact functional categories from the earliest stages of acquisition. Specifically, learners are assumed to transfer such categories from their L1 (Schwartz & Sprouse, 1996) or access them directly from UG (Prévost & White, 2000). On this assumption, finite verbs should occur in a raised position and non-finite verbs in a non-raised position, and this is indeed what some researchers have found (Grondin & White, 1996; Herschensohn, 2001; Prévost & White, 2000).

Strikingly, researchers have even come to diverging conclusions on the basis of the very same data. Meisel (1997) studied L2 data from French and German and found that finite verbs could both precede and follow negation. This led him to conclude that L2 learners acquire verb-raising “independent of the acquisition of finiteness” (Meisel, 1997: 255). Meisel assumed that L2 learners concentrate on surface patterns in the input and apply ‘linear sequencing strategies’ to acquire verb placement, rather than acquiring the functional categories of the L2. But Prévost and White (1999, 2000), who studied the same data in part, arrived at a radically different conclusion. According to these authors, finite verbs are typically placed in a raised position in L2 German and French, while non-finite forms can occur in either a raised or a non-raised position. The authors conclude on the basis of these data that L2 learners’ problems concern the use of non-finite forms, but not finite forms. To explain this, they propose that non-finite verbs in a raised position do not reflect a problem with the underlying L2 grammar, but instead, present cases of ‘missing surface inflection’. More specifically, the idea is that L2 learners have problems mapping the underlying grammatical categories to the L2 morphophonemic forms and this is why they sometimes resort to non-finite, ‘default forms’ in a position where a finite form is required in the target language.

The aim of this chapter is to contribute to the ongoing debate on the availability and accessibility of functional categories in L2 acquisition by presenting experimental data from beginning L2 learners of Dutch. Unlike earlier research, which is characterized by a focus on (spontaneous or elicited) production data, the present study supplements production data with data from

an elicited-imitation task. Such experimental data are particularly useful for the investigation of structures that learners do not (or only rarely) produce in their own speech (Epstein, Flynn & Martohardjono, 1996; White, 1992). Data of this sort are also less likely to be influenced by learners' use of rote-learned chunks given that controlled stimuli lists are presented.

The study proceeds as follows: Section 5.1 describes the relationship that has been assumed within UG between feature strength and verb-raising. Section 5.2 then addresses the opposing views on functional categories in L2 acquisition and presents the available evidence from the literature. Section 5.3 describes the aims of the study. Section 5.4 and 5.5 are the core sections of the chapter; they present the results for elicited production and elicited imitation, respectively. Finally, section 5.6 discusses the main findings in light of the ongoing debate on L2 functional categories and addresses some implications of the current results for further research.

5.1 Finiteness and verb-raising

Within the minimalist version of generative grammar, a relation is assumed between feature strength and verb-raising (Chomsky, 1995): verbs can have strong or weak verb features and this distinction has consequences at the syntactic level. Verbs with strong features raise overtly to the functional category INFL for their features to be checked, but verbs with weak inflection features raise covertly. Thus, in a verb-raising language such as Dutch, finite verbs raise to INFL. In declarative main clauses containing negation, this means that the verb raises over the negator *niet* 'not', resulting in the ordering V_{fin} – neg:

- (1) Jan gaat niet naar school
 John go._{3g} not to school
 'John does not go to school'

Non-finite verbs do not raise and remain to the right of negation:

- (2) Jan wil niet naar school gaan
 John wants not to school go._{inf}

In Turkish, the finite verb occurs in sentence-final position. Although verbs are assumed to raise over the negation marker *-ma* (Ouhalla, 1991), they do not raise over the negative copula *değil*, the negative marker *yok*, and adverbials. The following examples illustrate the use of the negation suffix *-ma* and the negative morpheme *yok*:

- (4) (Biz) dün toplantıya katıl-ma-dı-k
 (We) yesterday meeting attend-not-past-1pl
 ‘We did not attend the meeting yesterday’ (Haznedar, 1997: 246)

- (5) Dün sizi ara-dı-m ama ev-de
 Yesterday you call-past-1sg but house-dat
 yok-tu-nuz
 not.exist-past-2sg
 ‘I called you yesterday, but you were not home’ (Haznedar, 1997: 246)

5.2 Functional categories in L2 acquisition

In L1 acquisition research, it is a well-established finding that finiteness is related to verb-raising: when a child produces non-finite verbs instead of finite ones, such verbs take a position that is typical of non-finite verbs (Clahsen & Penke, 1992; Poeppel & Wexler, 1993). In other words, there is a contingency between the form of a verb and its position within a sentence. For negated sentences, this means that finite verbs occupy a position to the left of negation, whereas non-finite verbs appear to the right. This finding has been taken as evidence that the functional category system is intact in L1 acquisition: children’s grammar contains a functional category INFL to which finite verbs are raised from the very first occurrences of finiteness onwards.

Based on this finding for L1 acquisition, L2 researchers have investigated whether L2 learners’ variable use of finiteness and verb-placement takes the same form as in L1 acquisition. If there is a contingency relation, this would indicate that the functional category system is also in place in L2 acquisition, whereas if there is no contingency, this would signal that it is not. As pointed out in the introduction of this chapter, two different stands have been taken on this issue. On the one hand, researchers have argued that L2

learners do not show evidence of functional categories when they start out learning the L2. Meisel (1997) found, for example, that L2 learners of German and French placed non-finite verbs to the left of negation and finite forms to the right. He concluded that finiteness and verb-placement are dissociated in L2 acquisition. To account for the fact that learners do finally arrive at the target structures of the L2, Meisel argued that they resort to “linear sequencing strategies” and “simplification strategies” on the basis of surface strings in the input (Meisel, 1997: 258). Considering data from L2 German, Vainikka and Young-Scholten (1996a, b) also assumed that functional categories are initially absent from the L2 grammar: beginning L2 learners only project lexical categories such as VP. Later in acquisition, they acquire a functional category, FP, which is underspecified for tense and agreement. At this stage of acquisition, verbs may show up in both raised and non-raised position and there is no clear contingency between finiteness marking and verb-raising. Finally, an AgrP is projected that enables learners to mark finiteness and produce verb-raising in a more consistent way. Given this gradual adding of functional categories during the course of acquisition, Vainikka and Young-Scholten’s approach has been termed ‘structure building’.

Whereas Meisel (1997) and Vainikka and Young-Scholten (1996a, b) assumed that functional categories are absent in early stages of L2 acquisition, Eubank (1993/94) assumed that they are transferred from the L1. The verb features belonging to these categories are not transferred, however, which entails that the L2 grammar has ‘impaired’ categories: verb features are neither strong nor weak, so learners place finite verbs in both raised and non-raised positions. Similar ideas have been put forth by Beck (1998), Franceschina (2001), and Hawkins and Chan (1997), who also assumed that the L2 grammar is locally impaired but differed on whether they considered this impairment to be permanent. In the remainder of this chapter, the views that assume some form of impairment, whether permanent/temporary or global/local, will be referred to as ‘impairment views’.

In contrast to these impairment views, it has been argued that the L2 grammar is intact from the earliest stages of L2 acquisition on (Haznedar & Schwartz, 1997; Herschensohn, 2001; Ionin & Wexler, 2002; Lardiere, 1998; Rule & Marsden, 2006; Schwartz & Sprouse, 1996). While Schwartz and Sprouse (1996) proposed that functional categories are transferred from the L1, others have argued that they are provided by UG (Epstein et al., 1996; Prévost & White, 2000). These accounts predict that L2 learners will show the same

contingency between finiteness and verb-raising as children acquiring their mother tongue. However, the frequent observation that L2 learners, unlike L1 learners, allow non-finite verbs to occur in a raised position has led to the formulation of the ‘missing surface inflection hypothesis’. As was briefly outlined above, Prévost and White (2000) observed that L2 learners of German and French regularly produced infinitival forms and bare stems in a raised position, while the opposite did not occur: learners did not use finite forms in non-raised position. Based on these findings, Prévost and White proposed that finite forms can sometimes temporarily not be retrieved from the lexicon due to processing problems. This causes learners to retrieve ‘default forms’ such as infinitival and bare forms and insert these in positions where the target language requires a finite form.

The impairment views and the missing surface inflection views make different predictions for the L2 acquisition of morphosyntax. First, if the L2 grammar is impaired, no clear contingency between finiteness marking and verb-raising is expected. But a look at the data in Meisel (1997) shows clear contingency patterns for all three learners in his study.² Importantly, then, it seems that Meisel takes the finding that finite verbs occasionally also follow negation, while non-finite verbs occasionally precede negation, as an indication that verb-raising and finiteness are unrelated. Meisel also closely investigates the development of both finiteness and verb-raising over time and finds that learners may produce finite forms before they have acquired verb-raising or vice versa. What seems to set the theories apart more clearly, then, is a comparison between the occurrences of finite and non-finite verbs. The missing surface inflection hypothesis predicts an asymmetrical pattern: non-finite verbs will be more often ‘overused’ in a raised position than finite verbs in a non-raised position. Importantly, no such asymmetry is expected within the impairment views, since there is no reason to assume that the position of finite forms is structurally constrained.

² The data in Meisel (1997) show significant contingencies: $\chi^2(1) = 17.270$, $p = .002$ for Ana, $\chi^2(1) = 110.418$, $p < .001$ for Giovanni, and $\chi^2(1) = 116.685$, $p < .001$ for Zita. These results are mine and only based on lexical verbs, but adding the data for modal verbs to the analysis yields similar, highly significant outcomes.

5.3 Aims of the study

The previous section showed that the presence of functional categories in L2 acquisition has been studied intensively. Surprisingly, however, almost all empirical studies that have hitherto appeared on the topic are based on spontaneous production data from naturalistic longitudinal learner corpora. Table 2 presents an overview of earlier studies in terms of the languages studied, type of learners, type of data, et cetera.

Table 2. *Overview of studies on functional categories in L2 acquisition*

	L2	L1(s)	Learners	Type of data	Collection	N
Beck (1998)	German	English	Adult	Reaction-times	Cross-sect.	48
Eubank (1993/94)	English	French	Child	Spontaneous production	Long.	3
Eubank (1996)	English	German	Child	Spontaneous production	Long.	4
Franceschina (2001)	English	Spanish	Adult (untutored)	Spontaneous production	Long.	1
Grondin & White (1996)	French	English	Child	Spontaneous production	Long.	2
Haznedar & Schwartz (1997)	English	Turkish	Child	Spontaneous production	Long.	1
Herschensohn (2001)	French	French	Adult (tutored)	Spontaneous production	Long.	2
Ionin & Wexler (2002)	English	Russian	Child	Elicited production	Cross-sect.	20
Lardiere (1998)	English	Chinese	Adult (untutored)	Spontaneous production	Long.	1
Meisel (1997)	French German	Spanish Italian	Adult (untutored)	Spontaneous production	Long.	2 3
Prévost (2003)	German	English	Child	Spontaneous production	Long.	1
Prévost (2004)	French	English	Adult (tutored)	Elicited production	Cross-sect.	21

RELATION BETWEEN VERB MORPHOLOGY AND VERB PLACEMENT?

Prévost & White (2000)	French German	Arabic Spanish/ Portuguese	Adult (untutored)	Spontaneous production	Long.	2 2
Rule & Marsden (2006)	French	English	Adult (tutored)	Elicited production	Cross-sect.	60

With the exception of Beck (1998), all the studies have been based on spontaneous production data, mostly from interviews and, to some extent, data that were elicited with picture stories and in role-play. A clear disadvantage of spontaneous production data is that learners can use rote-learned chunks, making it hard to analyse L2 morphosyntax. More specifically, when a learner produces a sentence containing a finite verb form, how can the researcher be sure that this form is the result of a productive process and not rote-learning? On the one hand, the use of rote-learned chunks may make L2 learners look more advanced than they actually are. L2 learners may also deliberately avoid structures, on the other hand, or they might not be able to make full use of their linguistic knowledge due to the demanding nature of constructing utterances in the L2 or to communication pressure and this may lead to an underestimation of their linguistic knowledge. As Grondin and White (1996: 5) note, ‘one should be wary to conclude [...] that if something does not occur in production, it is absent from the grammar’.

The aim of the study presented in this chapter is to take a combined perspective: it supplements production data with data from an elicited-imitation experiment. In elicited imitation, participants are presented with grammatical and ungrammatical sentences that are manipulated for linguistic structure and they are asked to imitate these sentences. The impetus for using elicited imitation comes from the observation in cognitive psychology that the meaning of a sentence that cannot be stored in working memory remains accessible longer than the exact form of this sentence (Gernsbacher, 1985; Sachs, 1967). In acquisition studies, this finding has led to the use of elicited imitation as a means to assess learners’ linguistic knowledge (Naiman, 1974; Munnich et al., 1994). Processing studies have shown that L2 learners typically process the incoming input for meaning, rather than for morphosyntactic information (Hahne, 2001; Hahne & Friederici, 2001, Weber-Fox & Neville, 1996). When learners cannot store the form of a sentence they are presented with, they have

to reconstruct it drawing on their own linguistic resources. In this respect, the inclusion of ungrammatical sentences has been considered especially insightful and crucial for the reconstructive nature (i.e., validity) of the task. The systematic correction of ungrammatical sentences suggests knowledge of this structure, whereas the imitation of grammatical sentences might also be due to memorization (Hamayan, Saegert & Laraudee, 1977; Markman, Spilka & Tucker, 1975). This is not to say that memorization never takes place in elicited imitation, however, since the degree to which reconstruction plays a role during task performance seems to interact with variables such as stimulus length, the type of instruction given, and time pressure (for a detailed discussion of these ideas, cf. Erlam, 2006; Vinther, 2002).

Several studies have shown that one can find evidence for knowledge of grammar in elicited-imitation data from learners who are not yet able to employ this knowledge in spontaneous speech. For L1 acquisition, Kuczaj and Maratsos (1975) found that a two-year old learner of English could normalize misplaced auxiliaries (*The boy push will the elephant') without being able to produce auxiliary verbs in his own spontaneous speech (for similar findings, see Fraser, Bellugi & Brown, 1963; Smith, 1973). In Chapter 4, similar evidence was found for the treatment of auxiliaries in negated sentences by beginning learners of Dutch. Naiman (1974) also found that L2 learners could imitate sentences they were not able to produce by themselves. To explain this, he proposed that "the extra memory aid of having the correct structure present in the model sentences to be imitated allows subjects to imitate structures which are just emerging in their production system" (Naiman, 1974: 14). Another way of accounting for this is to hypothesize that the reduced processing load in elicited imitation results from the fact that learners need not actively retrieve lexical items. That is, it is the reduced demands on lexical retrieval that explain why learners can be 'pushed' to produce structures in elicited imitation that they would not yet produce spontaneously.

In this chapter, findings from two studies will be presented. The first study investigates whether there is evidence for grammatical impairment or missing surface inflection in the elicited-production data from beginning Moroccan and Turkish learners of Dutch. In the second study, elicited-imitation data will be investigated to check whether the production patterns are confirmed when data are investigated that presumably more closely reflect learners' linguistic knowledge. If we assume that the grammar of L2 learners is impaired, we can predict no strong contingency relation between finiteness

(agreement) marking and the position of verbs relative to the negator. More precisely, learners should not place non-finite verbs in a finite position more often than vice versa, whereas under the missing surface inflection hypothesis, such an asymmetry is predicted.

5.4 Study I: Finiteness and verb-raising in production

5.4.1 Participants and data

The participants in study I were 55 Moroccan and 46 Turkish learners who acquired Dutch in an immersion setting and whose results were also reported in the Chapters 3 and 4. These learners took a course that is obligatory for immigrants in the Netherlands and had a basic level of acquisition: they had reached a level that roughly corresponded to the A1 or A2 level as defined in the European framework of reference (Council of Europe, 2001). For more biographic details for each learner, see Appendix B.

All participants carried out four oral narration tasks: two film-retellings and two picture story tasks. In the film-retelling tasks, participants watched a silent movie that was cut into fragments. Their task was to retell what had happened in each fragment immediately after watching it. A fragment of Charlie Chaplin's *Modern Times* and a movie that had been designed to elicit, among other things, sentence negation were used (Finite Story task, Dimroth, 2005). In the picture story tasks, participants told a simple story that was depicted in a series of pictures. The main goal of these stories was to elicit learners' use of auxiliary verbs, but each story also provided participants with a few occasions to use negation (see 'ball story' and 'cake story' in Appendix C).

5.4.2 Results

This section presents the results for finiteness (agreement) in relation to verb-raising. Recall from above that the impairment and missing surface inflection view make different predictions. On the impairment view, learners are expected to show a more or less random distribution of finite and non-finite forms over syntactic contexts. In contrast, the missing surface inflection hypothesis predicts that finiteness is structurally constrained: finite forms are used in raised

position, whereas non-finite forms occur in both raised and non-raised position. Hence, non-finite verbs should be more often ‘overused’ than finite verbs under the missing surface inflection hypothesis, but not under an impairment view.

5.4.2.1 Finiteness in negated utterances

To test the above predictions, the placement of finite and non-finite verbs with respect to the negator *niet* was analyzed. Following Prévost and White (2000) and Meisel (1997), both lexical verbs and light verbs were taken into analysis.³ Unlike in these earlier studies, however, only 3sg-contexts were considered. The reason for this was that 2sg-contexts were too scarce in the data and for 1sg and plural contexts it was impossible to decide whether the form used was a finite or non-finite form due to homophonous endings. ‘Finite’ was defined in terms of correct agreement marking: *-t* was considered finite, whereas *-0*, *-en* and past participles (occurring without an auxiliary verb) were considered non-finite.^{4,5} Verbs with a stem ending in *-t*, such as *prat-en* ‘talk-inf’, were not taken into account, because it could not be determined for such verbs whether a form like *praat* ended in *-t* or *-0*. Verbs that take the same form for 3sg-person and

³ The following light verbs were included: the copula, modal verbs, *gaan* ‘going to’, auxiliary *hebben* ‘have’, and the verb form *is* combined with a lexical verb (see Chapter 3 for details). It should be noted that the inclusion of these forms might have led to a ‘finiteness’ bias in the data: the tasks elicited a high prevalence of 3sg-contexts and light verbs, especially modal verbs and *is*, typically occur as singular forms at early stages of acquisition. This is not problematic for the current study, however, as a separate analysis for lexical verbs will be presented later.

⁴ The question of whether agreement is correct is more problematic than it might seem at first sight, since there is some dialectal variation in the target language concerning the presence or absence of agreement. In the Amsterdam area where the learners were tested, for example, the use of the auxiliary verb *heb* ‘have’ (1sg) instead of *heeft* ‘has’ (3sg) with 3sg-subjects (e.g., *Hij heb het gedaan* ‘He have done it’) can be found. However, it seems safe to assume that such variation played a very minor role, given that it constitutes a negligible part of the input the L2 learners were confronted with.

⁵ The reason for treating forms ending in *-0* as non-finite might not be immediately evident: unlike forms ending in *-en* and past participles, such forms do not correspond to non-finite verb forms in the target language. Moreover, it cannot be excluded that they were due to t-deletion. The reason for considering such forms as non-finite was twofold. First, the same procedure was applied in other studies on L2 functional categories (Prévost & White, 2000; Vainikka & Young-Scholten, 1996a, b). Second, it was found that in particular the Moroccan learners often used *-0* at a stage of acquisition at which agreement was almost never correct and auxiliaries did not yet occur (see also Chapter 3). Hence, it seems that *-0* is a default suffix for the Moroccan learners. In the data from the Turkish learners, forms ending in *-0* were relatively rare.

the past participle, such as *betalen-betaalt/d* ‘pay-pays/paid’, were also excluded. Finally, when participants produced a wrong pronoun to refer to a 3sg-referent (e.g. *jij* ‘you’ instead of *hij* ‘he’), these utterances were included in the analysis, as were a small number of utterances in which the negator *geen* ‘no’ was used in combination with a verb (e.g., *Rode man geen springen* ‘Red man no jump’). Table 3 shows the results.

Table 3. *Finite and non-finite verbs in negated utterances (3sg-contexts only, light verbs and lexical verbs)*

	Moroccan learners		Turkish learners	
	Finite	Non-finite	Finite	Non-finite
V – NEG	265	18	111	21
NEG – V	4	65	14	170
Total	269	83	125	191

The data show that the learners overwhelmingly placed finite verbs before negation and non-finite verbs after negation. For both language groups, these contingency patterns are highly significant: $\chi^2(1) = 237.551$, $p < .001$ for the Moroccans and $\chi^2(1) = 188.043$, $p < .001$ for the Turks. There is also an effect of the L1. For the Moroccan learners, the use of non-finite forms in raised position (18/83) is significantly more frequent than the use of finite forms in non-raised position (4/269): $\chi^2(1) = 44.170$, $p < .001$. The Turkish learners placed finite verbs in a non-raised position (14/125) and non-finite verbs in a raised position (21/191) equally often, however: 11% in both cases. Since the ‘overuse’ of finite verbs in non-raised position did not exceed the ‘overuse’ of non-finites in raised position in either language group, the data are overall more in line with the missing surface inflection hypothesis than with the impairment views. Finite verbs are typically used in raised contexts, whereas non-finite verbs are typically used in non-raised contexts, and the contingencies are highly significant for both language groups.

It has often been noted that modal and auxiliary verbs are placed in finite positions and bear finite morphology long before lexical verbs in L2 acquisition (Ionin & Wexler, 2000; Meisel, 1997; Parodi, 2000). In fact, the results of Chapter 3 provided strong support for such differences in the data from the current learners. Hence, it is not unlikely that the contingency patterns found above were mainly due to the behavior of light verbs. To test this idea,

an additional analysis was conducted, in which only lexical verbs were taken into account. The results of this analysis are shown in Table 4.

Table 4. *Finite and non-finite verbs in negated utterances (3sg-contexts, lexical verbs only)*

	Moroccan learners		Turkish learners	
	Finite	Non-finite	Finite	Non-finite
V – NEG	51	17	13	19
NEG – V	2	64	8	152
Total	53	81	21	171

Indeed, there is a sharp drop in the number of finite verbs in raised position when light verbs are removed from the analysis. The data from the Moroccan learners still show a clear contingency between finiteness and verb-raising, however ($\chi^2(1) = 72.560$, $p < .001$). Finite verbs in non-raised position (2/53) are also significantly less frequent than non-finite verbs in raised position (17/81): $\chi^2(1) = 7.802$, $p = .004$. The examples in (6) and (7) illustrate the contingency pattern for the Moroccan learners. Both utterances were produced to describe a scene in the Finite Story task in which one of the protagonists, mister Red, refused to jump out of the house even though his room had been set on fire.

(6) En hij springt niet
 And he jump.*fin* not
 ‘And he does not jump’

(7) De meneer rood niet springen
 The mister red not jump.*inf*
 ‘Mister red does not jump’

Although the contingency also reaches significance for the Turkish learners ($\chi^2(1) = 30.118$, $p < .001$), these learners placed finite verbs in non-raised position relatively often: 8 out of 21 finite verbs followed negation. In fact, finite verbs in non-raised position turned out to be more frequent than non-finite verbs in raised position in this language group: $8/21 = 38.1\%$ versus $19/171 = 11.1\%$. This difference is significant ($\chi^2(1) = 11.269$, $p = .003$). A comparison between the two language groups shows that the Turkish learners

‘overused’ finite verbs in non-raised position significantly more often than the Moroccans ($\chi^2(1) = 15.159, p < .001$). The opposite pattern was found for non-finite verbs: the Turks placed such verbs in a finite position less often than the Moroccans ($\chi^2(1) = 4.379, p = .031$), but this difference is smaller than for finite verbs.⁶

The frequent occurrence of finite verbs in non-raised position in the data from the Turks challenges the idea that morphologically finite verbs are ‘truly finite’ (Prévost & White, 2000). Therefore, let us take a closer look at the Turkish learners utterances in which finite verbs occurred after negation that are listed in (8) to (15) below.

(8) En meneer rood en de niet hoort
 And mister red and the not hear.*fin*
 ‘And mister red does not hear’

(9) Maar ook niet hoor / niet hoort
 But also not hear-*inf* / not hear.*fin*
 ‘But (he) does not hear (it) either’

(10) Zij niet pakt
 She not take.*fin*
 ‘She does not take’

(11) De man niet pakt
 The man not take.*fin*

⁶ If we compare, however, for all verbs in raised position how often a form was finite or non-finite, it appears that the Turkish learners produced 19/32 non-finite forms in raised position, while the Moroccan learners used only 17/68 non-finites in this position. This difference is significant ($\chi^2(1) = 4.876, p = .023$). At first sight, this contradicts the finding that the Moroccan learners used a higher percentage of all non-finite verbs in raised position than the Turkish learners. These seemingly contradictory patterns are due to the fact that the Turkish learners overwhelmingly produced non-finite verbs in non-raised position, while the Moroccans produced a relatively high proportion of finite verbs in raised position. If the number of non-finite verbs in raised position out of all non-finite verbs is compared across the two groups, the Turkish learners consequently ‘win out’: they produced the fewest exceptions (non-finites in raised position) because they produced so many non-finite forms in non-raised position. However, if for all verbs in raised position it is determined how many were finite, the Moroccan show the fewest exceptions, because they produced a relatively high number of finite forms in raised position.

'The man does not take'

- (12) Rode man niet loopt
 Red man not walk.*fin*
 'Red man does not walk'

- (13) Niet komt
 Not come.*fin*
 '(He) does not come'

- (14) Daarom niet komt in de doek
 Therefore not come.*fin* in the cloth
 'Therefore, (he) does not come (=jump) in the cloth (=safety net)'

- (15) Niet valt
 Not fall.*fin*
 '(He) does not fall'

The examples show that five different verb types occurred as finite forms in non-raised position: *horen* 'hear', *pakken* 'take', *komen* 'come', *lopen* 'walk', and *vallen* 'fall'. These verbs do not seem to constitute a special class, for example, they are not all past participles ending in *-t*, such as *maken-gemaakt* 'make-made', for which it would have been conceivable that forms are actually intended as past participles rather than finite forms. It thus seems that the Turkish learners allow finite verbs to occur in a non-raised position, contra the predictions made by the missing surface inflection hypothesis.

Before we assume that the L1 explains the differences between both groups, however, it is important to rule out the possibility that the difference between the Moroccan and the Turkish learners is due to another factor: proficiency. The overall number of raised verbs in Table 3 shows a clear difference between the two groups: whereas the Moroccan learners frequently placed a verb in raised position (68/134), the Turkish learners did so rather infrequently (32/192). Moreover, the Moroccan learners produced a relatively high number of finite verbs (53/134), whereas the Turkish learners barely used such verbs (21/192). Both differences are significant ($\chi^2(1) = 43.103$, $p < .001$ and $\chi^2(1) = 36.827$, $p < .001$).

A closer look at the data provided by Prévost and White (1999) for the Spanish learners of German and Moroccan learners of French in their study suggests that these authors' data, too, showed variability across learners. The data in Table 5 are taken from Prévost and White (1999: 223) and present the occurrence of finite and non-finite verb forms in negated contexts for the four learners in this study. Prévost and White considered both light verbs and lexical verbs, and included 1sg, 2sg and plural contexts (rather than 3sg-contexts only) in the analysis. Nevertheless, as we will see below, an interesting comparison with the current data can still be made.

Table 5. *Finite and non-finite forms in negated utterances for two Moroccan learners of French and two Spanish learners of German (data taken from Table 8.7, Prévost & White, 1999: 223)*

			Finite	Non-finite
L2 French	Abdelmalek	V – NEG	88	4
		NEG – V	8	24
	Zahra	V – NEG	129	6
		NEG – V	0	1
L2 German	Zita	V – NEG	78	12
		NEG – V	7	15
	Ana	V – NEG	94	6
		NEG – V	3	4

A look at these data shows that there are two learners who produced finite verbs in non-raised position relatively often (Abdelmalek: 8/96=8% and Zita: 7/85=8%) and two learners who did not, or less often so (Zahra: 0/129=0% and Ana: 3/97=3%). A chi-square test shows that the differences between the data from Abdelmalek and Zita, on the one hand, and Zahra and Ana, on the other hand, are significant ($\chi^2(1) = 11.518$, $p = .001$). There is also a clear difference between the number of raised verbs out of all verbs for the learners: Abdelmalek and Zita raised verbs less overall (Abdelmalek: 92/124=74% and Zita: 90/112=80%) than Zahra and Ana (Zahra: 135/136=99% and Ana: 100/107=93%). Again, this difference is significant ($\chi^2(1) = 40.772$, $p < .001$).

These data suggest that learners who do not consistently produce verbs in a raised position place finite verbs in non-raised position more frequently

than learners who produce verb-raising in a more consistent manner. Relating this to the current data from L2 Dutch, a similar pattern emerges: the Turkish learners, who overall showed a lower proportion of raised verbs than the Moroccan learners (16.6% vs. 50.7%), also produced more finite verbs in non-raised position. The fact that the learners in Prévost and White's study showed the same pattern, even though these learners' native languages do not have the verb in final position, makes it unlikely that the current findings are L1-related. The next section explores the idea further that the placement of finite verbs in non-raised position is typical of early L2 acquisition.

5.4.2.2 The role of proficiency: Two learner groups

Is there a relation between the placement of finite verbs and proficiency level? More specifically: is the occurrence of finite verbs in non-finite position, which was mainly found in the data from the Turkish learners, a characteristic typical of an early stage that learners overcome when they get more advanced?

To answer this question, the current learner groups were split into two groups, depending on whether or not they produced auxiliary verbs. Previous studies have shown that the acquisition of auxiliary verbs is related to verb-raising: prior to the acquisition of auxiliaries learners do not use verb-raising, but after would they (optionally) do so (Becker, 2005; Eubank, 1996; Jordens & Dimroth, 2006; Vainikka & Young-Scholten, 1996a, b). In Chapters 3 and 4 this was confirmed for the current L2 learners: learners who had not acquired the auxiliary verb *hebben* 'have' overwhelmingly used NEG – V, while the learners who had acquired *hebben* also often produced V – NEG (see also Table 6 below). An analysis of agreement marking showed, moreover, that the learners who did not produce auxiliary verbs had a significant lower percentage of correct 3sg-agreement than the learners who produced auxiliaries. For the Moroccan learners, the mean proportion of correct agreement in 3sg-contexts was 37% for those who did not produce auxiliaries and 72% for those who did. For the Turkish learners, these percentages were 19% and 58%, respectively.⁷

⁷ Despite the high correlations between auxiliary use and agreement scores, there were a few learners who could produce auxiliary verbs but still performed relatively poorly on agreement: four Moroccan learners produced auxiliaries but fell within the 2.6%-54% agreement range for the beginners and three Moroccan learners who did not use auxiliaries but still produced between 54.6% and 100% correct 3sg-agreement. Out of the Turkish group, there were two learners who

Let us now compare finiteness marking in negated contexts between the learners who did not use auxiliaries and showed relatively low accuracy (henceforth ‘beginners’), on the one hand, and the learners who produced auxiliaries and showed a more accurate use of agreement (henceforth ‘intermediates’), on the other. The data for the Moroccan beginners and intermediates are shown in Table 6.

Table 6. *Finite and non-finite verbs in negated utterances for the Moroccan beginners and intermediates*

	Beginners (n=24)		Intermediates (n=31)	
	Finite	Non-finite	Finite	Non-finite
V – NEG	3	6	48	11
NEG – V	2	41	0	23
Total	5	47	48	34

These data show that 2 of the 5 finite verbs that were produced by the Moroccan beginners occurred in non-raised position, after negation, whereas none of the 48 finite verbs in the data from the Moroccan intermediate learners did. In fact, for the beginners, the use of finite forms in a non-raised position exceeds the use of non-finite forms in a raised position, contra the missing surface inflection hypothesis (2/5 vs. 6/47). A Fisher’s exact test that, like chi-square, calculates whether the association between two variables is significant, but can do so if there are small cell values (less than five), shows that this difference is not significant ($p > 1$, Fisher’s exact). The contingency between finiteness and verb-raising is also less strong for the beginners ($p = .031$, Fisher’s exact) than for the more advanced learners ($p < .001$, Fisher’s exact).

Taken together, these results suggest that there is an early stage in L2 Dutch in which non-finite verbs in non-raised position predominate but finite verbs can also appear in this position. When learners become more advanced, verb-raising becomes more frequent and finite verbs are no longer found in non-raised position. At this more advanced level, non-finite verbs can still show up in a raised position and this pattern is, in fact, relatively frequent. The numbers for the Moroccan learners in the above table are low, however, especially with respect to finite verbs in the data from

produced auxiliaries but scored low on agreement (between 0% and 38.2%) and one learner who produced no auxiliary verbs but over 45.1% agreement marking.

the beginners. Therefore, let us look at the data from the Turkish learners who, as we have seen above, produced more finite verbs in a non-raised position than the Moroccans. These data are given in Table 7 where, again, a split is made between beginners and intermediates.

Table 7. *Finite and non-finite verbs in negated utterances for the Turkish beginners and intermediates*

	Beginners (n=21)		Intermediates (n=25)	
	Finite	Non-finite	Finite	Non-finite
V – NEG	1	2	12	17
NEG – V	7	98	1	54
Total	8	100	13	71

Like the Moroccan learners, the Turkish learners show a clear difference in the extent to which they use finite forms in non-raised position, depending on whether they fall within the beginner or intermediate group: 7 of the 8 finite verbs follow negation in the data from the beginners, but only 1 out of the 13 finite verbs follows the negator in the data from the intermediates. For the beginners, no significant contingency is observed ($p > 1$, Fisher's exact) and finite verbs are much more often placed in non-raised position than non-finite verbs in raised position: 7/8 vs. 2/100 ($p < .001$, Fisher's exact). The Turkish intermediates, in contrast, show a pattern that is in line with missing surface inflection: there is a clear contingency between finiteness and verb-raising ($p < .001$, Fisher's exact) and, just as was found for the Moroccan intermediates, non-finite verbs are more often overused in a raised position than finite forms in non-raised position (17/71 vs. 1/13).

5.4.3 Summary

The results of Study I showed that Moroccan and Turkish learners of Dutch generally produced non-finite verbs in a non-raised position and finite verbs in a raised position when light verbs and lexical verbs were considered together. This pattern is in line with the missing surface inflection hypothesis rather than with views that assume absent or impaired functional categories. Interestingly, the data showed a less clear contingency pattern for the Turkish learners when the analysis was restricted to lexical verbs: finite verbs occurred in non-raised position in the data from these learners relatively often. This is not in line with

the idea that inflection is missing at the surface level only. An analysis of Prévost and White's (1999) data suggested, moreover, that the strongest contingency patterns in their study were found for the learners who most consistently produced verb-raising and finiteness marking. The less advanced learners placed finite verbs in a non-raised position significantly more often, and so showed the same pattern as the Turkish learners in the current study. Splitting the group into beginning and more advanced learners confirmed this idea: a typical missing surface inflection pattern was found for the more advanced learners, who produced verb-raising relatively often, but not for the beginning learners, who placed finite forms in raised as well as non-raised position. Interestingly, the same (qualitative) patterns were found for both language groups even though Moroccan Arabic is a clear verb-raising language and Turkish is not.

5.5 Study II: Finiteness and verb-raising in imitation

The aim of Study II was to test the findings from Study I against controlled data from an elicited-imitation task. More specifically, the question was whether the pattern could be confirmed that finite verbs can occur in a non-raised position with respect to negation in early L2 Dutch, using a task that can control for the use of chunks as well as elicit structures that do not yet (or infrequently) occur in learners' spontaneous speech.

5.5.1 Participants

The participants were 20 learners of Dutch (15 Moroccans and 5 Turks)⁸, who were tested at the same schools as the learners from Study I and closely matched this previous learner group in terms of educational background, age, length of residence in the Netherlands, and learning setting (see Appendix B). They were somewhat less proficient in their L2 than the learners in the previous study: unlike the learners in Study I, who were all at level one or two out of a total of five proficiency levels, the current learners were at level zero, meaning

⁸ Due to a corrupted sound file, the data of one additional (Moroccan) learner could not be analysed.

that they had not yet reached the A1 level. Learners' low proficiency level can also be seen from Table 8, which shows how many finite (agreeing) and non-finite (non-agreeing) verb forms were produced in raised and non-raised position with respect to negation. These data were collected with the same film-retelling task (Finite Story) as well as the same picture stories as in Study I. Like in Study I, only lexical verbs occurring within a 3sg-context were analysed and formulaic utterances and repetitions were excluded.

Table 8. *Finite and non-finite verbs in negated utterances in Study II (3sg-contexts, lexical verbs only)*

	Finite	Non-finite
V – NEG	4	1
NEG – V	2	39
Total	6	40

Clearly, non-raised verbs predominate: only 5 out of 46 verbs were found in a position preceding negation. As for finiteness, 2 of the 6 finite verbs occurred in a position following negation, whereas only 1 of the 40 non-finite forms was found in a raised position. While there was a significant contingency pattern ($p < .001$, Fisher's exact), it is clear that finite verbs in non-raised position are more frequent than non-finite verbs in raised position ($p = .041$, Fisher's exact), just as was found for the beginning learners in Study I.

5.5.2 Materials

The elicited-imitation task comprised 24 target sentences and 30 filler sentences that were presented aurally to the participants. The verbs in the target sentences were finite (agreeing) or non-finite (non-agreeing) and either raised or not raised with respect to negation. The four types of sentence are illustrated in 1-4 below. Note that only the first sentence is grammatical in Dutch.

1. + Finite + Raised De man werkt niet in het ziekenhuis
 'The man work.*fin* not in the hospital'
2. + Finite – Raised *De man niet werkt in het ziekenhuis
 'The man work.*fin* not in the hospital'

3. – Finite + Raised *De man werken niet in het ziekenhuis
 ‘The man work.*inf* not in the hospital’
4. – Finite – Raised *De man niet werken in het ziekenhuis
 ‘The man work.*inf* not in the hospital’

Only 3sg-subjects and regular verbs were used. Word frequency and sentence length were controlled such that all target sentences contained seven words and nine or ten syllables. Six sentences were presented for each sentence type, resulting in 24 target sentences containing negation. There were also 30 filler sentences that contained a correct auxiliary (*De moeder heeft een brood gebakken* ‘The mother has a bread baked’), an incorrect auxiliary (**De moeder is een brood bakken* ‘The mother is a bread bake’) or a lexical verb and an adverbial in post-verbal position (*De vader vergeet soms de sleutels* ‘The father forgets sometimes the keys’). Overall, an equal number of grammatical and ungrammatical sentences was included to avoid any bias in the experiment. For a complete list of target sentences, see Appendix D2.

Four pseudo-randomized, counterbalanced lists were constructed, both starting with two warm-up sentences. Since these lists were rather long, participants performed the task in two separate sessions: they first performed half of the task and then, after carrying out the production tasks, completed the second half. The sentences were recorded in a soundproof cabin by a female native speaker of Dutch⁹ and played to the participants via earphones. Before performing the task, participants were instructed to repeat sentences literally after they had listened to the whole sentence. Thus, the instruction was simply to ‘say/repeat what you hear’. If participants were unable to imitate a sentence, it was played again with a maximum of three repetitions.

5.5.3 Coding and analyses

Each response was coded for whether learners had imitated the verb form or changed it into an alternative verb form. It was also noted whether a change had been made to the position of a verb with respect to negation, that is, whether it had been changed from a raised to a non-raised position or vice

⁹ When recording the sentences, an effort was made to have the same intonation contours for all sentences, in particular for the grammatical and ungrammatical counterparts of a given item.

versa. For an illustration of such changes, consider (16), in which the form of the verb was changed, and (17), in which the verb's position was changed from raised to non-raised.

- (16) Target: Het meisje dansen niet in het café
 'The girl dance.*inf* not in the café'
 Response: Het meisje danst niet op de café
 'The girl dance.*fin* not in the café'
- (17) Target: Het kind luistert niet naar zijn ouders
 'The child listen.*fin* not to his parents'
 Response: Die kind niet luistert naar die ouders
 'The child not listen.*fin* to the parents'

Responses not containing a verb and/or negator were excluded from the analysis. Even though interesting, responses were also excluded when they contained a light verb such as (18), in which a form of the light verb *zijn* 'be' was added to the original sentence.

- (18) Target: De mevrouw niet slaapt op de bank
 'The woman not sleep.*fin* on the couch'
 Response: Die vrouw is niet slaapt op die bank
 'That woman is not sleep.*fin* on that couch'

Altogether, 11% of the responses were removed due to a missing verb/negator or the inclusion of a light verb. Also discarded were responses to four target sentences that contained verbs of which the stem ended in *-t* such as *praten-praat* 'to talk-talk', since it was impossible to determine for these verbs whether learners produced a bare stem ending in *-o* or whether they used *-t*. But responses in which learners changed the original verb to another verb such as (19), in which the verb 'bike' was changed to 'walk', were retained for analysis.

- (19) Target: Het jongetje niet fietsen op de straat
 'The boy not bike.*inf* on the street'
 Response: De jongen niet lopen de straat
 'The boy not walk.*inf* the street'

In fact, such lexical changes are important for the validity of the task since they signal that, even though the stimulus sentences were short (seven words only), learners did not repeat verbatim, but actively reconstructed the sentences during task performance.

5.5.4 Results

5.5.4.1 Changes from finite to non-finite verbs and vice versa

First of all, let us look at how often learners made changes to the form of the verb as presented in the target sentence. The rationale behind this is the following: if, for example, learners more often changed a non-finite verb to a finite verb when it was raised than when it was not raised, this can be taken as evidence that finite verbs in raised position are more grammatical for the learner than finite verbs in non-raised position. On the impairment view, a particular type of change will not occur more often with finite verbs than with non-finite verbs, or vice versa. In contrast, on the missing surface inflection view, the following predictions can be made:

1. + Finite + Raised (*werkt niet* 'work.*fin* not') > no change
2. + Finite – Raised (*niet werkt* 'not work.*fin*) > change to non-finite verb
3. – Finite + Raised (*werken niet* 'work.*inf* not') > no change
4. – Finite – Raised (*niet werken* 'not work.*inf*') > no change

For finite verbs, the prediction is that they should only occupy a position used for finite verbs, so learners should change such verbs into non-finite verbs when they follow the negator, but not, or less often so, when they precede the negator. For non-finite verbs, both positions are possible according to the missing surface inflection hypothesis, so no type of change is expected to be more frequent than another (although the finding that changes to finite forms are more frequent in the raised than non-raised sentences would also be compatible with this hypothesis).

The results are presented in Table 9. This table shows how often learners imitated the original verb form in the target sentence as finite (marked with *-f*) or non-finite (marked with *-0*, *-en*, or as a past participle). Since very similar response patterns were found for the Turkish and the Moroccan

learners, the data are collapsed. Incidentally, verb forms ending in another suffix also occurred, such as *denkik* (Lit. think-I), in which a personal pronoun *ik* 'I' was used as a suffix. Such forms were included and analyzed as non-finite. Changes from a finite to a non-finite form or vice versa are marked in bold in the table.

Table 9. *Changes from finite to non-finite verbs and vice versa in elicited imitation*

Stimuli	Responses	
	+ Finite	– Finite
+ Finite + Raised	81.8% (54)	18.2% (12)
+ Finite – Raised	71.4% (50)	28.6% (20)
– Finite + Raised	37.8% (28)	62.2% (46)
– Finite – Raised	2.3% (2)	97.7% (84)

The data show that when finite verbs were non-raised, learners changed these into non-finite verbs relatively often (28.6%), as in the following response:

- (11) Target: De mevrouw niet slaapt op de bank
 'The woman not sleep.*fin* on the couch'
 Response: De mevrouw niet slapen de bank
 'The woman not sleep.*inf* the couch'

Such changes were less frequent for raised finite verbs in the stimulus sentence (18.2%). According to the missing surface inflection view, finite verbs should not occur in non-finite positions and the finding that learners changed finite to non-finite forms more often when the verb was non-raised is in line with this idea. But the difference between the number of changes from finite to non-finite verbs in the non-raised and raised condition is not significant ($\chi^2(1) = 2.038, p > .1$). In other words, learners did not change finite verbs to non-finite verbs significantly more often when they occurred in a non-raised position than when they were raised, counter to the predictions of the missing surface inflection hypothesis.

Let us now look at changes from non-finite to finite forms. When non-finite verbs appeared in a raised position, learners often switched these to finite verbs (37.8%). An example of such a change is given in (12).

- (12) Target: De collega helpen niet met het werk
 ‘The colleague help.*inf* not with the work’
 Response: De collega help niet het werk
 ‘The colleague help.*fin* not the work’

In contrast, hardly any changes were made to non-finite forms in non-raised position (2.3%) and the difference between the raised and non-raised condition is clearly significant ($\chi^2(1) = 36.361, p < .001$). Hence, raised non-finite verbs were changed to finite forms significantly more often than non-raised non-finite verbs.

In sum, the changes that learners made in the elicited-imitation task show a preference for non-finite forms to occur in non-raised position, but no preference for finite verbs to occur in either raised or non-raised position. These findings corroborate the findings for production, and do not support the prediction made by the missing surface inflection hypothesis, according to which finite forms should only occupy positions appropriate for finite forms. The following section addresses the changes that learners made to the placement of verbs relative to negation.

5.5.4.2 Changes from raised to non-raised verbs and vice versa

On an impairment view, no systematic differences in the placement of finite and non-finite verbs are predicted, whereas the missing surface inflection view predicts the following:

1. + Finite + Raised (*werkt niet* ‘work.*fin* not’) > no change
2. + Finite – Raised (*niet werkt* ‘not work.*fin*’) > change into *werkt niet*
3. – Finite + Raised (*werken niet* ‘work.*inf* not’) > no change
4. – Finite – Raised (*niet werken* ‘not work.*inf*’) > no change

The data are given in Table 10, where the frequencies in bold present how often learners changed the position of a verb from raised to non-raised or vice versa.

Table 10. *Changes from raised to non-raised verbs and vice versa in elicited imitation*

Stimuli	Responses	
	+ Raised	– Raised
+ Finite + Raised	80.5% (54)	19.4% (13)
+ Finite – Raised	12.3% (7)	87.7% (50)
– Finite + Raised	73.6% (39)	26.4% (14)
– Finite – Raised	0% (0)	100% (82)

For finite verbs, changes from a raised to a non-raised position are slightly more frequent than vice versa (19.4% vs. 12.3%), but this difference is not significant ($\chi^2(1) = 1.155, p > 1$). A clear pattern can again be observed for non-finite verbs: changes from raised to non-raised are rather frequent (26.4%), whereas the opposite type of change is never made ($p < .001$, Fisher's exact test). So, while learners frequently produced changes of the type in (13), they never made the reverse change.

- (13) Target: De collega helpen niet met het werk
 'The colleague help.*inf* not with the work'
 Response: De collega niet helpen de met werk
 'The colleague not help.*inf* the with work'

This finding provides further support for the idea that non-finite verbs are preferred in non-raised position in the L2 grammar, while finite verbs have no preference for either a raised or non-raised position.

Before concluding this section, it is important to make sure that no patterns were overlooked in the data. Thus far, separate analyses have been performed for morphology (finiteness) and syntax (verb-raising) and responses in which a 'double' change - syntactic as well as morphological - had been made have been discarded. Table 11 now presents the collapsed data, showing for each of the four conditions how often the four types of possible response occurred. The frequencies in bold mark double changes.

Table 11. *Overview of all possible changes in elicited imitation*

Stimuli	Responses			
	+Finite +Raised	+Finite – Raised	–Finite +Raised	–Finite –Raised
+Finite +Raised	61.4% (54)	14.8% (13)	13.6% (12)	10.2% (9)
+Finite –Raised	8.8% (7)	62.5% (50)	3.8% (3)	25% (20)
–Finite +Raised	31.1% (28)	0% (0)	51.1% (46)	17.8% (16)
–Finite –Raised	4.4% (4)	2.2% (2)	0% (0)	93.3% (84)

Double changes were most frequent for finite verbs in raised position, which were changed into non-finite verbs in non-raised position (9/86), but these did not differ significantly from the number of changes in the other conditions ($\chi^2(2) = 4.07$, $p > 1$). The following response illustrates a ‘double’ change from a finite, raised verb to a non-finite, non-raised verb:

- (14) Target: Het kind luistert niet naar zijn ouders
 ‘The kid listen.*fin* not to his parents’
 Response: De kind niet luisteren ouders
 ‘The kid not listen.*inf* parents’

The data also show that two structures were produced especially often as a result of learners’ changes to the original stimuli: finite verbs in raised position and non-finite verbs in non-raised position. As the first column in the table shows, the learners altogether produced 39 changes that brought about a finite verb in raised position in their response. The data in the last column indicate that 45 changes resulted in a non-finite verb in non-raised position. Changes resulting in finite verbs in non-raised position or non-finite verbs in raised position were much less frequent: 15 changes per type. These differences are significant ($\chi^2(3) = 8.43$, $p = .038$).

5.5.5 Summary

The results of Study II suggest that beginning learners of Dutch have a preference for non-finite verbs to occur in non-raised rather than raised position. For finite verbs, no clear preferences were found. Interestingly, these

patterns are in line with the production data from the beginning learners in Study I, where finite verbs could occur on both sides of negation but non-finite verbs occurred almost exclusively after negation. These results cannot easily be reconciled with the idea of missing surface inflection. Even though the distribution of finite and non-finite verbs forms over raised and non-raised contexts is not random, it will be argued in the next section that overall, the beginning learners' data support the view that functional categories are absent in early L2 Dutch.¹⁰

5.6 Discussion

The results of this study show that the Moroccan and Turkish learners of Dutch dealt differently with finiteness marking on verbs in negated sentences, depending on whether they were true beginners or more advanced learners of the L2. A comparison of finite and non-finite verbs in negated contexts suggested that functional categories are absent at the earliest stages of L2 Dutch. Beginning Moroccan and Turkish learners of Dutch who had not acquired auxiliary verbs or consistent agreement marking overwhelmingly produced non-finite verbs in non-raised position. Moreover, they did not show a preference for finite verbs in a raised position. This suggests that finite verbs are not 'truly finite' at the earliest stages of acquisition, counter to the predictions made by the missing surface inflection hypothesis. The finding that verb-raising is almost absent at this stage also clearly supports views that consider functional categories to be absent in early stages of acquisition (Meisel, 1997; Vainikka & Young-Scholten, 1996a, b) rather than locally impaired (Eubank, 1993/94). More advanced Moroccan and Turkish learners of Dutch who could use auxiliary verbs and produced agreement marking in a more consistent manner showed a different pattern: clear contingency patterns were

¹⁰ One might argue that the fact that light verbs do occur in a raised position and are almost always finite in the data from the beginner group constitutes evidence for the presence of functional categories. As has been argued in Chapter 3, however, light verbs should not be taken as reflections of a functional category at this early stage. Rather, they mark the assertion function of finiteness and precede negation due to a scope marking principle. This changes when the auxiliary *bebben* is acquired and learners start to mark finiteness by morphosyntactic means. The present data are in line with this idea: the learners who did not produce auxiliary verbs (beginner groups) placed finite verbs in non-raised position, but the learners who used auxiliaries (intermediates) did not.

found for these learners and, unlike the beginners, they did not place finite verbs in non-raised position. Instead, they regularly placed non-finite verbs in a raised position, in line with the missing surface inflection hypothesis (Haznedar & Schwartz, 1997; Prévost & White, 2000). The finding that there are clear differences between beginning and more advanced learners speaks against the view that functional categories are permanently impaired (Beck, 1998). The absence of clear (qualitative) differences between the Turkish and Moroccan learners goes against a ‘strong transfer’ view, as proposed by Schwartz and Sprouse (1996), who assumed that learners transfer their L1 functional categories.

The results of the elicited-imitation study corroborated the production findings for the beginner groups: there was no clear preference for finite verbs to occur in either raised or non-raised position, whereas non-finite verbs were clearly preferred in non-raised position. Unfortunately, no imitation data from learners at a more advanced stage of acquisition were collected, making the evidence for this group less robust than for the beginner group. It remains to be shown in further research whether the intermediate learners’ use of non-finite forms in raised position is indeed due to a ‘performance problem’. If we assume that learners’ responses in elicited imitation are less hindered by performance factors than production data and therefore, reflect more directly learners’ underlying grammatical knowledge, the prediction is that more advanced learners of Dutch will show a preference for finite forms in raised position in elicited imitation in the sense that they will not repeat finite verbs in non-raised position, but either raise them or change them into non-finite forms.

How can we explain the finding that beginning learners of Dutch behave in accordance with a global impairment view, whereas more advanced learners of Dutch show evidence of missing surface inflection? A plausible answer is to adopt a ‘structure building’ approach, according to which functional categories are absent in early stages of acquisition and acquired over time as learners become more advanced (Jordens & Dimroth, 2006; Vainikka & Young-Scholten, 1996a, b). This explains why the beginning learners placed verbs predominantly in non-raised position and why finite verbs could also occur in this position. Alternatively, one could propose that learners’ preference for non-raised verbs in non-raised position reflects their sensitivity to input patterns (Meisel, 1997). If one assumes, however, that input patterns play such an important role, it is not immediately clear why the learners accepted finite

verbs in non-raised position: except in subordinate clauses, finite verbs do not occupy a sentence-final position in the target language. If learners were so sensitive to surface patterns, moreover, non-finite verbs should have been tolerated in finite position, since verbs ending in *-en* (i.e., finite plural verbs) often occur in raised position in the target language.

A structure building account can also explain the data from the more advanced learner groups: the intermediate learners had established a functional category and therefore did not allow finite verbs in non-raised position. The incidental occurrence of non-finite verbs in finite position may be considered cases of missing surface inflection, and do not present counter-evidence to an intact functional category system. The current data do not support the idea of an underspecified functional category, called 'FP', in the sense of Vainikka and Young-Scholten (1996a, b), however. The pattern that emerged from the data of the intermediate learners was clearly unidirectional: non-finite verbs occurred in raised position, but finite verbs did not occur in non-raised position. If an underspecified functional category were assumed, finite verbs should also have been found in non-raised position. Hence, the data from the intermediate learners suggest that as soon as functional categories emerge in L2 grammars they are intact.¹¹

A few implications of the current data are noteworthy. First, the findings suggest that collapsing data from different learners, even from learners at relatively comparable proficiency levels, may lead to results that are difficult to interpret. Even though none of the learners in Study I had progressed beyond the A2 level, clear differences were found between the least and the more advanced learners. The results from Study II also suggest that language tasks such as an elicited-imitation experiment may be helpful in investigating learners' grammatical knowledge at an early stage where certain structures are rarely produced. The data further indicate that different results can be obtained depending on whether light verbs such as modal and auxiliaries are taken into account. Interestingly, there is a clear difference in the L2 literature between researchers advocating intact functional categories and proponents of structure building or grammatical impairment: the former have typically collapsed light

¹¹ The possibility remains, however, that the present data did not capture the entire acquisition process in the sense that an underspecified functional category in line with Vainikka and Young-Scholten's proposal was present, but not reflected by the learners' data. This seems unlikely, however, given that a gradual increase in the use of agreement was found: the present learners appeared to fall along a continuous 'proficiency scale' rather than at two ends of this scale.

verbs and lexical verbs when analyzing L2 data, while the latter have distinguished between the two. Prévost and White (1999, 2000) included suppletive forms such as *être* 'be' and *avoir* 'have' in their analysis on the grounds that "suppletive forms are endowed with features that need to be checked" (Prévost & White, 2000: 120, cf. Lardiere, 2000). Based on the same arguments, Rule and Marsden (2006), Lardiere (1998), and Ionin and Wexler (2002), among others, took light verbs into account when analyzing agreement marking in relation to verb-raising. Lardiere (1998: 16) notes that disregarding learners' use of suppletive agreement on copulas or auxiliary verbs in L2 acquisition may lead to an underestimation of their L2 knowledge. One might argue instead that the inclusion of such forms leads to an overestimation of L2 linguistic competence: the Turkish learners' data showed that qualitatively different patterns were obtained when light verbs were excluded from the analysis. When all verbs were taken into account, these learners' data were in line with missing surface inflection (greater 'overuse' of non-finite than finite verbs), but when only lexical verbs were considered, this was no longer the case. This finding suggests that (beginning) L2 learners treat finite light verbs and finite lexical verbs differently, suggesting that it is safer to distinguish between the two types of verbs than collapse them in studies on (early) L2 acquisition.

Chapter 6

On the role of semantic scope marking: Comparing negated sentences and sentences with adverbials¹

Natural languages differ in where they allow adverbials to be placed. On the one hand, there are languages such as English in which adverbials can (and sometimes must) precede the finite lexical verb²:

(1) John sometimes goes to this shop

On the other hand, there are languages such as German and Dutch in which finite lexical verbs are raised over adverbials, resulting in post-verbal adverbial placement. This can be illustrated with the following Dutch sentence, in which the temporal adverbial *soms* ‘sometimes’ follows the finite verb:

(2) Jan gaat soms naar deze winkel
John go.3sg sometimes to this shop
‘John sometimes goes to this shop’

Further cross-linguistic differences are found for adverbials placed in sentence-initial position. Whereas in English and French, the subject can directly follow a fronted adverbial, in languages such as Dutch and German, it cannot, due to the verb-second constraint. As we have seen earlier (in section 1.2 of Chapter 1), finite verbs must occur in second position in declarative main clauses in

¹ An adapted version of this chapter has been published as Verhagen (2009): Temporal adverbials, negation and finiteness in Dutch as a second language: A scope-based account, *International Review of Applied Linguistics*, 47, 2.

² Adverbial placement in English is much more complex than presented here. It appears that adverbials can occupy different positions within the sentence in this language and the only the position that is blocked is between the lexical verb and the direct object: *John reads sometimes a book. In sentences with oblique objects, the adverbial can appear after the verb: John goes often to the library (cf. Klein, 1994).

such languages. Hence, the placement of an adverbial in initial position in Dutch entails inversion of the subject and the finite verb:

- (3) Soms gaat Jan naar deze winkel
 Sometimes go.3.sg John to this shop
 ‘Sometimes John goes to this shop’

For L2 acquisition, the question arises how learners acquire adverbial placement in an L2 that has verb-raising. Meisel, Clahsen and Pienemann (1981), Clahsen, Meisel and Pienemann (1983), and Clahsen (1980) were among the first to shed light on this question in their early ZISA-studies of longitudinal data from Romance learners of German. Their results showed that these learners initially placed adverbials in sentence-initial or sentence-final position, but did not apply subject-verb inversion in the case of sentence-initial adverbials. An example of such an early utterance is given in (4). Somewhat later in the acquisition process, the Romance learners of German started placing adverbials in sentence-medial position, as in (5).²

- (4) Und die ende wochen meine familie suchen
 And the end week my family visit.*inf*
 ‘And at the end of the week, my family will visit me’(Clahsen, 1980: 64)
- (5) Die bringen jedes jahr ein wunderbares zeugnis
 They bring.*pl* every year a wonderful report
 ‘Every year they bring a wonderful report’ (Clahsen, 1980: 65)

Subject-verb inversion was also acquired at this stage, but not immediately applied across the board, that is, sentences in which the subject and the verb were inverted co-occurred with non-inverted sentences for some time. Similarly, the post-verbal placement of adverbials as in (5) alternated with pre-verbal adverbial placement in L2 learners’ production but the authors decided

² English translations and glosses have been added to the examples from Clahsen (1980), Becker (2005), Starren (2001) and Jordens and Dimroth (2006), the originals only contained word-by-word translations.

not to take this pre-verbal placement into account when establishing the above stages (Meisel et al., 1981: 151-152).

Eubank (1992: 32) also studied adverbial placement in longitudinal data from Romance learners of German and concluded that, in fact, “every logically possible order of initial subjects, verbs and adverbials is present”, including the pre-verbal placement of adverbials. Eubank left open the question, however, of whether there were functional differences between the various orders. In a study on temporal adverbials in L2 Dutch and French, Starren (2001) did look at such differences. She found that L2 learners placed adverbials in a certain position for reasons of scope marking: temporal adverbials in sentence-initial position have the entire utterance in their scope, while temporal adverbials that occur adjacently to the verb are in focus position. According to Starren, L2 learners use sentence-initial adverbials to mark the time for which the entire utterance makes a claim, the so-called ‘topic time’: such sentences are possible answers to questions of the type ‘what happened at time *t_x*? (Klein & Perdue, 1997: 318). Temporal adverbials that are placed in the focus part of an utterance, in contrast, mark the time for which the event expressed by the predicate holds, the ‘time of situation’. Sentences of this sort are possible answers to questions such as ‘when did this happen?’

The idea that sentence-initial and sentence-medial adverbials have different scope properties in L2 acquisition is based on two findings. First, Starren found that Moroccan and Turkish learners of Dutch sometimes produced utterances in which both positions were filled with an adverbial, such as (6) below. In this example, *gisteren-jaar* ‘yesterday-year’ occurs in topic position and marks the topic time, whereas *altijd* ‘always’ appears in focus position and marks the time of situation.

- (6) Gisteren-jaar ik altijd ongeluk gedaan
 Yesterday-year I always accident made.*pp*
 ‘Last year I had accidents, again and again’ (Starren, 2001: 151)

Second, Starren observed that the adverbial *altijd* ‘always’ could express different aspectual notions in L2 acquisition, depending on its position in a sentence. When it occurred in initial position, where it had scope over the entire utterance including the topic, it carried a habitual meaning. When it occurred in focus position, it had scope over the predicate only and expressed

iterativity. The following examples from Moroccan learners of Dutch illustrate this:

(7) Altijd ik wakker om acht uur
 Always I awake at eight o'clock
 'I always wake up at eight o'clock' (Starren, 2001: 150)

(8) Vandaag ik altijd weg met auto
 Today I always away with car
 'Today I had to go away by car, again and again' (Starren, 2001: 151)

The claim that beginning learners place scope-bearing elements in a position immediately adjacent to the domain over which they have scope can also be found in studies on the acquisition of negation. As we have seen in the Chapters 3 and 4, learners of Germanic languages initially place the negator before the predicate of an utterance, since the predicate usually contains the semantic information of a sentence to which negation applies. Since predicates often contain lexical verbs, negation is typically pre-verbal in early learner language. The following examples illustrate this for learners of German (Becker, 2005) and Dutch (Chapter 3):

(9) Ich nich sprechen Deutsch gut
 I not speak.*inf* German well
 'I do not speak good German' (Becker, 2005: 287)

(10) De meneer rood niet springen
 The mister red not jump.*inf*
 'Mister red does not jump'

Adverbials and negation have two important properties in common. First, they occupy the same syntactic positions: both follow the finite verb when a language has verb-raising, but precede the finite verb when a language does not allow verbs to be raised. Second, negation and (temporal) adverbials have scope properties: their placement interacts with the exact meaning they contribute to a sentence. On the basis of these shared characteristics, one may predict that L2

learners acquire adverbial placement and negation placement in very much the same way.

The aim of the study in this chapter is to compare the acquisition of adverbial and negation placement in L2 Dutch. Elicited-production data are investigated from Moroccan and Turkish learners of Dutch who were at a beginning level of acquisition. The results indicate that a distinction has to be made between different types of temporal adverbials: adverbials such as ‘now’ and ‘today’, and adverbials such as ‘still’ and ‘again’. The first type, ‘adverbials of position’, specify time spans in relation to other time spans, which are supposed to be given in context (e.g., ‘yesterday’). The second type of adverbial, ‘adverbials of contrast’, relate a time interval to another time interval, which is contextually implied (e.g., ‘still’ implies an earlier, adjacent time interval). The results show that adverbials of position, when occurring sentence-medially, appear less often in post-verbal position than negation in L2 Dutch. Adverbials of contrast, however, are found in post-verbal position just as often as negation. To account for this finding, it is proposed that there is a functional similarity between temporal adverbials of contrast and negation in L2 acquisition that does not apply to temporal adverbials of position and negation.

The chapter starts off with a description of different types of adverbials and their scope properties in section 6.1. The research questions are formulated in section 6.2. After a description of the study’s methodology (section 6.3), the results are presented (section 6.4). These are discussed in sections 6.5 and 6.6, where ‘adverbials of contrast’ and negation – but not ‘adverbials of position’ – are argued to function as ‘linking elements’ in L2 Dutch (Jordens & Dimroth, 2006).

6.1 Adverbials in natural language

6.1.1 Different types of temporal adverbials and scope marking

Temporal adverbials are important for the expression of temporality. Or, as noted by Klein (1994: 143), “the significance of temporal adverbials to the expression of temporality should be obvious: there are languages, which lack grammatical categories to express tense, but there is no language without temporal adverbials”. In fact, Klein argues that the morphological expression of

past tense might be considered redundant in sentences that contain an adverbial referring to the past: adverbials such as ‘yesterday’ or ‘two days ago’ also indicate that a situation is in the past, and do so in a more detailed way than past tense marking on the verb.

Klein (1994) distinguishes four types of temporal adverbial: temporal adverbials of position, temporal adverbials of frequency, temporal adverbials of duration, and temporal adverbials of contrast. The first of these, temporal adverbials of position (TAPs)³, specify time spans in relation to other time spans, which are supposed to be given in context, such as ‘yesterday’, ‘now’, and ‘at five o’clock’. Temporal adverbials of frequency (TAFs) indicate the frequency of time spans. Examples are ‘often’, ‘always’, and ‘twice’. Temporal adverbials of duration (TADs), such as ‘briefly’ and ‘for an hour’, specify the duration of time spans. Finally, there is a fourth type with a more complex function: temporal adverbials of contrast (TACs), such as ‘still’, ‘already’, and ‘again’.⁴ Members of this class indicate a comparison between the time interval referred to and another time interval, which is contextually implied. For example, in the sentence ‘John is still sleeping’, the adverbial ‘still’ specifies that, in addition to the current time interval (‘topic time’) at which John is sleeping, he was sleeping at an earlier, adjacent time interval.

An important characteristic of temporal adverbials is that they show an interaction between the position they occupy in a sentence and the time span(s) they specify. In other words, temporal adverbials have scope properties. As noted in the introduction of this chapter, Starren (2001) argued that adverbials placed in initial position (i.e., in the topic component of an utterance) have scope over the tensed part of the utterance, that is, they specify the topic time. In contrast, adverbials that are placed in final (focus) position, close to the event specification itself, have scope over the time of situation. Starren illustrates this with the following examples:

- (11) a. On Monday, I work from 2 to 5
b. I work on Monday from 2 to 5

³ These abbreviations are taken from Starren and Van Hout (1996).

⁴ Klein’s classification also includes two types of adverbial that will not be considered: adverbials such as ‘quickly’, which denote inherent temporal properties of a situation, and adverbials such as ‘eventually’, which indicate the position of a situation within a series of situations (Klein, 1994: 149).

‘On Monday’ in (11a) specifies a topic time: it could be an answer to the question ‘What are your working hours on Monday?’ and as such it expresses a contrast with possible other topic times such as ‘on Wednesday’ or ‘on Tuesday’. In (11b), no such contrast is evoked because the topic time is not explicitly marked. This sentence could be an answer to the question ‘When do you work?’ Thus, fronted temporal adverbials narrow down the time span for which a claim is made, while temporal adverbials that are embedded in the focus part of the utterance do not.⁵

6.1.2 Adverbials in the source and target languages

A description of Dutch has already been given in the introduction, where it was shown that adverbials follow the finite verb in Dutch declarative main clauses (e.g., *Hij werkt vandaag in Amsterdam* ‘He works today in Amsterdam’). They can also occur in sentence-initial position, leading to inversion of the subject and the finite verb (e.g., *Vandaag werkt hij in Amsterdam* ‘Today works he in Amsterdam’) and sentence-final position (e.g., *Hij werkt in Amsterdam vandaag* ‘He works in Amsterdam today’).

In Moroccan Arabic, the placement of temporal adverbials is relatively free. Holes (1995) notes that both the sentence-initial position and the position after the verb complex are common. When adverbials appear at the end of a sentence, this is often an indication that they are taken up as the theme of the succeeding text. The following example illustrates the post-verbal placement of adverbials in Moroccan. It also demonstrates the use of negation in Moroccan Arabic: negation is marked on the auxiliary verb (or lexical verb if there is no auxiliary) by means of a split morpheme.

- | | | | | |
|------|--------------------------------------|------|----------------------------|------|
| (12) | Ma-ya-y-kun-u-š | ø | mša-w | daba |
| | Not-fut-3-be.imp-pass.part-not | past | leave.perf-3pl | now |
| | ‘They will not have left now/by now’ | | (Quali & Fortin, 2007: 11) | |

⁵ Intonation may override these scope-marking relations: if ‘on Monday’ is stressed in sentence (11b), its reading changes and comes close to that of (11a).

For Turkish, Erguvanlı (1984) notes that the unmarked placement of adverbials is between the subject and the object, although there are other possibilities.⁶ Since Turkish is a pro-drop language, adverbials also often appear in sentence-initial position when the subject is not overtly expressed. The example in (13) illustrates this, along with the marking of negation in Turkish (*ma*-suffixation).

- (13) (Biz) dün toplantıya katıl-ma-dı-k
 (We) yesterday meeting attend-not-past-1pl
 ‘We did not attend the meeting yesterday’ (Haznedar, 1997: 246)

6.2 Research questions

In the L2 literature, there have been only two studies that compare the acquisition of sentences with negation and sentences with adverbials. Both take a form-oriented approach to L2 acquisition by investigating how L2 learners deal with UG parameter setting (Hawkins et al., 1993; Herschensohn, 1998). Both studies showed that English L2 learners of French were more accurate in raising verbs over negation than over temporal adverbials.⁷ The studies differ

⁶ Adverbials can occupy a variety of positions in Turkish, thereby signalling differences in information status (Erguvanlı, 1984).

⁷ Hawkins et al. (1993) aimed to investigate L2 learners’ developing knowledge about setting the [\pm opacity] parameter (Pollock, 1989), according to which Agr can be ‘weak’, as in English (prohibiting verb-raising), or ‘strong’, as in French. The authors presented intermediate and advanced tutored English learners of French with a grammaticality judgment task containing grammatical and ungrammatical sentences with *souvent* ‘often’ and *pas* ‘not’ of the following type:

- 1a *Ce journaliste intervient souvent des syndicalistes.*
 b **Ce journaliste souvent intervient des syndicalistes.*
 2a *Puisqu’elle a beaucoup de travail en ce moment, Julie ne prend pas de vacances.*
 b **Puisqu’elle a beaucoup de travail en ce moment, Julie ne pas prend de vacances.*

They found that the intermediate learners were less accurate in judging the ungrammatical adverbial sentences as incorrect (1b) than the ungrammatical negation sentences (2b). To account for this difference, they propose that learners used two mechanisms of UG instead of acquiring negation and adverbial placement by resetting the +/- opacity parameter. More precisely, they propose that the learners used “other devices made available by UG to mimic French surface patterns: misanalysis of *pas* as an affix generated under Agr, and rightward adjunction of verb complements over VP-final adverbs” (Hawkins et al., 1993: 219). Since these two devices are unrelated in UG, the authors are not surprised to find that negated sentences and sentences with adverbials behave differently in L2 acquisition for. Similar results were obtained by Herschensohn (1998), who presented intermediate and advanced English learners of French with a task in which they had to construct sentences out of a given set of words. Herschensohn found

from the current study with respect to a number of important factors, however, including the source and target languages of the learners (English learners of French), methodology (meta-linguistic tasks), and type of L2 learners (high-educated, tutored learners). For this reason, these studies are not discussed further.

As argued above, the point of departure for the current study is the proposal that adverbials and negation have an important property in common in addition to their placement relative to the finite verb⁸, namely: scope marking. The aim of the study is to answer the following research questions:

1. Do L2 learners of Dutch acquire verb placement in negated sentences and verb placement in adverbial sentences in the same way?
2. If not, how should this be explained?

In addition to these questions, the possible influence of the L1 will be investigated. In particular, it is predicted that the Turkish learners are more reluctant to place the adverbial after the verb than the Moroccan learners, since adverbials usually precede the verb in Turkish, but not in Moroccan Arabic.

6.3 The study

6.3.1 Participants

A group of 50 Moroccan and 47 Turkish learners participated in the study. These learners had very comparable learner characteristics to the learners in the negation study, whose data were described in Chapter 3 to 5. All had a level of acquisition similar to the A1 and A2 levels of the European Framework of

that 4% of the intermediate learners' responses to adverbial sentences were incorrect but none of their responses to negated sentences. She concludes that "negation placement is mastered before adverbial placement" (Herschensohn, 1998: 330) and proposes that parameter setting takes place construction by construction: it is not an all-or-none phenomenon; rather, learners show variation that is bound to specific items or constructions: *pas* is learned before *jamais*, negation placement is learned before adverbial placement, et cetera.

⁸ There are also clear differences between the positions negation and adverbials can occupy in Dutch: as we have seen earlier, adverbials, but not a negator, can function as the first constituent of a sentence.

Reference (Council of Europe, 2001), so they can be classified as beginning learners of Dutch. The average length of residence in the Netherlands was 3:5 years for the Moroccan learners and 8:0 for the Turkish learners. Their level of schooling was rather low: the majority of learners had attended only primary school, some learners had passed a few years at secondary school, but none of them had studied at university. The mean number of years of education was 7.7 and 6.5 years for the Moroccan and Turkish learners, respectively. Seven Moroccan learners and one Turkish learner were illiterate. The majority of the Moroccan learners had some knowledge of French (46 learners) and some of them spoke Spanish (9 learners) or English (12 learners). Fourteen Moroccan learners had a native or near-native level in Berber. Out of the Turkish learners, most were monolingual, but five participants reported to have some knowledge of English, two spoke Arabic and two spoke German.⁹ For more biographical information about the learners, see Appendix B.

6.3.2 Tasks

Production data were elicited, using a 15-minute fragment from the silent *Modern Times* movie as well as three picture stories.¹⁰ The first task has been used in a number of earlier studies on L2 acquisition, including studies on temporal adverbials (Dietrich, Klein & Noyau, 1995; Starren, 2001). Unlike in these previous studies, the movie was cut into short fragments in the current study. Participants immediately retold what had happened in a fragment after watching it, so that more detailed and more comparable retellings could be obtained than when participants had to watch and retell the entire fragment in one go.

The picture stories were shown to the participants in two phases. Participants first watched all pictures of a story, but they were asked not to tell the story yet. Then the pictures were shown again one by one and the

⁹ These learners had lived in Germany for a few years before immigrating to the Netherlands, and they had some command of (spoken) German. Since there were no indications in the data that they behaved differently from the other learners, they were left in for data analysis. In fact, both learners fell into the lowest proficiency range in the sense that they almost exclusively produced verbs ending in *-en* in non-raised position.

¹⁰ The film fragment of the *Modern Times* movie presented in this study was five minutes longer than that in the negation study, where time was more limited, because the Finite Story task was also included.

participants were asked to tell the story. The reason for familiarizing participants with the story line before asking them to perform their retellings was to create better conditions for the use of temporal adverbials. That is, the likelihood was increased that learners would produce sentences of the type ‘The dog has now woken up’ rather than give static descriptions such as ‘Here is a dog’, ‘It is awake’.

6.3.3 Coding and scoring

All utterances containing a lexical verb and a temporal adverbial or the negator *niet* were extracted from the data. It was then determined for each utterance whether the verb preceded or followed the adverbial or *niet*. Utterances that were likely to be rote-learned, such as *Ik weet niet* ‘I don’t know’ and *Ik snap niet* ‘I don’t understand’, immediate repetitions and false starts were excluded from analysis. The analysis was also restricted to sentences in which an overt subject was produced and the adverbial did not occur sentence-finally. The reason for excluding subjectless sentences, such as *Nu eten alle taart* ‘Now eat all cake’, is that it is unclear for such sentences how adverbial placement should be analysed: it could be either sentence-initial or sentence-medial (in the case that a subject had been present), and there is no easy way to disambiguate between these possibilities. For utterances with an adverbial in sentence-final position it was likewise impossible to tell whether the adverbial fell at the sentence-boundary (cf. Clahsen’s (1980) results described above) or after the verb, so such utterances were also excluded. For the sake of comparison, the same criteria were also applied to negated sentences, so only negated utterances with an overt subject and a negator in non-final position were included.¹¹ For sentences with adverbials, it was made sure that the adverbial actually had the status of adverbial. The word *nog* ‘still/another’, for example, is a temporal adverbial in a sentence like *Hij slaapt nog* ‘He still sleeps’ but a quantifier in a sentence like *Hij neemt nog een bier* ‘He takes another beer’. Only sentences of the first type were considered for analysis. The frequently occurring expression (*en*) *dan* ‘(and) then’ was left aside, because it has been shown that Turkish learners

¹¹ Although it may not seem plausible that negation appears at the sentence-boundaries, Jordens and Dimroth (2006: 172) showed that L2 learners of Dutch may initially place ‘holistic’ negators at the sentence beginning or sentence end (e.g., *Veel eten nee* ‘Much eat no’).

use (*en*) *dan* as a discourse marker, that is, to signal that they want to add something to their discourse (Dietrich et al., 1995).

6.4 Results

6.4.1 Adverbial versus negation placement

Table 1 shows how often learners placed verbs in a position preceding or following the adverbial or the negator *niet*. For ease of exposition, the data are described in terms of the placement of negation and adverbials relative to the verb (post- vs. pre-verbal) rather than in terms of the placement of the verb relative to adverbials/negation.

Table 1. *Placement of adverbials and negation in relation to the verb*

	Moroccan learners			Turkish learners		
	Pre-verbal	Post-verbal	Tot	Pre-verbal	Post-verbal	Tot
Adverbials	45% (21)	55% (26)	47	71% (58)	29% (24)	82
Negation	22% (7)	78% (25)	32	53% (10)	47% (9)	19

In the data from both language groups, adverbials appeared less often in post-verbal position. The Moroccan learners placed only 55% of all temporal adverbials in post-verbal position versus 78% of all instances of *niet*, a significant ($\chi^2(1) = 4.328, p = .032$) difference. The Turkish learners, placed only 29% of all adverbials post-verbally versus 47% of all instances of *niet*, but this difference did not reach significance ($\chi^2(1) = 2.297, p = 1.08$). Although not significant, there is a clear tendency for negation to be placed in post-verbal position more often than adverbials in this language group, too. The lack of an effect is therefore probably due to the relatively low number of negated utterances in this group.¹²

¹² The low number of negated utterances in the data from the Turkish learners is caused by the fact that these learners produced a high number of subjectless utterances. If utterances without a subject are also taken into account, there are 162 negated utterances and 185 sentences with an adverbial. An analysis run on these data shows a marginally significant effect such that the negator is in post-verbal position more often than adverbials ($\chi^2(1) = 2.806, p = .061$).

The data also show a general difference between the two language groups: while the Moroccan learners had an overall preference for post-verbal placement, with both adverbials and negation, the Turkish learners showed an overall preference for pre-verbal placement. This difference is significant ($\chi^2(1) = 8.542, p = .003$), indicating that verb-raising is overall less frequent in the Turkish group than in the Moroccan group. Taken together, these findings are in line with the results from Hawkins et al. (1993) and Herschensohn (1998) for L2 French showing that learners are more accurate in raising verbs over negation than temporal adverbials. It cannot be ruled out, however, that different patterns are obtained when a distinction is made between different types of adverbial. In the following section, this possibility is further explored.

6.4.2 Different types of adverbials

Temporal adverbials differ with respect to the specific time points or time spans they specify, as we have seen in section 6.1 above. Four types were distinguished: temporal adverbials of position (TAPs), contrast (TACs), duration (TADs), and frequency (TAFs). Table 2 presents an overview of all adverbials in the L2 data and classifies these according to type. Since no clear differences between the groups were observed, the data from the Moroccan and Turkish learners were collapsed.

Table 2. *Overview of all temporal adverbials in the data*

	Adverbials	Total
Adverbials of position (TAP)	<i>eerste keer</i> 'first time', <i>eerst</i> 'at first', <i>ineens</i> 'at once', <i>laatst</i> 'at last', <i>nachten</i> 'at night', <i>nu</i> 'now', <i>straks</i> 'later'	53
Adverbials of contrast (TAC)	<i>nog/nog steeds</i> 'still', <i>nog een keer</i> 'another time', <i>weer</i> 'again', <i>weer terug</i> 'back again'	64
Adverbials of duration (TAD)	<i>tien dagen</i> 'ten days', <i>even</i> 'just, shortly', <i>gelijk</i> 'immediately'	10
Adverbials of frequency (TAF)	<i>altijd</i> 'always', <i>soms</i> 'sometimes'	8

As can be seen from the table, the learners mainly produced TAPs and TACs. Let us therefore look at how the two types of adverbial that were produced most often (TAPs and TACs) were distributed over post- and pre-verbal positions. Table 3 presents the results and also includes the data for negation.

Table 3. *Placement of TAPs, TACs, and negation in relation to the verb*

	Moroccan learners			Turkish learners		
	Pre-verbal	Post-verbal	Tot	Pre-verbal	Post-verbal	Tot
TAP	80% (12)	20% (3)	15	79% (30)	21% (8)	38
TAC	24% (6)	76% (19)	25	64% (25)	36% (14)	39
NEG	22% (7)	78% (25)	32	53% (10)	47% (9)	19

The data from the Moroccan learners show that TAPs predominantly occurred pre-verbally and TACs post-verbally. A chi-square test shows that this difference is significant ($\chi^2(1) = 11.879$, $p = .001$). There is no significant difference between TACs and negation, however: both pattern very much alike ($\chi^2(1) = .036$, $p = .548$). A comparison of TAPs with TACs/negation shows that TAPs appeared in pre-verbal position significantly more often than both TACs and negation ($\chi^2(1) = 17.137$, $p = .001$).

The Turkish learners also predominantly placed TAPs in pre-verbal position. Unlike the Moroccan learners, who preferred TACs and negation in post-verbal position, however, the Turkish learners predominantly placed TACs and the negator in pre-verbal position, too. The pre-verbal placement of TAPs is more frequent than the pre-verbal placement of TACs and negation, but the differences are not significant ($\chi^2(1) = 2.078$, $p = .117$). The placement of TAPs is significantly different from the placement of TACs and negation, however, just as for the Moroccan learners ($\chi^2(1) = 3.634$, $p = .045$).

To sum up, the results indicate that both learner groups placed TAPs in a pre-verbal position significantly more often than TACs and negation, even though this difference is clearer for the Moroccan learners. In fact, an analysis run on the data of both language groups shows that the Moroccan learners place both TACs and negation in post-verbal position significantly more often than the Turkish learners: $\chi^2(1) = 9.810$, $p = .002$ for TACs and $\chi^2(1) = 5.075$, $p = .026$ for negation (see Chapter 3 and 4 for similar results for negation).

The distributional difference between TAPs and TACs is illustrated in the utterances (14) to (17), all of which were produced by Moroccan learners.

Notice that TAPs such as ‘now’ and ‘at first’ occur in pre-verbal position, whereas TACs such as ‘still’ and ‘again’ appear in post-verbal position.

- (14) Hij nu trekt de taart naar beneden
 He now pull.*fin* the cake to down
 ‘Now, he is pulling the cake down’
- (15) Dit vrouw eerst kijk naar de winkel
 This woman first look.*inf* at the shop
 ‘First, this woman is looking at the shop’
- (16) Die bal staat nog op de boom
 The ball stand.*fin* still in the tree
 ‘The ball is still hanging in the tree’
- (17) Hij neem weer die trappen naar thuis
 He take.*inf* again the ladder to house
 ‘He takes the ladder home again’

6.5 The different behavior of TAPs and TACs

6.5.1 Background: Finiteness in L2 Dutch

In order to account for the differential behavior of TAPs on the one hand and TACs and negation on the other, let us consider in more detail a study by Jordens and Dimroth (2006), which was described in Chapter 3 (section 3.1.2). In this study, Moroccan and Turkish L2 learners of Dutch who had not yet acquired morphosyntactic finiteness marking were found to produce sentences in which a topic and a predicate are juxtaposed, such as (18).

- (18) Dan auto bijna vallen
 Then car nearly fall.*inf*
 ‘Then car nearly falls down’ (Jordens & Dimroth, 2006: 177)

The topic *dan auto* ‘then car’ occurs in initial position and the predicate *vallen* ‘fall’ in final position. In this type of utterance, topics provide a temporal (or spatial) anchor-point for the rest of the utterance, so they typically contain pronouns and temporal or deictic adverbials. The predicate expresses the information that is claimed to hold for the topic. Moreover, in (18), a so-called ‘linking element’ between the topic and the predicate qualifies the relation between them: it indicates how the predicate relates to or holds for the topic. These linking elements often carry a meaning of their own, such as *bijna* ‘nearly’ in the above example, so they qualify the assertion in several ways. Importantly, the negator can also occur as a linking element, and in such cases it expresses ‘negative assertion’. For an example, consider (19), in which *niet* ‘not’ indicates that the predicate *goeje chauffeur* is not true for the topic *dames*. This example also illustrates that predicates need not contain verbs at this early stage of acquisition.¹³

- (19) Dames niet goeje chauffeur
 Ladies not good driver
 ‘Ladies are not good drivers’ (Jordens & Dimroth, 2006: 177)

The examples given by Jordens and Dimroth show that no fixed order applies to the elements occurring in the topic part of the utterance. Thus, adverbials can precede the subject pronoun or noun phrase, but they can also follow them. This is illustrated in (20), in which the adverbial (*altijd*) follows the subject pronoun, and (21), in which the adverbial (*nog drie maand*) follows it. Note also that the adverbial would have directly preceded the predicate in (20) if the linking element *wil* ‘want’ had not been present.

- (20) Ik altijd wil zit met Nabil
 I always want sit_{fin} with Nabil
 ‘I want to be with Nabil all the time’ (Jordens & Dimroth, 2006: 176)
- (21) Nog drie maand ik moet trouwen

¹³ The fact that there is no copula in this example is in line with findings from Becker (2005) as well as results from Chapter 3, suggesting that there is a complementary distribution in early L2 acquisition between the presence of a copula and negation.

Yet three month I have to marry.*inf*
 ‘In three months, I’ll have to get married’

(Jordens & Dimroth, 2006: 176)

In both sentences, the temporal adverbial has scope over the entire utterance and marks the topic time or the time for which the utterance makes a claim. Finiteness is not yet expressed morphosyntactically at this stage. Hence, the modal verbs *wil* and *moet* in (20) and (21) constitute lexical elements that “are not (yet) to be categorized as expressions of a verbal category” (Jordens & Dimroth, 2006: 178; see also Chapter 3).

According to Jordens and Dimroth, this basic system changes when L2 learners learn to mark finiteness by morphosyntax. These authors argue that an important function of finiteness is to mark assertion, that is, to specify that a state of affairs is true for a topic. Consequently, when learners acquire finiteness marking, the assertion function that was previously fulfilled by the linking elements is taken over by finiteness marking on verbs. From this moment on, L2 learners of German and Dutch start to produce utterances of the following type, in which a finite verb - in this case an auxiliary verb - occupies the position that was previously reserved for linking elements:

(22) Ik heb niet zeggen
 I have.*1.sg* not say.*inf*
 ‘I have not said’

(Jordens & Dimroth, 2006: 186)

Summarizing, Jordens and Dimroth’s results show that learners who have not yet acquired finiteness marking produce utterances that consist of the following (optional) elements: a topic, a linking element, and a predicate. After learners acquire finiteness marking, their utterances typically contain a subject, a finite verb and one or more arguments. Importantly, the function of finiteness marking (assertion) is then fulfilled by finite verbs and the elements that previously functioned as linking elements, such as *niet*, appear after the verb.¹⁴

¹⁴ Obviously, this does not hold for verb-like linking elements like *moet* ‘must’, *is* ‘is’, and *gaat(ie)* ‘goes(-he)’, which continue to be placed in the previous linking slot where they function as grammatical markers of finiteness.

6.5.2 Different functions of TAPs and TACs

The linking elements listed by Jordens and Dimroth (2006: 178) are the following:

- Modal verbs (*wil* ‘want’)
- Light verbs (*doetie* ‘does-it’)
- Adverb-like elements (*nee* ‘no’, *ja* ‘yes’)
- Modal particles (*eve* ‘just’)
- Scope particles (*ook* ‘also’)

Crucially, the findings from section 6.4 suggest that TACs can also serve this linking function in L2 Dutch. For L2 German, this claim has already been made tentatively by Dimroth et al. (2003), who noted that the scope particles *noch* ‘still’ and *wieder* ‘again’ function as linking elements in this language. Dimroth et al. give the following example for *wieder*:

- (23) Der rote wieder in de wald gegaan
 The red one again to the forest go.*pp*
 ‘The red (mister) has gone to the forest again’ (Dimroth et al., 2003: 81)

Of all scope particles, only *ook* ‘also’ has been assumed to fulfill a linking function in Dutch. There is evidence in the literature, however, that scope particles (including temporal particles or TACs) interact with finiteness. Dimroth (2002) observed, for example, that L2 learners of German use the particles *auch* ‘also’, *noch* ‘still’ and *wieder* ‘again’ in complementary distribution with auxiliary verbs. Similarly, in data from L2 German and L2 Dutch, Schimke et al. (2008) found that utterances with the particles *auch/ook* ‘also’ and *wieder/weer* ‘again’ contained a non-finite verb more often than similar utterances without those particles. These authors concluded that there is an interaction between the presence of scope particles and the marking of finiteness at early stages of L2 German and Dutch.

To account for this interaction, we have to consider the function of particles that apply to time spans, or TACs, as they are termed in this chapter. As argued above, adverbials such as ‘still’ and ‘again’ relate to two time intervals, one that is marked by the current sentence and another that is

implied. Consider the utterance in (24) where ‘still’ indicates that not only the current state of affairs (John is sleeping) is true, but that John was also sleeping at one or more earlier adjacent time intervals or topic times. In (25), similarly, the adverbial ‘again’ indicates that John is sleeping and that he was also sleeping at a non-adjacent earlier time interval.

(24) John is still asleep

(25) John is asleep again

Since ‘still’ and ‘again’ assert that something is true at a particular topic time as well as at an (adjacent or non-adjacent) earlier topic time, it has been argued that they mark ‘repeated assertions’ (Dimroth, 2002). Klein (2007) calls particles such as ‘again’ (and also ‘only’) non-canonical assertion markers: they mark an assertion “beyond the sentence”.¹⁵ Relating this to the idea that finiteness marks assertion, it is clear that the functions of TACs and finiteness marking are closely related: both assert that a state of affairs applies to a topic, in the case of the TACs this assertion being an addition to a previous assertion.

In the following, empirical evidence is presented for the idea that TACs function as linking elements in L2 Dutch, but TAPs do not. Instead, TAPs occur in the topic part of utterances where they mark the topic time. Three findings are adduced that support this idea: (i) double-adverbial constructions typically contain a TAP in initial position and a TAC in sentence-medial position, (ii) TAPs are often fronted but TACs are not, and (iii) finiteness marking interacts with the placement of TACs, but not with the placement of TAPs.

6.5.3 Double-adverbial constructions

As outlined earlier, Starren (2001) found that Moroccan and Turkish learners of Dutch regularly produce utterances with two temporal adverbials. Such utterances were also attested in the current dataset:

¹⁵ Klein (2007) points out that negation functions in many respects in the same way as these focus particles: all of them mark an “additional assertion”, beyond the one made by the negative sentence itself.

- (26) Nu die man nog slaapt
 Now the man still sleep.*fin*
 ‘Now the man is still sleeping’
- (27) Op een moment die politie ook weer wakker
 At a moment the police also again awake
 ‘At a (certain) moment the police officer wakes up again, too’

A closer look at these utterances shows that they have a common characteristic: the adverbial in sentence-initial position is always a TAP, whereas the adverbial in middle position is always a TAC. This systematic pattern is in line with the idea that TAPs occur in the topic part of the sentence and mark the topic time, while TACs occur between the topic and the predicate and function as linking elements.

6.5.4 Fronted adverbials

Another piece of evidence for the different functioning of TAPs and TACs comes from sentences in which adverbials occur in initial, fronted position. From the double-adverbial constructions, it has already become clear that the initial position is typically filled with TAPs. This pattern also holds when all utterances are considered, including those that contain only one adverbial. Table 4 shows the distribution of adverbials in initial position in sentences such as *Nu hij gooit de bal* ‘Now he throws the ball’. For this analysis, all utterances were considered in which an adverbial occurred in sentence-initial position and was followed by an overt subject. Note that these utterances were excluded from the previous analyses, which considered only utterances with sentence-medial adverbials such as *Hij nu gooit de bal* ‘He now throws the ball’ and *Hij gooit nu de bal* ‘He throws now the ball’.

Table 4. *Adverbials in sentence-initial position specified for type (TAP vs. TAC)*

	Moroccan learners	Turkish learners
TAP	90% (56)	88% (58)
TAC	10% (6)	12% (8)

This table shows that the vast majority of adverbials in initial position are TAPs (90% and 88%). The following utterances illustrate this:

- (28) Nu meisjes ligt de gebak op de tafel
 Now girl lie.*fin* the cake on the table
 ‘Now the girl is putting the cake on the table’
- (29) Eerst hij zien van de politie
 First he look.*inf* from the police
 ‘First, he is looking at the police officer’

The finding that sentence-initial adverbials are overwhelmingly TAPs provides further support for the idea that TAPs typically occur in topic position, unlike TACs, which mainly occur in sentence-medial position.

6.5.5 Interaction with finiteness marking

The third finding that supports the idea of TAPs as markers of the topic time and TACs as linking elements concerns learners’ use of finiteness marking. As we have seen, Jordens and Dimroth argued that finite verbs take over the function of linking elements as soon as learners learn to mark finiteness morphosyntactically. Therefore, we can predict that whenever a finite verb is placed in linking position, TACs and negation will follow this verb. When TACs and negation occupy the linking slot, in contrast, verbs are expected to be unmarked for finiteness. No such interaction is expected for TAPs: these adverbials occur in the topic component and do not serve the same (assertion) function as finiteness.

To test the idea that TACs and negation interact with finiteness marking, all verbs that co-occurred with adverbials and *niet* were analyzed for (i) whether the verb preceded or followed the adverbial or negator and (ii) whether the verb was marked for finiteness. Finiteness marking was operationalized as agreement marking on verbs occurring in 3sg-contexts. Hence, verb forms ending in a correct 3sg-suffix (*-t*), as in (30), were considered finite, while those such as in (31) and (32) were considered non-finite.

- (30) De bal blijft weer op de boom

The ball stay.*fin* again (=still) on the tree
 ‘The ball still stays in the tree’

(31) En de bal blijf nog steeds in de boom
 And the ball stay.*inf* still in the tree
 ‘And the ball still stays in the tree’

(32) Dief nog steeds binnen blijven
 Thief still inside stay.*inf*
 ‘The thief still stays inside’

Table 5 shows how often verbs were correctly marked for finiteness in sentences containing TAPs, TACs, and *niet*. The percentages in this table indicate the proportion of finite (correctly agreeing) verbs out of all verbs in a certain position with respect to adverbials or negation.

Table 5. *Finiteness marking on the verb in relation to pre-verbal and post-verbal TAPs, TACs and negation*

	Moroccan learners			Turkish learners		
	Pre-verbal	Post-verbal	Tot	Pre-verbal	Post-verbal	Tot
TAP	50% (6/12)	33% (1/3)	15	10% (3/30)	50% (4/8)	38
TAC	17% (1/6)	74% (14/19)	25	12% (3/25)	71% (10/14)	39
NEG	- (0/7)	88% (22/25)	32	- (0/10)	78% (7/9)	19

The data show that the Moroccan learners marked finiteness on 74% of all verbs that occurred with a post-verbal TAC, but on only 17% of the verbs that occurred with a pre-verbal TAC. A similar pattern was found for the Turkish learners (71% vs. 12%). For both language groups, these differences are significant ($\chi^2(1) = 6.117$, $p = .023$ for the Moroccans; $\chi^2(1) = 14.263$, $p < .001$ for the Turks). Hence, there is a significant interaction between the placement of a TAC with respect to the verb and the presence of finiteness marking: verbs followed by a TAC are finite significantly more often than verbs preceded by a TAC. The following examples illustrate this pattern for utterances containing the verb *staan* ‘stand’:

(33) De bal nog staan op de boom
 168

The ball still stand.*inf* on the tree
 ‘The ball is still hanging in the tree’

- (34) Die bal staat nog op de boom
 The ball stand.*fin* still on the tree
 ‘The ball is still hanging in the tree’

For negation, the pattern is even clearer, as the negator never precedes a finite verb. For both language groups, the differences are highly significant: $\chi^2(1) = 21.403$, $p < .001$ and $\chi^2(1) = 15.473$, $p = .001$ for the Moroccan and Turkish learners respectively. Thus, verbs that occurred with post-verbal negation were finite significantly more often than verbs that occurred with pre-verbal negation. This is in line with the findings from Chapter 5, where a similar contingency was found for the L2 learners of the negation study.¹⁶ The following examples illustrate the findings for negation, again with utterances containing the same verb:

- (35) Die man niet pakken de brood
 The man not take.*inf* the bread
 ‘The man does not take the bread’

- (36) Hij pakt niet de bal
 He take.*fin* not the ball
 ‘He does not take the ball’

Finally, when we look at the distribution of finite and non-finite verbs over contexts with TAPs, a different pattern arises, at least for the Moroccan learners. These learners show a pattern opposite to that found for TACs and negation: verbs that occurred with pre-verbal TAPs are more often finite than

¹⁶ A detailed analysis in Chapter 5 suggested, however, that this contingency is related to L2 proficiency: at the earliest stages of acquisition, learners do not (or not as strongly) show a contingency relation, but they produce and accept finite verbs in a position following negation. The present contingency pattern might thus be mainly due to the more advanced learners in the sample. Furthermore, the fact that not a single finite form was found in non-raised position in the current dataset might be due to the analysis: only sentences with an overt subject and object were taken into account, which makes it likely that the data from the advanced learners were overrepresented in the dataset.

verbs that occurred with post-verbal TAPs. Due to the low number of post-verbal occurrences, no firm conclusions can be drawn, however. In contrast to the Moroccan learners, the Turkish learners show the same pattern for TAPs as for TACs and negation. A chi-square analysis reveals that the difference is significant ($\chi^2(1) = 5.711$, $p = .025$), but this contingency pattern is slightly weaker than the contingencies found for TACs and negation.

In summary, the results show that there is a relation between finiteness marking on the verb on the one hand and the placement of TACs and negation on the other: TACs and negation precede non-finite verbs but follow finite verbs. For TAPs, such an interaction was less clear: for the Moroccan learners, the data did not show a contingency at all; for the Turkish learners there was an interaction, but it was less strong than for TACs and negation.

6.6 Conclusions and discussion

This chapter aimed to answer two questions: (i) Do L2 learners acquire adverbial and negation placement in the same way, and if not, (ii) How should this be explained? For temporal adverbials, the results showed that adverbials were indeed placed in pre-verbal position more often than negation in the L2 data from beginning learners of Dutch. Crucially, when a distinction was made between different types of adverbials (TAPs versus TACs), it was found that TAPs did not pattern like negation, whereas TACs did. These findings are in line with earlier results from Starren (2001), which showed that TAPs indicate the time span for which a specific claim is made, so they typically occur in the topic part of utterances at early stages of acquisition. They can also easily be reconciled with findings from Jordens and Dimroth (2006) showing that beginning L2 learners use lexical elements ('linking elements') to express finiteness at a stage at which they have not yet learned to mark finiteness morphosyntactically.

More specifically, the data suggest that TACs and negation link a predicate (or the state of affairs expressed by this predicate) to a topic. As such, they express a function similar to that of finiteness, in the sense that they qualify the relation between the state of affairs expressed by the predicate and the topic. In the case of TACs, an assertion is made for the current time in addition to an earlier topic time. Negation specifies that a state of affairs is not

true of the topic, so it also approximates this assertion function. This function is different from the function that TAPs have in learner language: these adverbials mark the time for which the utterance holds and therefore occur in the topic part of the utterance.

As long as finiteness marking has not been acquired, TACs and TAPs occur in pre-verbal position. This similarity is only superficial, however, since at a functional level, TAPs belong to the topic part of the sentence while TACs fill the slot that is used for linking elements. When morphosyntactic finiteness marking is acquired, these positional differences between TAPs and TACs become clearly visible: TAPs remain in pre-verbal position, independent of whether the sentence contains a finite verb, whereas TACs occur post-verbally when a finite verb occupies the position appropriate for finite verbs.

Even though the overall tendencies were clearer for the Moroccan learners than the Turkish learners, the main patterns were the same for both language groups. Thus, post-verbal placement of TACs and negation was significantly more frequent in the data from the Moroccans than from the Turks, but for both language groups, TACs and negation were post-verbal more often than TAPs. This is interesting, given that Moroccan Arabic and Turkish differ in all relevant typological aspects. The absence of clear L1 influence is in line with the earlier findings from Jordens and Dimroth (2006), who also assumed that Turkish and Moroccan learners take the same steps on their way to acquiring morphosyntactic finiteness marking. A clear quantitative difference did show up in the current study, however: the Moroccan learners had a general preference for post-verbal placement, while the Turkish learners preferred pre-verbal placement, with both negation and adverbials. This corroborates the findings from the negation study presented in Chapter 3 and 4, which found that the Turkish learners produced pre-verbal negation more often than the Moroccan learners even though they had comparable overall proficiency levels. In both studies, however, differences were found only at the quantitative level, which suggests that the L1 has an effect on the *rate* at which learners acquire verb placement in sentences with negation and temporal adverbials in L2 Dutch, but not on how they go about it.

It is important to point out that the placement preferences found in this study are not assumed to be unique for L2 acquisition. Rather, Dutch speakers are expected to display the same preferences when they use their native language. In the target language, TAPs are suitable markers of the topic

time so are likely to occur in topic position, while TACs link a state of affairs to previous topic times and so are likely to be embedded in the focus part of the sentence. What is unique for L2 acquisition, then, is that TACs are linking elements and as such, have a function similar to negation and finiteness. This explains why an interaction with finiteness marking was found with the placement of TACs and negation, but not with TAPs and it is this interaction that provides evidence for the role of scope marking in early L2 Dutch.

Before this chapter is concluded, let us briefly consider the data from ten native speakers of Dutch who performed the same film-retelling task and two of the three picture stories as the L2 learners.¹⁷ Table 6 distinguishes between the four different types of adverbial and indicates how often each adverbial type occurred in sentence-initial or post-verbal position in these participants' data (the only positions in which temporal adverbials can occur in the target language). As shown in this table, the native speakers produced even fewer TADs and TAFs than the learners, which suggests that the low number of such adverbials in the L2 data was due to the task, rather than to the late emergence of these adverbials.

Table 6. *Adverbial placement by Dutch native speakers*

	Sentence-initial		Post-verbal		Total
TAP	74%	(42)	26%	(15)	57
TAD	-	(0)	100%	(3)	4
TAF	20%	(1)	80%	(4)	5
TAC	-	(0)	100%	(81)	81

The native speakers placed TAPs predominantly in sentence-initial position (74%). TACs never occurred in this position, which is remarkable because such adverbials can be fronted in the target language.^{18,19} The finding that the native

¹⁷ These control participants also had a relatively low level of schooling and were tested at the same type of schools as the L2 learners (i.e., Dutch *Regionaal Opleidings Centrum* – Regional Education Centre), where they received professional training, for example, to become an assistant in a shop. However, unlike the L2 learners, all control speakers had finished primary school and they had in addition had four years of secondary (low-level, vocational) education.

¹⁸ Examples are *Weer gaat hij naar buiten* 'Again goes he outside' and *Nog steeds ben ik moe* 'Still am I tired'.

speakers showed the same preferences as the L2 learners shows that the pattern is not unique for L2 acquisition and makes it hard to disentangle the relative influence of scope marking and input frequency in the L2 data. Crucially, however, input frequency cannot be the sole explanatory factor, since it cannot explain why the placement of TACs and negation interacted with finiteness marking, but the placement of TAPs did not (or less clearly so). This suggests that, even though input frequency might play a role, L2 learners of Dutch are also sensitive to principles of semantic scope marking.

¹⁹ It is important to note that these results are probably not representative of adverbial placement in all contexts in Dutch: the data were collected in narratives and taken from a relatively small group of speakers only.

Chapter 7

Further investigating the influence of semantic scope marking: Evidence from production and processing

In the preceding chapters we have seen that beginning learners of verb-raising languages place lexical verbs to the right of negation and adverbials (cf. Beck, 1998; Eubank, 1996; Grondin & White, 1996; Ionin & Wexler, 2002; Thomaselli & Schwartz, 1990; Vainikka & Young-Scholten, 1996a, b). The following utterances from Turkish learners of Dutch illustrate this:

- (1) Blauwe man niet slapen
 Blue man not sleep.*inf*
 ‘The blue man does not sleep’
- (2) Nou blauwe man nog een keer slapen
 Now blue man another time sleep.*inf*
 ‘Now, the blue man is still sleeping’ (Now, the blue man is again sleep)

To account for structures like these, some researchers have proposed that L2 learners initially do not have access to the functional categories necessary for verb-raising, but instead only project lexical categories such as VP (Vainikka & Young-Scholten, 1996a, b). Other researchers have argued that word order at early stages of acquisition is also influenced by scope marking and information structure (Becker, 2005; Dimroth et al., 2003; Jordens & Dimroth, 2006; Starren, 2001). According to this idea, the placement of verbs to the right of negation and adverbials is not simply a matter of lacking functional categories, but also follows from a semantic principle: verbs are within the scope domain of negation and adverbials so they follow such elements at early stages of acquisition. In the previous chapters, findings from L2 Dutch were presented that were in line with both accounts. Beginning Moroccan and Turkish learners of Dutch typically place lexical verbs to the right of negation (Chapter 3 and 4), the position in which verbs appear at this stage is not structurally constrained for non-finiteness such that finite forms can also occupy this position (Chapter 5), and learners regularly place verbs to the right of temporal adverbials (Chapter 6). Some specific evidence that scope marking plays a role in early L2

Dutch was also found. In Chapter 1, some light verbs were found more consistently in a position to the left of negation than others. Typically, these verbs were among those that are semantically the most empty, such as the copula and auxiliary verbs, suggesting that verbs that have almost no semantic content fall outside the scope domain of negation more easily than verbs that have slightly more semantic content, such as modal verbs and *gaan* ‘going to’. In Chapter 6, it was found that learners differentiated between different types of adverbial (TAPs and TACs) with respect to both their placement and the presence of an interaction between placement and finiteness marking on the verb. It was concluded that these differences were due to adverbials’ different scope marking properties.

The aim of this chapter is to further investigate the role of scope marking in L2 Dutch. How important is scope marking in early L2 acquisition? Can it explain all structures that beginning learners produce or do other factors play a role as well? To this end, the results from the negation study that were described in Chapter 4 are summarized and compared to new results from sentences with temporal adverbials that were obtained using the same tasks. Production as well as processing data will be investigated.

The results from Chapter 4 showed that beginning Moroccan and Turkish learners of Dutch produced sentences in which the lexical verb followed the negator, such as (1) above. In sentence processing they also showed clearly preferred this type of sentence (e.g., **Jan en Peter niet lopen op het strand* ‘John and Peter not walk on the beach’) to grammatical sentences such as *Jan en Peter lopen niet op het strand*. However, when presented with sentences containing the auxiliary verb *hebben* ‘have’, learners showed a clear processing advantage for grammatical sentences such as *Jan en Peter hebben niet op het strand gelopen* ‘John and Peter have not on the beach walked’ in comparison to ungrammatical sentences such as **Jan en Peter niet hebben op het strand gelopen*. Interestingly, this processing preference for correct auxiliary placement was found for learners who did not use auxiliaries in production.

These results might be explained in terms of syntactic factors alone: functional categories are absent at early stages of acquisition and this is why learners produce (head-final) VPs (Vainikka & Young-Scholten, 1994, 1996a, b). The preference for target-like auxiliary placement at this early stage might then be taken as evidence for ‘incipient’ L2 knowledge of functional categories that is not yet available for production. Another explanation could be semantic

scope marking. According to this idea, L2 learners place lexical verbs after negation because these verbs fall within the scope domain of negation (Becker, 2005; Bernini, 2003). In processing, sentences in which lexical verbs follow negation would be easier to process than sentences in which they precede negation because the scope relations in the former type of sentence are more transparent. Transparent scope marking may also explain the faster processing of auxiliary sentences in which the auxiliary precedes negation: since auxiliaries have little semantic content of their own, scope relations are more transparent when auxiliaries fall outside the scope domain of negation than when they are included under the negator's scope domain (Becker, 2005). An important question raised in this chapter is: Do Moroccan and Turkish learners of Dutch show the same asymmetry between lexical verbs and auxiliaries when producing and processing sentences with temporal adverbials?

Answering this question might help to elucidate the relative influence of syntactic factors (i.e., projection of bare VPs) versus semantic scope marking (i.e., preference for transparent scope relations). More specifically, if one adopts a purely syntactic account, the assumption is that learners acquire verb-raising independent of whether verbs have to be raised over negation or adverbials: all that matters is that a syntactic position has to be created. Hence, learners should show the same asymmetry between lexical verbs and auxiliaries in sentences with temporal adverbials as for negation: they should place lexical verbs to the right of temporal adverbials but auxiliary verbs to the left. Moreover, no differences are to be expected depending on whether verbs are raised over temporal adverbials of position such as 'today' or other types of adverbials such as 'always' and 'again'. In contrast, if one assumes that semantic scope marking influences L2 acquisition, it is not immediately evident that learners will show the same behavior for lexical verbs and auxiliaries in negated sentences and sentences with adverbials. In fact, based on the results from Chapter 6 where learners placed different types of adverbials in different positions within the sentence as a function of these adverbials' scope properties, it can be hypothesized that there are clear interactions between verb type, adverbial type, and verb placement in beginning L2 acquisition. Some types of adverbial might precede both the lexical verb and the auxiliary, whereas other types might precede the lexical verb but follow the auxiliary. In this chapter, a number of concrete predictions will be formulated about learners' preferences for the placement of lexical verbs and auxiliaries in sentences with

different types of adverbials. These predictions are outlined in section 7.3. In section 7.4, the predictions will be tested against elicited-production and processing data that were collected using the same types of task as in the negation study. Before we proceed to these sections, however, section 7.1 describes two different theories of verb placement in early L2 acquisition and section 7.2 presents the results from the negation study in more detail.

7.1 Verb placement in L2 acquisition

Three types of theory have been put forth in the L2 literature on the acquisition of verb-raising or, more broadly speaking, the acquisition of L2 morphosyntax: ‘strong transfer’ (Schwartz & Sprouse, 1996), ‘weak transfer’ (Eubank, 1993/94, 1996), and ‘no transfer’ (Jordens & Dimroth, 2006; Vainikka & Young-Scholten, 1994, 1996a, b).¹ As shown in Chapter 3 and 5, there is little evidence for the transfer of functional categories in the current dataset. For this reason, the focus of the current chapter is on the ‘no transfer’ views, according to which learners cannot transfer the functional categories of their L1 into the L2. Two such views will be tested against L2 data: a form-oriented ‘structure building’ approach (Vainikka & Young-Scholten (1994, 1996a, b) and a function-oriented approach (Jordens & Dimroth, 2006). In the following, the two views are described in turn. The main ideas behind ‘structure building’ have been described in Chapter 5 and the stage model proposed by Jordens and Dimroth has been described in relative detail in Chapters 3 and 6. The informed reader might therefore want to proceed to section 7.2, where the results for verb placement in negated sentences from Chapter 4 are summarized.

Vainikka and Young-Scholten (1994, 1996a, b) analyzed the naturalistic production data from Italian, Spanish, Korean and Turkish learners of German.² They concluded on the basis of these data that learners start out with

¹ Researchers have also assumed that L2 learners have direct access to UG, such that functional categories are present from the earliest stages on, irrespective of learners’ native language (Epstein et al., 1996).

² These data were longitudinal data from the ZISA-project (Clahsen et al., 1983) and cross-sectional data elicited through a variety of techniques (LEXLERN-project, cf. Vainikka & Young-Scholten, 1996a, b).

lexical projections and add the L2 functional categories one by one to the existing structure. These authors distinguished three stages in the acquisition of functional categories in L2 German. At the first stage, learners show no evidence of the linguistic features normally associated with functional categories, such as verb-raising, auxiliary verbs, agreement, complementizers, and wh-movement. Instead, at this VP-stage, learners produce structures that look like bare VPs: uninflected verbs appear to the right of negation and adverbials, as shown in examples (3) and (4). Verbs typically end in *-(e)n* or *-0* at this stage and there are no auxiliaries.

(3) Ich nix komme
 I not come.*1.sg*
 'I don't come' (Vainikka & Young-Scholten, 1996b: 158)

(4) Ische immer arbeit
 I always work.*0*
 'I always work' (Vainikka & Young-Scholten, 1996b: 165)

At the next stage, learners project a functional projection, FP, which is underspecified for tense and agreement. At this stage, they show variable use of subject-verb agreement and some use of auxiliary verbs. Verb-raising is also found at this stage, but it is optional: verbs can appear on either side of negation and temporal adverbials, as illustrated in (5) and (6), which both contain the adverbial *immer* 'always'.

(5) Ich geh immer in Winter
 I go.*0* always in winter
 'I always go in winter' (Vainikka & Young-Scholten, 1996b: 169)

(6) Immer jeden Tag fünfhundert Stück machen
 Always every day five-hundred units make.*inf*
 '(I) always make five-hundred units every day'
 (Vainikka & Young-Scholten, 1996a: 21)

At the last stage, learners project an AgrP, which enables them to produce verb-raising, agreement and auxiliary verbs. Vainikka and Young-Scholten

(1996a: 23) note that for the Korean and Turkish speakers in their study, verb-raising still only occurs about 76% of the time. Thus, verb-raising is not immediately acquired across the board, but remains optional for some time. The example in (7) illustrates the final stage for a Turkish learner of German.

- (7) Der kleine geht Kindergarten
 The small one go.3.sg kindergarten
 ‘The young one goes (to) kindergarten’
 (Vainikka & Young-Scholten, 1996a: 23)

On the basis of data from L2 Dutch, Jordens and Dimroth (2006) also distinguished three stages in the acquisition of the functional category system. Their account differs from Vainikka and Young-Scholten’s, however, in that they assume that non-syntactic principles such as scope marking and information structure play an important role. According to Jordens and Dimroth (2006), L2 learners of Dutch initially produce utterances in which a topic and a predicate are juxtaposed. An illocutionary element such as Dutch *ja* ‘yes’ can also precede (or follow) the utterance, as shown in (8):

- (8) Ja die meisje brood weggoeien
 Yes the girl bread away throw.inf
 ‘The girl throws the bread away’ (Jordens & Dimroth, 2006: 172)

At the next stage, termed the ‘conceptual ordering stage’, utterances typically consist of three components: a topic, a ‘linking element’, and a predicate. The ordering of these elements is based on information structure: topics occur in initial position and anchor the utterance in time and space. Therefore, they are often expressed by temporal and deictic adverbials, although they can also be left implicit (zero topics). Predicates occur in final position and can, but need not, contain lexical verbs. Between the topic and the predicate, a ‘linking element’ can appear whose function is to link the predicate to the topic, or, more precisely, to specify the relation between topic and predicate. It has scope over the predicate. If no linking element is present, the relation between the predicate and the topic is simply that of assertion. Thus, in (9), a Moroccan learner asserts that *thuis* ‘home’ is true of the topic *mij man* ‘my husband’ for a particular time span. In (10), the negator functions as a linking element: it

4. *NEG – AUX Kees en Sander niet hebben in de trein gerookt
‘Kees and Sander not have in the train smoked’

The –AUX group responded significantly faster to non-raised lexical verbs (*NEG – LEX) than raised lexical verbs (LEX – NEG), thereby confirming the pattern in their production. When presented with auxiliary sentences, however, they responded significantly faster to the grammatical auxiliary sentences (AUX – NEG) than to ungrammatical auxiliary sentences (*NEG – AUX), even though they did not use auxiliaries in production. The +AUX group did not show any clear effects.

Taken together, these findings are in line with the idea that functional categories are absent in early L2 Dutch. Learners who are at a beginning level of acquisition do not produce auxiliary verbs and do not show evidence of verb-raising in production; moreover, in sentence processing they react faster to sentences with non-raised verbs than with verbs raised over negation. There are some questions that cannot be answered on the basis of these data, however. First, why did the +AUX group fail to show any effect in processing? Whereas the null result for lexical verbs seems to reflect the optionality found in production, the null effect for auxiliary sentences is more difficult to explain. Second, an important question is why the –AUX group showed a preference for auxiliaries in a correct position even though they were not able to produce such verbs in their own speech.

One possible explanation for this is that an underspecified ‘incipient’ functional category was present in learners’ L2 grammar, which, however, was not yet manifest in learners’ production for performance reasons. When learners have to produce utterances themselves, they may not show evidence of this for reasons of processing or communicative pressure (Epstein et al. 1996; Prévost & White, 2000). Alternatively, the findings might be explained in terms of semantic scope marking: since auxiliaries lack clear semantic content of their own, structures in which the semantic scope relations are most transparent are those in which the negator has scope only over the predicate, and the auxiliary precedes negation. As shown by the elicited-production data of the current study as well as earlier findings (Becker, 2005; Dimroth, 2008), learners consistently place the auxiliary before negation from the very first occurrences of auxiliaries. A possible explanation of the processing data, then, is that sentences in which auxiliaries are not included under the negator’s scope

domain have semantically transparent scope relations, and so are easier to process than sentences in which auxiliaries are included in the scope domain of negation.⁴

7.3 Research questions

The main aim of this chapter is to find out whether a purely syntactic account can fully account for the data or whether semantic scope marking influences verb placement at early stages of L2 acquisition (and if so, to what extent). To answer this question, the negation study described above was replicated with sentences containing temporal adverbials. The main goal of this comparison was to answer the following question:

1. Do Moroccan and Turkish learners process and produce verb placement in sentences with temporal adverbials in the same way as with negation?

On a purely syntactic account such as structure building, the answer to this question should be positive: learners do not differentiate between negation and adverbials because all they have to learn is how to build up syntactic structure. If learners are sensitive to semantic scope marking, however, differences in behavior can be predicted on the basis of the type of adverbial used.

Previous research has shown that L2 learners place different types of temporal adverbial in different sentence-positions as a function of their scope properties. More precisely, it has been found by Starren (2001) that temporal adverbials with broad scope occur in the topic component in learner language: they appear in sentence-initial position or directly after the subject. Adverbials that semantically affect the predicate directly precede or follow the predicate. In Chapter 6, it was found that ‘adverbials of position’ (TAPs) such as ‘yesterday’ and ‘at five’ typically occur in the topic component of utterances: such adverbials place a time span on the time line, thus providing a temporal

⁴ Note that these explanations are not mutually exclusive. In fact, learners might have a functional category, AgrP, specified in their grammar, while still being sensitive to principles of semantic scope marking.

anchorpoint to which the rest of the sentence can be embedded. ‘Adverbials of contrast’ (TACs) such as ‘still’ and ‘again’ were found to occur close to the predicate: they often precede the verb, but they also often follow it. The two other types of adverbials that can be distinguished (adverbials of frequency [TAFs] and adverbials of duration [TADs]) can also be predicted to occur close to the predicate. These adverbials modify the internal temporal properties – duration or frequency – of time spans, or rather of the situations that obtain at these time spans (Starren, 2001). Therefore, they should also occur close to the predicate part over which they have scope rather than in the topic part of the utterance.

Based on this opposition between ‘temporal adverbials of position’ and adverbials that express duration, frequency or contrast, a number of predictions can be formulated. First, adverbials of position will occur in sentence-initial position or in the position directly following the subject in the data of (beginning) learners. Since these adverbials occur in the topic part, they are predicted to precede the verb, irrespective of whether it is a lexical verb or an auxiliary. The other adverbials are expected to occur close to the predicate, just as negation. Since they have scope over the predicate part of the utterance, they are predicted to precede lexical verbs, but follow auxiliary verbs, which fall outside the adverbials’ scope due to their ‘thin’ semantic content. In short, the prediction is that all types of adverbials precede lexical verbs but follow auxiliary verbs for reasons of scope marking, except for adverbials of position, which precede auxiliary verbs because they belong to the topic part of an utterance. This leads to the following question:

2. Are (beginning) learners of Dutch sensitive to semantic scope marking in sentences with temporal adverbials? More specifically: do they prefer adverbials to precede lexical verbs, but follow auxiliaries, except for adverbials of position, which precede both types of verb?

A further question can be derived from the fact that, in Dutch, the sentence-initial position can be filled with an adverbial, but not with negation. But some adverbials appear in initial position more often than others. The last research question therefore investigates whether adverbials differ in how often they occur sentence-initially.

Nineteen native speakers of Dutch also participated in the experiment as a control group. They were tested at the same type of school as the control speakers of the negation study. Like the L2 learners, the control participants had a relatively low level of schooling level (see footnote 18, Chapter 6). Their ages ranged between 16 and 20, with a mean age of 17:5.

7.4.2 Production tasks

The same film-retelling task and picture tasks that were used in the negation study were presented to the participants, with one exception: the Finite Story task used in the negation study was replaced with an additional picture story (i.e., ‘thief story’, see Appendix C).

7.4.3 Sentence-matching task

In a sentence-matching task, sentences are presented in pairs and participants are asked to judge whether the two sentences of a pair are the same or different. Judgments are given by means of a (timed) button press. The rationale behind the task is that the reaction times reflect participants’ perception of the grammaticality of a sentence: the faster a participant’s judgment, the more grammatical the sentence is assumed to be for this participant. The target sentences in the current task were similar to those in the negation study, except that a temporal adverbial was used instead of a negator in the position directly preceding or following the verb:

1. S – LEX – ADV Bart en Ivo lezen ’s ochtends de krant
‘Bart and Ivo read in the morning the paper’
2. *S – ADV – LEX Bart en Ivo ’s ochtends lezen de krant
‘Bart and Ivo in the morning read the paper’
3. S – AUX – ADV Bart en Ivo hebben ’s ochtends de krant gelezen
‘Bart and Ivo have in the morning the paper read’
4. *S – ADV – AUX Bart en Ivo ’s ochtends hebben de krant gelezen
‘Bart and Ivo in the morning have the paper read’

(48 target sentences and 72 filler items).⁵ To avoid any bias, the experiment used equal numbers of both matching and non-matching pairs and of grammatical and ungrammatical pairs. In addition to target and filler pairs, comprehension questions were included after each target pair and also, at variable intervals, after a third of the filler pairs. Such questions have been used in other processing studies to test whether participants stay ‘online’ during task performance. The questions in the case of the present study were all yes/no-questions, which participants responded to by pressing the ‘same’ button for ‘yes’ and the ‘different’ button for ‘no’. For an overview of the target sentences, see Appendix D4.

The task was performed in two sessions such that all items involving sentence-medial adverbials were presented together and all items containing sentence-initial adverbials were presented together. About half of the participants performed the ‘adverbial-medial’ session first, and the other half the ‘adverbial-initial’ session. Between these two sessions, participants performed the production tasks described above as well as an elicited-imitation task that is not further described in this chapter. Counterbalanced and pseudo-randomized lists were constructed as well as an additional version of each list in which the order of presentation was varied. Each list started with the same two filler pairs. Prior to the task, participants received oral instructions and performed a short training session. After they had completed half of the task, they could take a break of any length.

7.4.4 Coding and scoring

As in the negation study, learners’ production of the auxiliary verb *hebben* ‘have’ was used to group the learners into an –AUX and +AUX group. The –AUX group consisted of 24 Moroccan and 23 Turkish learners who did not produce a single instance of *hebben* in the film-retelling and picture story tasks. The +AUX group contained 26 Moroccan and 24 Turkish learners who produced at least one auxiliary verb. Verb placement was investigated for these learners in all sentences containing at least a temporal adverbial, a verb and a subject.⁶

⁵ Half of these fillers were also used in the sentence-matching task of the negation study.

⁶ The presence of a subject was considered necessary to determine the relative positions of the verb and the adverbial.

False starts and repetitions were discarded, as were manner adverbials such as ‘slowly’ and the elements *dan/toen* ‘then’ and *daarna* ‘afterwards’, which seem to have a discourse function in L2 acquisition rather than a purely temporal function for most learners (cf. Dietrich et al., 1995). In line with the analysis performed in the negation study, sentences with lexical verbs and sentences with auxiliary verbs were considered separately.

7.5 Results

In the following, the results for production will be considered first (section 7.5.1), followed by a presentation of the results for processing (section 7.5.2). Both sections present the data only for sentence-medial adverbials, so that the results can be directly compared to those for negation. The data for sentence-initial adverbials will be presented in the final subsection, 7.5.3.

7.5.1 Results for production

The data in Table 1 show how often the Moroccan –AUX and +AUX groups placed lexical verbs and auxiliaries before and after the adverbial. A distinction is made between four different types of adverbials: TAPs such as ‘now’, TADs such as ‘for an hour’, TAFs such as ‘always’, and TACs such as ‘again’. Notice that, in general, numbers are much lower for auxiliary verbs than for lexical verbs, and that most adverbials were of the TAP and TAC type.

Table 1. *Sentence-medial adverbials in the production data from the Moroccan learners*

	Placement	-AUX group (n=24)	+AUX group (n=26)
Adverbials of position (TAP)	S – LEX – TAP	3	8
	*S – TAP – LEX	8	5
	S – AUX – TAP	-	3
	*S – TAP – AUX	-	0
Adverbials of duration (TAD)	S – LEX – TAD	1	1
	*S – TAD – LEX	0	0
	S – AUX – TAD	-	0
	*S – TAD – AUX	-	0
Adverbials of frequency (TAF)	S – LEX – TAF	0	1
	*S – TAF – LEX	4	1
	S – AUX – TAF	-	0
	*S – TAF – AUX	-	0
Adverbials of contrast (TAC)	S – LEX – TAC	9	14
	*S – TAC – LEX	11	5
	S – AUX – TAC	-	3
	*S – TAC – AUX	-	0
Total	S – LEX – ADV	13 (36.1%)	24 (68.6%)
	*S – ADV – LEX	23 (63.9%)	11 (31.4%)
	S – AUX – ADV	-	6
	*S – ADV – AUX	-	0

This table shows that verb-raising over temporal adverbials is more frequent in the +AUX group than in the -AUX group. This difference is less clear than for negation, but still significant ($\chi^2(1) = 7.493$, $p = .006$). The data also show that verbs are raised over TACs such as *nog* ‘still’ and *weer* ‘again’ more often than over TAPs and TAFs in both the -AUX and +AUX group (see Chapter 6). The numbers for auxiliary verbs are too low to allow for any conclusions, but such verbs precede rather than follow adverbials in the data from the +AUX group. When we compare these data to the results for negation, we see that the Moroccan -AUX group in that study placed only 9% of all lexical verbs in a

raised position with respect to negation, whereas the current group places 36% of such verbs in a raised position with respect to adverbials.⁷

The data for the Turkish learners are given in Table 2.

Table 2. *Sentence-medial adverbials in the production data from the Turkish learners*

	Placement	-AUX group (n=23)	+AUX group (n=24)
Adverbials of position (TAP)	S – LEX – TAP	4	12
	*S – TAP – LEX	40	31
	S – AUX – TAP	-	1
	*S – TAP – AUX	-	0
Adverbials of duration (TAD)	S – LEX – TAD	0	1
	*S – TAD – LEX	1	9
	S – AUX – TAD	-	0
	*S – TAD – AUX	-	0
Adverbials of frequency (TAF)	S – LEX – TAF	1	0
	*S – TAF – LEX	1	5
	S – AUX – TAF	-	1
	*S – TAF – AUX	-	0
Adverbials of contrast (TAC)	S – LEX – TAC	5	19
	*S – TAC – LEX	9	34
	S – AUX – TAC	-	0
	*S – TAC – AUX	-	0
Total	S – LEX – ADV	10 (16.4%)	32 (28.8%)
	*S – ADV – LEX	51 (83.6%)	79 (71.2%)
	S – AUX – ADV	-	2
	*S – ADV – AUX	-	0

Verb-raising is also significantly more frequent in the Turkish +AUX group than in the Turkish -AUX group ($\chi^2(1) = 3.298, p = .049$). Unlike the Moroccan

⁷ At first sight, the finding that adverbials are in raised position more often than negation is surprising, given the results of Chapter 6, where the reverse pattern was found. This difference can be easily accounted for, however, by the different behavior of TAPs and TACs: in the current dataset, TACs were relatively more frequent (39/63) than in the dataset examined in Chapter (15/40), and since such adverbials tend to occur in post-verbal position, a relatively high overall percentage of post-verbal adverbials was found.

learners, who raised the verb relatively often, the Turkish –AUX and +AUX groups place verbs predominantly in non-raised position in both the –AUX and +AUX group. These differences between the Moroccan and Turkish learners are significant for both the –AUX groups ($\chi^2(1) = 4.886, p = .026$) and the +AUX groups ($\chi^2(1) = 24.490, p < .001$), meaning that the Moroccan learners raised lexical verbs over adverbials significantly more often than the Turkish learners, independent of proficiency level. What holds for both language groups, however, is that verbs are raised over TACs more often than over TAPs, but since frequencies are low these differences may be due to chance.⁸

In sum, the data suggest a different acquisition path than the data of the negation study discussed earlier. First of all, the Moroccan –AUX group's use of verb-raising challenges the idea that there is no functional category system at this stage of acquisition. Also, while the data from the beginning Turkish learners (–AUX group) are more in line with this idea, they clearly differ from the results for negation, too: the Turkish +AUX group showed only marginal use of verb-raising, even though, according to a structure building account, they should have acquired a functional projection. Rather, it is the presence of verb-raising in the learners' L1 that seems to play the major role: the Moroccan learners, coming from a language in which verbs are raised over temporal adverbials, place verbs to the left of adverbials more often than the Turkish learners, whose L1 lacks verb-raising.

The data from the sentence-matching task, which are presented in the next section, may help to determine to what extent these different factors (proficiency, L1 influence, and adverbial type) play a role. They allow also for a comparison between lexical verbs and auxiliary verbs; in the production data auxiliaries were not frequent enough to yield reliable results.

⁸ Note that adverbials are more frequent in the data from the Turkish learners than in the data from the Moroccan learners. The idea comes to mind that this is due to the fact that, according to some authors (Binnick, 1991), Moroccan Arabic does not have grammaticalized tense, but only marks aspect. Turkish has grammaticalized tense and aspect. Even though this difference might explain why the Turkish learners used more TAPs (marking the topic time for which an utterance holds), it is not clear how it could account for the Turkish learners' higher use of TACs: such adverbials mark the 'internal' temporal properties of events and therefore, are more closely related to aspect than tense.

7.5.2 Results for processing

7.5.2.1 Analyses

The same analyses were performed on the data as in the negation study. That is, only reaction times to ‘same’ pairs were taken into analysis, and all responses to ‘different’ pairs (fillers), as well as incorrect responses, and responses for which the comprehension question was incorrectly answered were removed from the dataset. Unlike in the previous study, where the data were cleaned by removing all outliers for a participant’s personal mean for a given condition, only extreme outlier cases (above 4000 ms and under 31 ms) were removed in the present study.⁹ This procedure, together with error deletion, resulted in the exclusion of 10% of all responses for the control group and 7% of all responses for the learner group. In fact, even more data were missing in the learner group: due to an error in the administration of stimuli lists, the data from two Moroccan and one Turkish participant could not be considered. Finally, six Moroccan and seven Turkish learners made too many errors for one or more conditions (resulting in missing values) to be taken into analysis. Altogether, there was a complete dataset for only 42 of the Moroccan learners and 39 of the Turkish learners. These learners’ reaction times were analyzed with repeated-measures ANOVAs in SPSS. Separate analyses were performed for the native speakers and the learners. Three within-subject factors were defined: ‘verb placement’ (raised vs. non-raised), ‘verb type’ (lexical verb vs. auxiliary), and ‘adverbial type’ (TAP vs. TAF). For the learners, there were two between-subject factors: ‘language’ (Moroccan Arabic vs. Turkish) and ‘learner group’ (–AUX group vs. +AUX group).

7.5.2.2 Results for all adverbials

First of all, let us consider the data without distinguishing between different types of adverbials. For the native speakers, a repeated-measures ANOVA with ‘verb placement’ as the within-subject factor did not yield an effect of ‘verb placement’ ($F(1,18) = .002, p > .1$ and $F(1,23) = .125, p > .1$). Thus, even

⁹ The reason for this was that the number of data points per condition - only three if type of adverbial was taken into account - did not allow strong cleaning.

though verbs raise obligatorily in Dutch, the control group did not respond faster to the grammatical ‘raising’ sentences than to the ungrammatical ‘no raising’ ones, as can be seen from the mean reaction times in Table 3.

Table 3. Results from sentence-matching for the native speakers (sentence-medial adverbials, mean reaction times in ms and standard deviations)

	Native speakers (n=19)
1. S – LEX – ADV	278.7 (93)
2. *S – ADV – LEX	287.9 (84)
3. S – AUX – ADV	285.2 (74)
4. *S – ADV – AUX	275.2 (57)

An error analysis showed, however, that the native speakers produced a significantly higher number of incorrect responses in the ungrammatical than in the grammatical condition: more errors occurred in the *NEG – V and *NEG – AUX than in the V – NEG and AUX – NEG conditions ($\chi^2(1) = 8.141, p = .004$). The absence of a reaction-time effect for the native speakers is in line with some earlier studies, which also report no processing advantage for native speakers in sentence-matching studies testing adverbial placement (Clahsen, Hong, Sonnenstuhl & Henning, 1995¹⁰; Gass, 2001). Others using this task have found clear grammaticality effects for native speakers, however (Beck, 1998; Eubank & Grace, 1996).

The data for the L2 learners are given in Table 4. A main effect of language was found ($F(1,74) = 3.000, p = .024$), but no effect of ‘learner group’ ($F(1,74) = 1.619, p > .1$), so the data from the –AUX and +AUX groups are collapsed.

¹⁰ In this study, adverbs did not precede the verb but occurred in sentence-initial position and the verb was either correctly placed in V2 position or occurred sentence-finally, as in the following sample items:

Jetzt lernst du Englisch in einem Sprachkurs ‘Now learn you English in a language course’

**Jetzt du Englisch in einem Sprachkurs lernst* ‘Now you English in a language course learn’

The authors did not find a grammaticality effect for native speakers of German, but they did find clear effects for subject-verb agreement and verb placement in embedded clauses. They concluded that sentence-matching is insensitive to movement operations in main clauses. The clear effect that was reported in Chapter 4 for the handling of verb-raising over negation by native speakers of Dutch casts doubt on this explanation, however.

Table 4. *Results from sentence-matching for the learners (sentence-medial adverbials, mean reaction times in ms and standard deviations)*

	Moroccan learners (n=42)	Turkish learners (n=39)
1. S – LEX – ADV	537.4 (310)	617 (317)
2. *S – ADV – LEX	654.6 (399)	510.5 (295)
3. S – AUX – ADV	560.5 (287)	585 (438)
4. *S – ADV – AUX	619 (368)	570.5 (447)

A repeated measures ANOVA with ‘verb placement’ as a within-subject factor and ‘language’ and ‘learner group’ as between-subject factors revealed an interaction between ‘verb placement’ and ‘language’ ($F(1,77) = 8.099$, $p = .004$ / $F(1,46) = 4.232$, $p = .045$). This effect should be interpreted as follows: the Moroccan learners responded faster to the grammatical stimuli in both the lexical verb and auxiliary condition ($F(1,41) = 7.070$, $p = .011$ and $F(1,23) = 3.279$, $p = .083$), but the Turkish learners responded faster to the ungrammatical sentences in both conditions. When the difference was tested in isolation, it did not reach significance, however ($F(1,38) = 2.205$, $p > .1$ and $F(1,23) = 1.617$, $p > .1$).

It can be noted from Table 4 that the standard deviations are high, especially those for the auxiliary sentences in the Turkish group. A close look at the data reveals that eight learners made a large number of errors, which resulted in only two or three data points per condition. Since the presence of so few responses per condition undermines the analysis’ reliability, a new analysis was run on the data excluding the eight learners with three or less data points per condition. The results, which are given in Table 5, show a strong interaction effect between ‘verb type’ and ‘verb placement’ ($F(1,30) = 11.115$, $p = .002$ and $F(1,23) = 7.676$, $p = .011$). This effect signals that the Turkish learners responded significantly faster when the lexical verb followed the adverbial than when it preceded it. With auxiliary verbs, on the other hand, learners’ responses were faster when the auxiliary preceded the adverbial than when it followed it. Interestingly, this is the exactly the same pattern as was found for the–AUX group in the negation study.

Table 5. *Results from sentence-matching for the Turkish learners with ‘normal’ error rates (sentence-medial adverbials, mean reaction times in ms and standard deviations)*

	Turkish (n=31)
1. S – LEX – ADV	611.3 (297)
2. *S – ADV – LEX	445.8 (209)
3. S – AUX – ADV	467.6 (250)
4. *S – ADV – AUX	531.4 (327)

When we compare the processing data to the production data, some patterns are noteworthy. First, the Moroccan learners responded faster to raised than non-raised verbs, whereas the Turkish learners showed the opposite effect; this is in line with the production data. No differences were found between the – AUX and +AUX groups in processing, however, while in production the +AUX group raised verbs over adverbials significantly more often than the – AUX group. Since some effects might have been masked due to collapsing all the items regardless of adverbial type, the following section presents separate analyses for the items containing adverbials of position (TAPs) and those with adverbials of frequency (TAFs).

7.5.2.3 Adverbials of position versus adverbials of frequency

The native speaker data showed no effects again: the factor ‘adverbial type’ yielded a result that was far from significant ($F(1,17) = .005, p > .1$ and $F(1,22) = .002, p > .1$). The Moroccan learners responded alike to sentences with TAPs and TAFs - significantly faster to the grammatical sentences in which a lexical verb or auxiliary verb preceded the adverbial ($F(1,41) = 7.070, p = .011$ and $F(1,23) = 3.279, p = .083$), regardless of whether the adverbial was a TAP or TAF.

The data from the Turkish learners, in contrast, showed a significant interaction between ‘verb placement’, ‘verb type’, and ‘adverbial type’ ($F(1,29) = 6.485, p = .016$ and $F(1,21) = 6.768, p = .017$). More precisely, this effect shows that when sentences contained TAPs, the Turkish learners reacted significantly faster to the ungrammatical sentences in which lexical verbs or auxiliaries followed the adverbial than to the grammatical sentences ($F(1,29) = 7.306, p = .011$ and $F(1,21) = 4.133, p = .067$). But when sentences contained TAFs, they responded faster to the ungrammatical sentences when these

contained lexical verbs, but to the grammatical sentences when they contained auxiliaries ($F1(1,29)= 6.534, p= .016$ and $F2(1,21)= 2.857, p> .1$). Both effects are only significant over subjects, and not over items, however. Table 6 shows the reaction times and standard deviations for the two groups. For this analysis, the responses from the eight Turkish learners with high error scores were excluded. An analysis run on all data from the Turkish learners, including those with high error scores, yielded the same (but smaller) interaction effect over subjects, but not over items ($F1(1,37)= 4.161, p= .049$ and $F2(1,21)= 1.309 p> .1$).

Table 6. *Results from sentence-matching for the learners (sentence-medial TAPs and TAFs, mean reaction times in ms and standard deviations)*

		Moroccan learners (n=42)	Turkish learners (n=30) ¹¹
Adverbials of position (TAP)	S – LEX – TAP	531.2 (354)	691.3 (504)
	*S – TAP – LEX	679.9 (554)	432.9 (282)
	S – AUX – TAP	513.6 (389)	478.0 (342)
	*S – TAP – AUX	585.6 (404)	449.9 (402)
Adverbials of frequency (TAF)	S – LEX – TAF	543.5 (395)	538.3 (364)
	*S – TAF – LEX	629.3 (447)	457.6 (272)
	S – AUX – TAF	607.3 (338)	417.7 (292)
	*S – TAF – AUX	652.2 (479)	585.5 (411)

These results show that the interaction effect in the data from the Turks that was described above was due only to the items containing TAFs. Interestingly, then, we can conclude that TAFs pattern like negation in the data from these learners, but TAPs do not. For TAPs, Turkish learners of Dutch show a general preference for sentences in which the verb follows the adverbial, independently of whether this verb is a lexical verb or an auxiliary.

¹¹ Due to missing values (errors) for one learner in the auxiliary condition, this Turkish group consists of only 30 learners.

7.5.3 Summary

Unlike learners' processing of negated sentences, the processing of sentences with temporal adverbials turned out to be unrelated to learners' use of auxiliaries: the –AUX and +AUX groups showed the same behavior. Instead, clear L1 effects were found, which were absent in the negation study. The main effects of the adverbial study can be summarized as follows for the two language groups.

The Moroccan learners processed:

1. V – TADV faster than TADV – V
2. AUX – TADV faster than TADV – AUX
3. Hence, they preferred verbs in raised position regardless of verb type and adverbial type

The Turkish learners processed:

1. TAP – V faster than V – TAP, and TAF – V faster than V – TAF
2. TAP – AUX faster than AUX – TAP, but AUX – TAF faster than TAF – AUX
3. Hence, they preferred verbs in non-raised position, except for auxiliary verbs with respect to TAFs

As noted earlier, the effect for TAFs in the Turkish group is the same as those found for the –AUX group in the negation study. Otherwise, the results between that study and the present one are very different. These differences will be further commented on in the discussion section, when the findings from the two studies are compared. First, let us consider the data for the sentences in which an adverbial was placed in initial position. The main prediction here was that learners will have a preference for TAPs over TAFs in fronted, sentence-initial position in both production and processing regardless of whether a sentence contains a lexical verb or an auxiliary.

7.5.4 Adverbials in sentence-initial position

Table 7 again shows how often the Moroccan learners placed lexical verbs and auxiliaries to the left and right of adverbials (in sentence-medial position), but

adds to these data how often they placed the adverbial in sentence-initial position. No data for sentences containing auxiliary verbs are given due to the rarity of such sentences.¹²

Table 7. *Sentence-medial and sentence-initial adverbials in production for the Moroccan learners*

			-AUX group (n=24)	+AUX group (n=26)
Adverbials of position (TAP)	Medial	S – LEX – TAP *S – TAP – LEX	3 8	8 5
	Initial	TAP – LEX – S *TAP – S – LEX	1 23	6 22
Adverbials of duration (TAD)	Medial	S – LEX – TAD *S – TAD – LEX	1 0	1 0
	Initial	TAD – LEX – S *TAD – S – LEX	0 0	0 0
Adverbials of frequency (TAF)	Medial	S – LEX – TAF *S – TAF – LEX	0 4	1 1
	Initial	TAF – LEX – S *TAF – S – LEX	0 0	1 0
Adverbials of contrast (TAC)	Medial	S – LEX – TAC *S – TAC – LEX	9 11	14 5
	Initial	TAC – LEX – S *TAC – S – LEX	0 3	0 1
Total	Medial	S – LEX – ADV *S – ADV – LEX	13 (36.1%) 23 (63.9%)	24 (68.6%) 11 (31.4%)
	Initial	ADV – LEX – S *ADV – S – LEX	1 (3.7%) 26 (96.3%)	7 (23.3%) 23 (76.7%)

¹² Only three occurrences of auxiliaries with sentence-initial adverbials were found, all of which involved a TAP and lacked subject-verb inversion: *Nu die hond heeft trekken* 'Now the dog has pulled', *Nu die hond heeft allemaal gegeten taart* 'Now the dog has eaten the whole cake', and *En later hij heeft de bon gekregen* 'And later he has got the receipt'.

The data show that TAPs often occurred in sentence-initial position, typically in non-inverted structures of the type *TAP – S – V. Altogether, the Moroccan learners in the –AUX and +AUX groups placed 24/35 and 28/41 of all TAPs in sentence-initial position, respectively. TACs were only incidentally found in sentence-initial position: 3/23 and 1/20 for the –AUX and +AUX groups, respectively. These differences are significant: $\chi^2(1) = 17.200$, $p < .001$ and $\chi^2(1) = 21.502$, $p < .001$ for the –AUX and +AUX groups. Subject-verb inversion was infrequent overall, but more frequent in the +AUX group than the –AUX group (7/30 versus 1/27, $p = .037$, Fisher's exact).

Table 8 shows a very similar pattern for the Turkish learners: while TAPs were placed in initial position, TACs were almost exclusively sentence-internal. While the same tendencies hold for both learner groups, the difference is significant for the +AUX group ($\chi^2(1) = 24.254$, $p < .001$), but not for the –AUX group ($\chi^2(1) = 1.09$, $p > .1$).¹³ As for the Moroccan learners, inversion is infrequent overall and more frequent in the +AUX group than in the –AUX group (7/34 vs. 2/40, $p = .045$, Fisher's exact).

¹³ For this analysis, one utterance in which two instances of the same verb were produced – both before and after the subject – was not taken into consideration (i.e., *Weer pakt politie gepakt hem* 'Again takes police taken him'). A few other utterances of this sort were found in the dataset, even though not in combination with temporal adverbials. These cases are interesting, as they seem to reflect learners' struggle with working out the position that finite verbs should occupy in the target language.

Table 8. *Sentence-medial and sentence-initial adverbials in production data for the Turkish learners*

			-AUX group (n=23)	+AUX group (n=24)
Adverbials of position (TAP)	Medial	S – LEX – TAP *S – TAP – LEX	4 40	12 31
	Initial	TAP – LEX – S *TAP – S – LEX	2 31	6 25
Adverbials of duration (TAD)	Medial	S – LEX – TAD *S – TAD – LEX	0 1	1 9
	Initial	TAD – LEX – S *TAD – S – LEX	0 0	1 0
Adverbials of frequency (TAF)	Medial	S – LEX – TAF *S – TAF – LEX	1 1	0 5
	Initial	TAF – LEX – S *TAF – S – LEX	0 1	0 0
Adverbials of contrast (TAC)	Medial	S – LEX – TAC *S – TAC – LEX	5 9	19 34
	Initial	TAC – LEX – S *TAC – S – LEX	0 6	0 2
Total	Medial	S – LEX – ADV *S – ADV – LEX	10 (16.4%) 51 (83.6%)	32 (28.8%) 79 (71.2%)
	Initial	ADV – LEX – S *ADV – S – LEX	2 (5%) 38 (95%)	7 (20.6%) 27 (79.4%)

In sum, both language groups place TAPs in initial position more often than in sentence-internal position, and favor non-inverted structures (*TAP – S – V). Inversion is significantly more frequent in the +AUX groups, but not very frequent overall. TACs, in contrast, appear mainly in sentence-internal position, both before and after the verb, and rarely occur in sentence-initial position. This is in line with the hypothesis that TAPs are placed in topic position, whereas TACs occur close to the predicate (see Chapter 6 for a more detailed description of this idea). TACs are never used in combination with subject-verb inversion, but this might be due to the scarcity of the data.

FURTHER INVESTIGATING SEMANTIC SCOPE MARKING

Let us now turn to the data from the sentence-matching task to see how the groups processed sentences with sentence-initial adverbs. Table 9 presents the mean reaction times for the native speakers. For the analyses of these data, the following within-subject factors were defined: ‘adverbial type’ (TAP vs. TAC), ‘verb type’ (lexical verb vs. auxiliary), ‘verb placement’ (second vs. third position).

Table 9. Results from sentence-matching for the native speakers (sentence-initial TAPs and TAFs, mean reaction times in ms and standard deviations)

		Control group (n=19)
Adverbials of position (TAP)	TAP – LEX – S	348.7 (200)
	*TAP – S – LEX	278.4 (201)
	TAP – AUX – S	254.4 (129)
	*TAP – S – AUX	279.5 (119)
Adverbials of frequency (TAF)	TAF – LEX – S	307.5 (178)
	*TAF – S – LEX	303.1 (114)
	TAF – AUX – S	292.6 (118)
	*TAF – S – AUX	384.0 (249)

There was an interaction effect between ‘verb placement’ and ‘verb type’ that was significant over subjects ($F(1,18) = 4.546, p = .045$), but not over items ($F(2,21) = 1.644, p > .1$). This indicates that the control group responded faster to inverted sentences than non-inverted sentences when these contained auxiliaries, but not when these contained lexical verbs. A paired t-test showed, however, that the difference for lexical verbs was not significant ($t(18) = .810, p > .1$) and the difference for auxiliaries only approached significance ($t(18) = 1.924, p = .070$). A marginal effect of ‘adverbial type’ was found that was only significant over subjects ($F(1,18) = 3.694, p = .071 / F(2,19) = .546, p > .1$): the native speakers tended to respond faster to sentences with TAPs in first position than those with TAFs.

Table 10 contains the data for the L2 learners. No distinction is made between the Moroccan and Turkish learners, as no effect of language was found ($F(1,81) = .007, p > .1$). Since there was a significant interaction between ‘learner group’, ‘verb type’, ‘verb placement’, and ‘adverbial type’ ($F(1,81) = 8.563, p = .004$), separate datasets are given for the –AUX and +AUX groups.

Table 10. Results from sentence-matching for all the learners (sentence-initial TAPs and TAFs, mean reaction times in ms and standard deviations)

		-AUX group (n=45)	+AUX group (n=40)
Adverbials of position (TAP)	TAP – LEX – S	494.3 (375)	557.7 (333)
	*TAP – S – LEX	600.2 (435)	533.3 (291)
	TAP – AUX – S	757.7 (568)	538.5 (389)
	*TAP – S – AUX	566.3 (483)	648.4 (392)
Adverbials of frequency (TAF)	TAF – LEX – S	606.1 (406)	563.1 (341)
	*TAF – S – LEX	533.9 (406)	575.6 (327)
	TAF – AUX – S	520.3 (387)	552.5 (377)
	*TAF – S – AUX	542.4 (418)	514.5 (314)

The +AUX group showed no effects: the learners in this group responded remarkably similarly to TAPs and TAFs in first position regardless of whether the sentences were grammatical or ungrammatical or whether they contained a lexical verb or an auxiliary.

For the –AUX group, some effects were found. First, there was a significant interaction between ‘verb type’ and ‘verb placement’ ($F(1,44)=4.967$, $p=.031$ / $F(1,22)=4.843$, $p=.039$). In the lexical verb condition, learners responded slightly faster to the grammatical sentences than to the ungrammatical, non-inverted sentences (means: 550.2 vs. 567.1 respectively), but for sentences with auxiliaries, the opposite was found (means: 639 vs. 554.4). There was also a three-way interaction between ‘verb type’, and ‘adverbial type’ ($F(1,44)=6.103$, $p=.017$ / $F(1,22)=4.737$, $p=.041$): the –AUX group responded faster to sentences with TAPs in initial position than to sentences with TAFs in initial position for sentences with lexical verbs, but they showed the opposite pattern for sentences with auxiliaries (in the grammatical condition only). When tested in isolation, however, none of these differences was significant ($F(1,44)=2.155$, $p>.1$ / $F(1,22)=2.044$, $p>.1$ for lexical verbs, $F(1,44)=5.282$, $p>.1$ / $F(1,22)=2.998$, $p=.097$ for auxiliaries).

These results do not present unequivocal evidence for the idea that TAPs are preferred in the topic position and TAFs are preferred in sentence-internal position. First, the +AUX group learners did not show any preferences. Second, the –AUX group tended to react faster to TAPs in first

position than to TAFs, but this preference was slight and only held for grammatical sentences with lexical verbs. Finally, the native speaker data did not show clear effects of adverbial type except for a tendency to react faster to sentence-initial TAPs than to TAFs regardless of grammaticality ($p = .071$). Summarizing, the evidence that TAPs are more preferred in topic position than TAFs is only tentative: the –AUX group showed a small effect for lexical verbs but the opposite effect for sentences with auxiliaries, the native speakers only showed a tendency in this direction, and the +AUX group showed no effect.

7.6 Discussion

The point of departure for the study reported in this chapter was the finding that Moroccan and Turkish learners of Dutch who did not produce auxiliary verbs showed a preference for lexical verbs to precede negation but for auxiliary verbs to follow negation. These findings are compatible with both a purely syntactic account that considers functional categories to be absent at early stages of acquisition and to gradually develop over time as well as a semantic account that invokes scope marking. In a replication of the experiments used in this study with sentences containing temporal adverbials, Moroccan and Turkish learners of Dutch showed a different acquisition path for verb placement with respect to temporal adverbials than for negation.

First of all, the two studies differ in the amount of L1 influence that was found. While the L1 did not influence the acquisition of verb placement in negated sentences, in sentences with adverbials, the Moroccan and Turkish learners differed in both the production and processing of verb placement in (see also Chapter 6). In production, verb-raising over adverbials was rather frequent in the data from the Moroccan learners regardless of whether these learners produced auxiliaries. The Turkish learners, in contrast, overwhelmingly placed verbs to the right of adverbials in both the –AUX and +AUX group. In processing, the Moroccan learners showed an overall preference for correct verb placement, while the Turkish learners reacted differently to different types. Interestingly, they showed the same pattern with respect to TAFs as in the negation study (*TAF – V, AUX – TAF), but not with respect to TAPs, for which they showed an overall preference for non-raised verbs (*TAP – V, *TAP – AUX). The results for sentence-initial adverbials did not show L1

influence and are difficult to explain in a straightforward manner: there was no clear overall preference for TAPs over TACs in initial position, counter to what was predicted, but the preference for TAPs in initial position showed complex interactions with both verb type and verb placement.

Taken together, these findings suggest that the acquisition of verb-raising over negation is related to the acquisition of auxiliaries and proceeds independently of the L1. The acquisition of verb-raising over temporal adverbials, however, is less clearly related to the acquisition of auxiliary verbs (in elicited production), or even unrelated (in processing), and shows clear L1 influence. Now, how should these outcomes be reconciled with the different theories of verb placement in early L2 acquisition?

The data from both studies are in line with the conclusion of earlier chapters that functional categories are absent at early stages of L2 Dutch and have to 'build up'. Evidence comes from the finding that there is little systematic verb-raising over negation at an early stage of acquisition, and when it does occur it is (almost) absent with certain types of adverbial (TAPs). But the data are not fully compatible with a purely syntactic approach such as structure building. We have seen that they can best be explained if we also take semantic scope marking, input patterns, and learners' L1 into account. Without such factors, we cannot explain why learners showed different verb placement preferences in negated sentences and sentences with temporal adverbials. Scope marking alone is not enough: although it can explain why the Turkish learners showed different preferences for TAPs and TAFs in auxiliary sentences and they had a slight preference for TAPs over TAFs in initial position, it cannot explain why the Moroccan learners did not show an effect of adverbial type and why they preferred TAPs over TAFs in initial position only in sentences with lexical verbs.

It is not surprising that scope marking alone cannot account for the placement of verbs with respect to temporal adverbials, since the scope-bearing properties of adverbials are not so clear. As argued above, TAPs often have scope over the entire sentence (they set the topic time), but they need not necessarily do so. They can also appear in focus position, where they have a more limited scope. TAFs and TACs are often assumed to have scope over the predicate, but they can also be placed sentence-initially where they have the entire sentence in their scope. Thus, unlike negation, adverbials can appear in different sentence positions that are subject to complex restrictions and

interactions. The example in (14) shows, for example, that *vandaag* ‘today’ can occur in sentence-final position, but *vaak* ‘often’ cannot.

- (14) Hij gaat naar school vandaag/*vaak
 He go.3.sg to school today/*often
 ‘He goes to school today/often’

Negation is also a more uniform category than adverbials in the sense that one type of negator (*niet*) is clearly the most frequent, but there many kinds of adverbials. This makes it likely that item-specific properties play a relatively large role in the acquisition of the placement of adverbials. Both these facts that the placement of adverbials is subject to complex constraints and that they are a less uniform category may explain why less consistent results were found in the present study than in the negation study. In particular, the finding that native speakers’ preferences were much less clear in the present study than in the negation study is in line with this idea and suggests that processing adverbial placement is not just a matter of grammaticality.

Since neither the input nor adverbials’ scope marking properties provide straightforward cues to where to place the verb relative to the adverbial, learners seem to fall back on their L1 more heavily when acquiring the placement of adverbials than they do for negation. In the current study, Moroccan learners of Dutch, who are familiar with verb-raising from their L1, preferred verbs to the left of adverbials in both production and processing, whereas Turkish learners placed verbs to the right of adverbials and showed clearer effects of scope marking. This suggests that the extent to which L2 learners apply a principle of ‘transparent scope marking’ might depend on an element’s scope-bearing properties. When an element’s scope properties are relatively transparent, as in the case of negation, learners stick to scope marking as an important organizing principle and show little L1 influence. But when an element’s scope properties are less clear, as with most adverbials, learners seem to rely on their L1 knowledge more strongly. Of course, learner’s greater reliance on L1-based structures in the case of adverbials might also be related to the fact that adverbials show up in different positions in the input, but since this is again related to scope marking, it is hard to disentangle the relative influence of scope marking and input patterns.

The current results suggest that the idea that the acquisition of verb-raising in L2 acquisition boils down to adding a functional category is too simple if one wants to take into account different types of structure. Acquiring verb placement in negated sentences is a different task from acquiring verb placement in sentences with adverbials. This finding has important implications for form-oriented studies in which the two types of structures have either been lumped together (Vainikka & Young-Scholten, 1996a, b) or examined independently of each other (see Meisel, 1997; Clahsen, 1988 for negated sentences and Beck, 1998; Eubank, 1993/94; Eubank & Grace, 1996; White, 1991 for adverbial sentences). The present study shows that by comparing different types of structure we can gain a better understanding of the various factors that play a role in the acquisition process, as well as of their relative weight.

Chapter 8

Summary of the results and implications

This dissertation addressed the acquisition of finiteness in Dutch as a second language. It presented a series of studies that focused on different aspects of the acquisition process as well as on their interplay: the acquisition of light verbs such as modals and auxiliaries, the marking of subject-verb agreement, and the placement of verbs relative to negation and temporal adverbials. Comparisons were made between elicited production data and results obtained in elicited imitation and/or sentence-matching.

The results indicate that Moroccan and Turkish learners of Dutch pass through a series of stages when they proceed from a non-finite to a finite system. These stages are strikingly similar for both language groups, even though Moroccan Arabic and Turkish are typologically quite distinct. This is not to say that no differences were observed. But Moroccan and Turkish learners of Dutch differ mainly in the degree to which they use a certain structure at a given stage of acquisition rather than in whether they use it at all.¹

In this last chapter, the results that were presented in Chapter 3 to 7 will be summarized and discussed in relation to each other. The contributions the dissertation makes to earlier research on L2 acquisition are then discussed. The chapter is rounded off with a discussion of the studies' limitations as well as an overview of issues that remain for further research.

8.1 Summary of the main findings

The first study, presented in Chapter 3, concentrated on the acquisition of light verbs such as the copula, modal and auxiliary verbs. Data from elicited

¹ An exception to this is learners' preference for verb placement in adverbial sentences in both production and processing (Chapter 7). Whereas the Moroccans produced V – ADV orders relatively early in acquisition and had a preference for such structures in processing, the Turkish learners mainly produced ADV – V order and showed an effect of adverbial type in sentence-matching: AUX – TAF was preferred over TAF – AUX, while TAP – AUX was preferred over AUX – TAP.

production suggested that Moroccan and Turkish learners acquire the Dutch light verbs in the following order:

1. Copula
2. Modal verbs/*gaan* 'going to'
3. *is* + lexical verb
4. Auxiliaries

In line with earlier findings for L2 German and Dutch, the data suggested that *hebben* is crucial for the acquisition of finiteness: with very few exceptions, verb-raising over negation was only found in the data of those learners who had acquired the auxiliary *hebben*. As for the other light verbs, the data showed that light verbs with the least semantic content, such as the copula and *hebben*, preceded negation more consistently than light verbs with more semantic content such as modals and *gaan*. This finding provides evidence for the role of scope: due to their semantic content, the copula and *hebben* fall more clearly outside the scope of negation than, for example, modal verbs that express semantic notions such as volition.

Chapter 4 compared the elicited production findings from Chapter 3 to data from two more controlled tasks: elicited imitation and sentence-matching. The results further supported the crucial role of *hebben* in the acquisition process. Learners who did not produce *hebben* moved lexical verbs from a position preceding negation to a position following negation in elicited imitation. In sentence-matching, they processed sentences with lexical verbs following negation significantly faster than sentences with verbs preceding negation. The learners who could use *hebben*, in contrast, moved lexical verbs from a non-raised to a raised position (Moroccans) or produced both types of change (Turks) in elicited imitation and showed no preference for raised or non-raised verbs in sentence-matching. A puzzling result is the lack of an effect for auxiliary sentences in the latter group: these learners did not show a processing preference for auxiliaries to precede negation even though in production, they consistently placed auxiliaries in a correct position. The results from Chapter 4 show strongly that auxiliaries are important for the acquisition of finiteness: learners behaved differently before and after the acquisition of auxiliaries, and they did so not only in production but also in tasks that assess more 'passive' L2 knowledge. Finally, the data showed that beginning learners may have linguistic knowledge of the placement of *hebben* before they use

auxiliaries in production. These learners' preferences for correct auxiliary placement were quite robust – and even stronger, often, than for the learners who could use auxiliaries.

In Chapter 5, the possible relation between finiteness (agreement) and verb-raising in L2 Dutch was investigated. Elicited-production data from film-retelling and picture stories demonstrated such a relation overall: verbs preceding negation were typically finite, whereas verbs following negation were non-finite. A closer look at the data showed, however, that this held only for the more advanced learners in the sample. Less advanced learners mainly produced non-raised, non-finite verbs, but when they did produce finite verbs they could also be placed after negation. In elicited imitation, these less advanced learners did not show a preference for finite verbs to occur in a raised position, whereas they had a strong preference for non-finite verbs to be non-raised. Taken together, these findings indicate that functional categories are not present at the earliest stages of acquisition. This is in line with accounts by Meisel (1997) and Vainikka and Young-Scholten (1996) and goes counter to the 'missing surface inflection hypothesis' (Prévost & White, 2000). The production data from the more advanced learners showed that there is a relation between finiteness and verb-raising at later stages of acquisition. In UG-terms, this can be taken as evidence that functional categories are absent at the earliest stages of L2 Dutch, but intact as soon as they emerge.

Chapter 6 concentrated on the placement of verbs in relation to negation and temporal adverbials. Elicited-production data showed that learners of Dutch placed verbs to the right of negation more consistently than to the right of temporal adverbials. This difference only held for adverbials such as 'today' (TAPs), however, and not for adverbials such as 'again' (TACs), which show the same distributional properties as negation. The following explanation was proposed: TAPs mark the topic time of an utterance so they mainly occur in the topic part of an utterance (i.e., either in sentence-initial position or between other topical expressions and the verb). TACs and negation, however, express how a certain state of affairs (expressed by a predicate) is related to a given topic, and they only have scope over the predicate. They therefore occur between the topic and the predicate, where they link the two parts and interact with finiteness marking which has a similar 'linking' function. Three findings support this hypothesis: (i) in double-adverbial constructions, the first adverbial is always a TAP while the second is a TAC, (ii) adverbials in sentence-initial (fronted) position are almost always of

the TAP type, and (iii) there is an interaction between finiteness marking and placement relative to the verb for TACs and negation, but not for TAPs.

The proposal that scope marking is an important principle at early stages of acquisition was taken up in Chapter 7, which compared the results from the negation study described in Chapter 4 with those from verb placement in sentences with temporal adverbials. Both production and processing data were investigated. The aim of the study was to find out whether there is evidence for the role of scope marking or whether a purely syntactic explanation (absent functional categories) can satisfactorily account for verb placement in early L2 Dutch. Some clear differences were found between verb placement in negated sentences and sentences with adverbials. Most importantly, the placement of adverbials was less strongly influenced by learners' ability to use auxiliaries than the placement of negation and it was also subject to L1 influence. There was also some evidence for the role of scope marking: the Turkish learners showed a processing preference for verbs to occur to the right of TAPs regardless of verb type (lexical verb vs. auxiliary), but they processed TAFs faster when they preceded lexical verbs and followed auxiliaries. Taken together, these results suggest that a syntactic account that postulates absent functional categories cannot tell the whole story. Specifically, it cannot explain (i) why learners place verbs to the left of adverbials before they do so for negation, (ii) why they behave differently with respect to different types of adverbials, and (iii) why Moroccan and Turkish learners have different preferences. Various factors in addition to syntax seem to play a role: scope marking, L1 influence, input frequency, and perhaps others.

8.2 From a non-finite to a finite system in L2 Dutch

Since all the studies were based on the same or comparable learner groups and the same tasks or task types were used across the studies, it is possible to directly compare the results. In the following, an overview is given of how finiteness is acquired in L2 Dutch. It is important to keep in mind that this description holds for a specific group: poorly educated, beginning learners of Dutch with Moroccan or Turkish as their L1 who acquire the L2 in an immersion setting, but have relatively little contact with it.

At the earliest stage of acquisition, these learners typically produce utterances in which a non-finite lexical verb occurs in predicate position: a topic

SUMMARY AND IMPLICATIONS

may but need not be present (Jordens & Dimroth, 2006). Light verbs are not yet used at this stage, except for the copula, which seems to emerge first. If sentences are negated, the negator occurs between the topic and the predicate for reasons of scope marking, resulting in NEG – V order when the predicate contains a verb. In negated sentences, the copula is often left out, which suggests that at this early stage it is an assertion marker and not yet a marker of tense (Becker, 2005; Dimroth, 2008). The following examples, taken from film-retelling data, illustrate the type of structures found at this early stage:

- (1) (Top)– Predicate Charlie Chaplin kijken
 Charlie Chaplin look.*inf*
 ‘Charlie Chaplin is looking’
- (2) (Top)– NEG – Predicate De vrouw niet doen
 The woman not do.*inf*
 ‘The woman does not do (has not done this)’
- (3) (Top)– COP– Predicate De blauwe meneer is wakker
 The blue man be.3.sg awake
 ‘The blue man is awake’
- (Top)– NEG– Predicate Hij niet wakker
 He not awake
 ‘He is not awake’

The two language groups differ in their use of verb forms: the Moroccan learners mainly produce verbs ending in *-o*, whereas the Turkish learners mostly use verbs ending in *-en*, irrespective of syntactic context (Jagtman, 1994; Jansen, Lalleman & Muysken, 1981). Both groups also produce forms that look finite, but there is no systematic relation yet between a verb’s morphological markings and the syntactic context it appears in. This is illustrated in (4), where a form that would have to be analyzed as a finite form in the target language follows negation:

- (4) (Top)– NEG – V_{fin} Rode man niet loopt
 Red man not walk.*fin*
 ‘The red man does not walk (wake up)’

Somewhat later, learners start to use modal verbs and the light verb *gaan*. While these verbs mostly precede negation, they can incidentally also follow the negator:

(5) (Top)– MOD– NEG– V Maar hij wil niet betalen
 But he want not *pay.inf*
 ‘But he does not want to pay’

(6) (Top)– NEG– MOD– V Ook niet wil betalen
 Also not want *pay.inf*
 ‘He does not want to pay either’

The Moroccan learners make more frequent use of modals and *gaan* than the Turkish learners. This is especially true of *gaan*, which is barely used by the Turkish-speaking learners.

Still later, a construction consisting of the verb form *is* and a lexical verb appears. In negated utterances, *is* usually precedes negation, but it can also follow the negator. It occurs as a free morpheme linking the non-finite, lexical information expressed by the predicate to the topic. There is an important indication that *is* (like the copula) marks assertion: it sometimes occurs in complementary distribution with negation, as illustrated in (7) and (8):

(7) (Top)– NEG– Vinf Eerste niet slapen
 First one not *sleep-inf*
 ‘The first one does not sleep’

(8) (Top)– IS – Vinf Hij blauwe is bed slapen
 He blue one is bed *sleep.inf*
 ?‘The blue one is sleeping in his bed’

In all the stages discussed so far, learners apply a simple scope marking principle when they place temporal adverbials in a certain position: temporal adverbials of position (TAPs) go in the topic part of the sentence where they bear scope over the entire sentence, while temporal adverbials of contrast (TACs) appear between the topic and the predicate or within the predicate, where they have scope over the predicate.

SUMMARY AND IMPLICATIONS

- (9) TAP – Top – Predicate² Nu bal blijft in de boom
 Nu ball stay_{fin} in the tree
 ‘Now, the ball stays in the tree’
- (10) Top – TAP – Predicate Hij nu lekker slapen in bed
 He now well sleep_{inf} in bed
 ‘Now, he is sleeping pleasantly in his bed’
- (11) Top – TAC – Predicate Bal nog zitten in de boom
 Ball still sit_{inf} in the tree
 ‘The ball is still stuck in the tree’
- (12) Top – Predicate – TAC Bal staat nog boom
 Ball stand_{fin} still tree
 ‘The ball still stands in the tree’

While negation is consistently pre-verbal at this stage, TACs (as well as TAFs) incidentally also appear after the verb (see (12)), in particular in the data from the Moroccan learners. This is presumably because adverbials have more ambiguous scope marking properties in comparison to negation.

At these early stages of acquisition, L2 learners of Dutch order the elements in their utterances primarily according to principles of information structure and semantic scope marking. They produce utterances consisting of a topic and a predicate, and scope-bearing elements are placed adjacent to the domains they have scope over. Light verbs may be used to ‘link’ the predicate to the topic, but the verbal status of these elements is not yet clear. Auxiliary verbs are absent, except for some rare occurrences of unanalyzed forms such as *hebje* ‘have-you’. Lexical verbs typically show up in a ‘default form’; inflections do not yet reflect a functional use of finiteness marking. Taken together, these are indications that the functional category system of the target language has not yet been acquired. Table 1 summarizes the structures that Moroccan and

² For the structures in (9) to (12), only topic (pronoun or NP)-containing utterances were considered, since otherwise there is no way to determine the relative ordering of the elements in the sentence.

SUMMARY AND IMPLICATIONS

examples. Exceptions to this pattern involve non-finite verbs in raised position, such as (16), rather than finite verbs in non-raised position.

- | | | | | | | |
|------|-------------------------------|----------------------------------|------------------|------|------------------|-----------|
| (14) | Subj – V _{fin} – NEG | Hij | pakt | niet | bal | |
| | | He | take. <i>fin</i> | not | ball | |
| | | ‘He does not take the ball’ | | | | |
| | | | | | | |
| (15) | Subj – NEG – V _{inf} | Die man | | niet | pakken | die brood |
| | | The man | | not | take. <i>inf</i> | the bread |
| | | ‘The man does not take he bread’ | | | | |
| | | | | | | |
| (16) | Subj – V _{inf} – NEG | Hij | springen | niet | | |
| | | He | jump. <i>inf</i> | not | | |
| | | ‘He does not jump’ | | | | |

The same relation applies to the placement of temporal adverbials of contrast and finiteness marking:

- | | | | | | | |
|------|-------------------------------|--|-------------------|----------|-----------------|--|
| (17) | Subj – V _{fin} – TAC | Die man | slaapt | nog | in de kamer | |
| | | The man | sleep. <i>fin</i> | still | in the room | |
| | | ‘The man is still sleeping in his room’ | | | | |
| | | | | | | |
| (18) | Subj – TAC – V _{inf} | Politie man | weer | op grond | liggen | |
| | | Police officer | again | on floor | lie. <i>inf</i> | |
| | | ‘The police officer is again (still) lying on the floor’ | | | | |

Adverbials of position, in contrast, still occupy the sentence-initial position or appear directly after the subject, where they mark the topic time. This typically results in V3 structures in which two elements precede the verb:

- | | | | | | | |
|------|-------------------------------|-----------------------------|-----|------------------|-----------|--|
| (19) | TAP – Subj – V _{fin} | Nu | hij | pakt | telefoon | |
| | | Now | he | take. <i>fin</i> | telephone | |
| | | ‘Now he picks up the phone’ | | | | |

A summary of the structures that are found at the +AUX stage is given in Table 2:

Table 2. *Summary of structures found at +AUX stage*

Linguistic domain	Structures
Light verbs	Copula, modals/ <i>gaan, is</i> , auxiliaries
Negation with light verbs	LV – NEG
Negation with lexical verbs	NEG – LEX and LEX – NEG
Finiteness	Increasingly productive
Finiteness vs. verb placement	Strong contingencies for verb placement with respect to NEG and TACs (but: non-finite verbs sometimes precede NEG)

The acquisition of morphosyntactic finiteness is not at all abrupt: as in the previous stage, where learners developed slowly towards a morphosyntactic system, learners at the +AUX stage show a gradual development towards a system in which finiteness is marked consistently.

Summarizing, the acquisition of finiteness in L2 Dutch is characterized by two major stages: one at which learners are led by principles of scope marking and information structure, followed by a stage at which they (start to) use morphosyntactic rules. The findings strongly suggest that the transition from the first stage to the second stage is marked by the acquisition of auxiliaries. This corroborates earlier findings for L2 German (Becker, 2005; Dimroth, 2008) and L2 Dutch (Jordens & Dimroth, 2006). The current results add to these earlier findings by showing that learners with typologically different L1s show the same development: coming from different L1s in terms of word order as well as verb types (no auxiliaries in Turkish), the L2 learners from the two L1 passed through the very same stages. What differed was their rate of acquisition: the Moroccan learners developed faster than the Turkish learners in the domain of both syntax and morphology. The present results also show that the important role of auxiliary verbs can be detected even in imitation and processing data. At the –AUX stage, learners changed raised verbs into non-raised verbs in imitation and processed non-raised verbs faster than raised verbs in sentence-matching. At the +AUX stage, learners changed

non-raised into raised verbs in imitation but they did not show a preference for raised or non-raised verbs in processing. While the results for lexical verbs are perfectly in line with learners' production, the findings for auxiliaries were somewhat puzzling. First, a preference for target-like auxiliary placement was found for the learners who did not yet use auxiliary verbs in both negated and adverbial sentences. This is interesting, as it shows that learners' linguistic knowledge of auxiliary placement precedes their ability to produce auxiliaries. But no clear preferences were found for the +AUX group: these learners either behaved like the –AUX group (adverbial study) or showed no preferences at all (negation study).⁴

The finding that auxiliary verbs are crucial for the acquisition of morphosyntactic finiteness in L2 Dutch can best be explained within a function-oriented approach to L2 acquisition. As discussed in Chapter 3, finiteness can be considered a scope-bearing element: it marks assertion and has scope over the focus part of an utterance (Klein, 1998; 2006). Importantly, the scope structure is more transparent in sentences in which a light verb is the carrier of finiteness and a lexical verb appears in the focus part of the utterance than in sentences in which the lexical verb carries finiteness. This is especially clear in negated sentences where negation has scope to the right, over the focus part of the utterance. In sentences with light verbs, scope is over the lexical, non-finite part of the utterance but in sentences with a finite lexical verb, this transparency is lost. When L2 learners first start out learning Dutch, they produce utterances in which scope relations are transparent: negation precedes the non-finite lexical element. Their learning problem, then, is to give up these semantically transparent structures in favor of a semantically less transparent, target-like construction in which the carrier of finiteness is a lexical verb and negation follows this verb. According to Klein (1998), the occurrence of a lexical verb as a carrier of finiteness in declarative, main clauses results from an operation in which the finiteness operator FIN fuses with the topmost non-finite verb and attract it to its position. Learners thus have to learn that some

⁴ A small effect was found for the Moroccan learners in the negation study, however, where proficiency (defined as auxiliary use) correlated with a preference for either raised or non-raised lexical verbs. Why the +AUX group did not show clear effects is difficult to answer on the basis of the present data. A speculative idea put forward in Chapter 4 is that these learners are at a stage of acquisition at which many alternative linguistic representations are possible (raised/non-raised, finite/non-finite verbs etc.), and this might lead to the relaxation of grammatical constraints in processing.

element fuses with FIN. This is more difficult than inserting a separate form as a carrier of FIN, such as an auxiliary verb. In the traditional verb-raising accounts mentioned in some of the current studies, the finite verb is assumed to raise from a low position in the tree to a higher position. Regardless of whether one adopts a ‘fusing’ or ‘raising’ account of finiteness, however, it is clear that the placement of a finite, lexical verb high in the structure violates semantic scope transparency. It is this violation of semantic principles that L2 learners of Dutch have to master before they can adopt the morphosyntactic system of the target language. The current evidence strongly suggests that the acquisition of auxiliaries constitutes a major step in this development.

8.3 General contributions to L2 research on finiteness

This dissertation differs in two respects from previous work on the acquisition of finiteness, or from L2 acquisition research in general. First, cross-task comparisons (elicited production, elicited imitation, and sentence-matching) are not common in L2 acquisition research.⁵ Most studies deal with the acquisition of a linguistic phenomenon by focusing only on production or processing/comprehension. As pointed out on several occasions, however, there are clear merits to comparing data across different ‘knowledge domains’. First, more fine-grained knowledge can be obtained about L2 learners’ linguistic knowledge at a certain stage of acquisition. The comparison of linguistic knowledge that can be used for active production and co-existing more ‘passive’ knowledge raises the question, however, what it means to say that a learner has acquired something. If s(he) cannot yet put grammatical knowledge to active use, but can apply it to language processing, is it then warranted to say that the learner has ‘acquired’ the relevant part of the grammar? Apart from enabling us to obtain information about more subtle linguistic knowledge, a clear advantage of tasks like those in this dissertation is that data can be collected from learners at a stage of acquisition at which the relevant linguistic structures do not yet occur in production. Although it might seem surprising, the current results indicate that tasks such as sentence-matching and elicited imitation can be used with learners who have not progressed beyond the A1

⁵ Other studies in which production and comprehension/production have been compared are Grüter (2005/06) and Schimke (2009).

level (negation study and adverbial study), or even reached the A1 level (agreement study). A clear advantage is also that no written language is required in such tasks, making it possible to test illiterate learners and, more generally, beginning learners for whom reading in the L2 is not automated. Presenting poorly educated beginning L2 learners with language tasks in which processing is measured is far from common in L2 acquisition research. The current results suggest a promising line of further research.

The current dissertation also differs from earlier studies on finiteness in L2 acquisition in the types of structures investigated. Unlike other studies, which looked at either negated sentences or sentences with adverbials, the current study took a combined perspective. The results indicate that L2 learners may acquire similar structures in the target language in different ways. One might object that adverbials occupy different positions from negation in the target language, which may explain the differences in acquisition (see also Chapter 7). But other studies have found that learners may show a different acquisition process for linguistic structures that have the exact same properties in the input. Focus particles such as ‘also’ and negation, for example, occupy the same positions in German and Dutch, yet L2 learners place finite verbs before negation long before they do so with ‘also’ (Dimroth, to appear). Findings of this sort show that when investigating the L2 acquisition process, it is worth distinguishing between linguistic elements that occupy the same positions in the target language but have different functional properties. In the current study, the comparison of sentences with negation and adverbials was used to investigate the relative influence of scope marking in L2 acquisition. The results showed that verb placement with respect to negation is more systematic and less subject to L1 influence than verb placement with respect to adverbials. When we relate this to previous studies that investigated verb placement, one final observation is noteworthy. As argued in Chapter 4, some researchers have argued that verb-raising is optional from the earliest stages of acquisition on and some have even assumed that this optionality is permanent (Beck, 1998; Eubank, 1996). Other researchers have concluded that verb-raising is either used from the earliest stage onwards or immediately instantiated after subject-verb agreement has been acquired (Prévost & White, 2000; Vainikka & Young-Scholten 1996a, b). These radically different conclusions typically go hand in hand with a difference in the phenomenon that is studied: the former type of research looks at verb placement in relation to adverbials, whereas the latter also takes into account the placement of verbs in relation to negation.

Some of the disagreement among generatively oriented researchers about the presence or absence of functional categories could perhaps be solved if they used the same ‘diagnostic tools’ for investigating L2 data. To speculate further, the optionality that has been claimed for some stages of L2 acquisition, or even the entire process, may actually be due to the specific properties of (some types of) adverbials rather than to a general problem with verb-raising.

8.4 Limitations

Certain topics have not been covered by the studies presented in this dissertation. First, there is no attention to possible effects, such as age, motivation, and knowledge of other languages, but these might of course influence the acquisition of finiteness in L2 Dutch. For example, some of the differences between Moroccan and Turkish learners might be due not only to the typological differences between learners’ L1s, but also to the fact that most of the Moroccan learners knew French (or simply to the fact that they knew more than one language), while most of the Turks were monolingual.

Collapsing data from different learners can mask within-group variation. To avoid such problems, the current learner groups were often split into subgroups, but individual variation might still have gone unnoticed. In one particular case (the acquisition order of Dutch light verbs, see Chapter 3), the subgroups were small and so the reliability of the results is questionable. To avoid such problems, (multiple-)case studies can be used in which a small group of learners is studied intensively. The problem with studies of this sort, however, is that results often cannot easily be generalized to other learners.

Finally, the materials were not always constructed in an ideal way. It was not possible to carry out a good cross-task comparison of verb placement with respect to temporal adverbials because the temporal adverbials that learners produced (TAPs and TACs) were different from those for which responses were elicited in sentence-matching (TAPs and TAFs). This happened because it was not clear beforehand that learners would treat different types of adverbials differently. Although the incorporation of TACs in sentence-matching would have required a different task (i.e., discourse context is needed to embed such adverbials), it would certainly have been interesting to be able to compare learners’ production to their sentence processing preferences.

8.5 Open issues

The results of this dissertation give rise to a number of questions that must be left for further research. First, it would be interesting to test some of the present findings against longitudinal data. For instance, do learners indeed follow the ordering ‘copula > modals/*gaan* > ‘is’ > *hebben*’ when acquiring the Dutch light verbs? If so, is this ordering typical of L2 Dutch or do similar orders hold for other target languages (or L1 acquisition)? It would also be interesting to investigate the development of verbal morphology in relation to verb-raising in a longitudinal study. Unlike previous longitudinal studies on this topic, such as Prévost and White (2000), such a study should ideally contain production tasks as well as tasks that tap into more ‘passive’ linguistic knowledge such as the elicited-imitation task used in Chapter 5. In particular, more advanced L2 learners could be tested in such a task to see whether they behave in line with the missing surface inflection hypothesis.

Another question left for future research is what function the construction ‘*is*-lexical verb’ fulfills in early L2 acquisition. In the present study, it was argued that *is* functions as an early assertion marker, but more research is needed on this topic. One of the goals of such research may be to investigate whether - and if so - when and how *is* develops from an early finiteness or assertion marker into a marker of perfective aspect. It would also be interesting to test whether *is* indeed lacks an aspectual function at early stages of acquisition by eliciting controlled data from L2 learners in a comprehension experiment. It is an intriguing finding that the present learners (as well as learners in a series of other studies on different target languages) abundantly used ‘*is* – lexical verb’, despite the fact that it does not occur in Dutch.

A number of open questions also remain in the domain of adverbial placement. As pointed out above, a possible direction for future research would be to investigate how learners deal with TACs in processing or comprehension experiments. Future work could also be devoted to the acquisition of multiple scope-bearing elements in one sentence. While this was not a topic of interest in the present dissertation, the data suggest that L2 learners may have trouble combining adverbials and negation within one sentence. The following examples, produced by a Moroccan learner, illustrate this point:

(20) Zij nog kijk niet blij

She still look.*inf*not happy
 ‘She does not look happy yet’ (Target: Zij kijkt nog niet blij)

- (21) Ik niet spreken nog Nederlands
 I not speak.*inf*still Dutch
 ‘I do not speak Dutch yet’ (Target: Ik spreek nog geen Nederlands)

Learners’ development towards V2 could also be examined further. Even though they had acquired the morphosyntactic means to mark finiteness, the +AUX group learners in the current study did not place finite verbs in second position. Instead, they frequently produced structures in which two constituents preceded the verbs, as in (19) above. The processing data from Chapter 7 also showed no consistent preferences for verbs to be placed in second position yet. Ideally, comprehension and production tasks should be combined in future research to obtain better insights into the factors that play a role in the acquisition process, as well as detect the possible ‘gaps’ between production and processing. For example, do L2 learners show a processing advantage for V2 over V3 structures before they are able to produce V2 spontaneously?

Finally, the clear acquisition stages that were found to characterize Moroccan and Turkish learners’ development towards finiteness might serve as input to L2 classroom studies. First and foremost, would instructing L2 learners on auxiliary constructions before they start to use such constructions spontaneously speed up the acquisition of finiteness? The results from elicited imitation and sentence-matching showed that learners are sensitive to the placement of auxiliaries before they can produce them in their own speech. However, the imitation data also showed that learners often left out the auxiliary verb in their responses, suggesting that they have problems noticing or processing these verbs. This held even for the (Turkish) learners in the +AUX group, who could use auxiliaries in production. A question that arises on the basis of these results is whether enhancing L2 learners’ awareness of auxiliary verbs would not only lead to their acquisition of auxiliary verbs, but also ‘boost’ the transition from a system in which finiteness is expressed by lexical means to a system in which finiteness is marked morphosyntactically.

References

- Bardel, C. (2000). La negazione nell'italiano degli svevis. Sequence acquisizionali e influssi Translinguistici [Negation in the Italian of Swedes: Acquisitional sequences and cross-linguistic influence]. *Etudes Romances de Lund*, 61.
- Baumann, H., Nagengast, J., & Wittenburg, P. (1992). A new experimental set-up, a tool for experimenting in the 90s. Paper presented at the International Congress of Social Science Information Technology, Amsterdam, The Netherlands.
- Beck, M. (1998). L2 Acquisition and obligatory head-movement: English-speaking learners of German and the local impairment hypothesis. *Studies in Second Language Acquisition*, 20, 311-348.
- Becker, A. (2005). The semantic knowledge base for the acquisition of negation and the acquisition of finiteness. In H. Hendriks (Ed.), *The structure of learner varieties* (pp. 263-314). Berlin/New York: Mouton de Gruyter.
- Benazzo, S. (2000). L'acquisition des particules de portée en français, anglais et allemand L2: étude longitudinale comparée. Doctoral dissertation. Paris-Vincennes VIII.
- Bernini, G. (2003). The copula in learner Italian: Finiteness and verbal inflection. In C. Dimroth & M. Starren (Eds.), *Information structure, linguistic structure, and the dynamics of acquisition* (pp. 159-185). Amsterdam: Benjamins.
- Bernini, G., & Ramat, P. (1996). *Negative sentences in the languages of Europe: A typological approach*. Berlin: Mouton de Gruyter.
- Binnick, R. (1991). *Time and the verb: A guide to tense and aspect*. New York: Oxford University Press.
- Bley-Vroman, R., & Chaudron, C. (1994). Elicited imitation as a measure of second-language competence. In E. Tarone, S. Gass & A. Cohen (Eds.), *Research methodology in second-language acquisition* (pp.245-253). Hillsdale, NJ: Lawrence Erlbaum.
- Bley-Vroman, R., & Masterson, D. (1989). Reaction time as a supplement to grammaticality judgments in the investigation of second language learners' competence. *University of Hawaii Working Papers in ESL*, 8, 207-237.
- Blom, E. (2008). Testing the domain-by-age model: Inflection and placement of

REFERENCES

- Dutch verbs. In B. Haznedar & E. Gavrusa (Eds.), *Current trends in child second language acquisition: A generative perspective*. Amsterdam: John Benjamins.
- Boumalk, A. (1996). La negation en berbère marocain. In S. Chaker & D. Caubet (Eds.), *La negation en berbère et en arabe maghrébin* (pp. 35-48). Paris: L'Harmattan.
- Cancino, H., Rosansky, E., & Schuman, J. (1978). The acquisition of English negatives and interrogatives by native Spanish speakers. In H. Hatch (Ed.), *Second Language Acquisition* (pp. 207-230). Rowley, MA: Newbury House.
- Chambers, S., & Forster, F. (1975). Evidence for lexical access in a simultaneous matching task. *Memory & Cognition*, 3, 549-559.
- Chomsky, N. (1995). *The minimalist program*. Cambridge, MA: MIT Press.
- Clahsen, H. (1980). Psycholinguistic aspects of L2 acquisition: Word order phenomena in foreign workers' interlanguage. In S. Felix (Ed.), *Second language development: Trends and issues* (57-80). Tübingen: Narr.
- Clahsen, H. (1983). Some more remarks on the acquisition of German negation. *Journal of Child Language*, 10, 465-469.
- Clahsen, H. (1988). Critical phases of grammar development. A study of the acquisition of negation in children and adults. In P. Jordens & J. Lalleman (Eds.), *Language Development* (pp. 123-148). Dordrecht: Foris.
- Clahsen, H., Meisel, J., & Pienemann, M. (1983). *Deutsch als Zweitsprache: Der Spracherwerb ausländischer Arbeiter*. Tübingen: Narr.
- Clahsen, H., & Penke, M. (1992). The acquisition of agreement morphology and its syntactic consequences: New evidence on German child language from the Simone-corpus. In J. Meisel (Ed.), *The acquisition of verb placement* (pp. 181-223). Dordrecht: Kluwer.
- Clahsen, H., Hong, I., & Sonnenstuhl-Henning, I. (1995). Grammatical constraints in syntactic processing: Sentence-matching experiments on German. *The Linguistic Review*, 12, 5-33.
- Clahsen, H., & Felser, C. (2006). How native-like is non-native processing? *Trends in Cognitive Sciences*, 10, 560-570.
- Council of Europe (2001). *A common European Framework of Reference for Languages: Learning, teaching, assessment*. Cambridge: Cambridge University Press.
- Dietrich, R., Klein, W., & Noyau, C. (1995). *The acquisition of temporality in a second*

REFERENCES

- language*. Studies in Bilingualism 7. Amsterdam: John Benjamins.
- Dimroth, C. (2002). Topics, assertions and additive words: How L2 learners get from information structure to target-language syntax. *Linguistics*, 40, 891-923.
- Dimroth, C. (2005). The finite story. Animated movie developed at the Max Planck Institute for Psycholinguistics. Nijmegen: The Netherlands. (http://corpus1.mpi.nl/ds/imdi_browser?openpath=MPI560350%23)
- Dimroth, C. (2008). Age effects on the process of L2 acquisition? Evidence from the acquisition of negation and finiteness in L2 German. *Language Learning*, 58, 117-150.
- Dimroth, C. (to appear). Stepping stones and stumbling blocks. Why negation accelerates and additive particles delay the acquisition of finiteness in German. In C. Dimroth & P. Jordens (Eds.), *Functional elements: Variation in learner systems*. Berlin/New York: Mouton de Gruyter.
- Dimroth, C., Gretsch, P., Jordens, P., Perdue, C., & Starren, M. (2003). Finiteness in Germanic languages: A stage-model for first and second language development. In C. Dimroth & M. Starren (Eds.), *Information structure, linguistic structure, and the dynamics of acquisition* (pp. 65-93). Amsterdam: Benjamins.
- Duffield, N., & White, L. (1999). Assessing L2 knowledge of Spanish clitic placement: Converging methodologies. *Second Language Research*, 15, 133-160.
- Duffield, N., White, L., Bruhn de Gravito, J., Montrul, S., & Prévost, P. (2002). Clitic placement in L2 French: Evidence from sentence matching. *Journal of Linguistics*, 38, 487-525.
- Epstein, S., Flynn, S., & Martohardjono, G. (1996). Second language acquisition: Theoretical and experimental issues in contemporary research. *Behavioral and Brain Sciences*, 19, 677-758.
- Erguvanli, E. (1984). *The function of word order in Turkish grammar*. Berkeley: University of California Press.
- Erlam, R. (2006). Elicited imitation as a measure of L2 implicit knowledge: An empirical validation study. *Applied Linguistics*, 27, 464-491.
- Eubank, L. (1992). Verb movement, agreement and tense in L2 acquisition. In J. Meisel (Ed.), *The acquisition of verb placement: Functional categories and V2 phenomena in language acquisition* (pp. 225-244). Dordrecht: Kluwer.
- Eubank, L. (1993/94). On the transfer of parametric values in L2 development.

REFERENCES

- Language Acquisition*, 3, 183-208.
- Eubank, L. (1996). Negation in early German-English interlanguage: More valueless features in the L2 initial state. *Second Language Research*, 12, 73-106.
- Eubank, L., & Grace, S. (1996). Where's the mature language? Where's the native language? *Proceedings of the annual Boston University conference on language development*, 20, 189-200.
- Eubank, L., & Beck, M. (1998). OI effects in adult L2 acquisition. *Proceedings of the 22nd annual Boston University conference on language development* (pp. 189-206). Somerville, MA: Cascadilla Press.
- Ferreira, F., Christianson, K., & Hollingworth, A. (2001). Misinterpretations of garden-path sentences: Implications for models of reanalysis. *Journal of Psycholinguistic Research*, 30, 3-20.
- Ferreira, F., & N. Patson. (2007). The 'good enough' approach to language comprehension. *Language and Linguistics Compass*, 1, 71-83.
- Franceschina, F. (2001). Morphological or syntactic deficits in near-native speakers? An assessment of some current proposals. *Second Language Research*, 17, 213-247.
- Fraser, C., Bellugi, U., & Brown, R. (1963). Control of grammar in imitation, comprehension, and production. *Journal of Verbal Learning and Verbal Behaviour*, 2, 121-35.
- Freedman, S., & Forster, K. (1985). The psychological status of overgenerated sentences. *Cognition*, 19, 101-131.
- Fujiki, M., & Brinton, B. (1983). Sampling reliability in elicited imitation. *Journal of Speech and Hearing Disorders*, 48, 85-89.
- Gass, S. (2001). Sentence matching: A re-examination. *Second Language Research*, 17, 421-441.
- Gerbault, J. (1978). The acquisition of English by a five-year-old French speaker. Unpublished MA thesis, UCLA.
- Gernsbacher, M. (1985). Surface information loss in comprehension. *Cognitive Psychology*, 17, 324-363.
- Giuliano, P. (2003). Negation and relational predicates in French and English as second languages. In C. Dimroth & M. Starren (Eds.), *Information structure, linguistic structure and the dynamics of acquisition* (pp. 119-157). Amsterdam: Benjamins.
- Giuliano, P., & Véronique, D. (2005). The acquisition of negation in French L2.

REFERENCES

- An analysis of Moroccan Arabic and Spanish 'learner varieties'. In H. Hendriks (Ed.), *The structure of learner varieties* (pp. 355-404). Berlin: Mouton de Gruyter.
- Göksel, A., & Kerslake, C. (2005). *Turkish: A comprehensive grammar*. London: Routledge.
- Grondin, N., & White, L. (1996). Functional categories in child L2 acquisition of French. *Language Acquisition*, 5, 1-34.
- Grüter, T. (2005/06). Another take on the L2 initial stage: Evidence from comprehension in L2 German. *Language Acquisition*, 13, 287-317.
- Haberzettl, S. (2003). 'Tinkering' with chunks: Form-oriented strategies and idiosyncratic utterance patterns without functional implications in the IL of Turkish-speaking children learning German. In C. Dimroth & M. Starren (Eds.), *Information structure and the dynamics of acquisition* (pp. 45-63). Amsterdam: Benjamins.
- Hahne, A. (2001). What's different in second-language processing? Evidence from event-related brain potentials. *Journal of Psycholinguistic Research*, 30, 251-266.
- Hahne, A., & Friederici, A. (2001) Processing a second language: Late learners' comprehension mechanisms as revealed by event-related potentials. *Bilingualism: Language and Cognition*, 4, 123-141.
- Hamayan, E., Saegert, J., & Laraudee, P. (1977). Elicited imitation in second language learners. *Language and Speech*, 20, 86-97.
- Hameyer, K. (1980). Testing oral proficiency via elicited imitation. *Revue de Phonétique Appliquée*, 53, 11-24.
- Harrell, R. (1962). *A short reference grammar of Moroccan Arabic*. Washington: Georgetown University Press.
- Hawkins, R. (2001). *Second language syntax. A generative introduction*. Oxford: Blackwell.
- Hawkins, R., Towell R., & Bazergui, N. (1993). Universal Grammar and the acquisition of French verb movement by native speakers of English. *Second Language Research*, 9, 189-233.
- Hawkins, R., & Chan, C. (1997). The partial availability of universal grammar in second language acquisition: The failed functional features hypothesis. *Second Language Research*, 13, 187-226.
- Haznedar, B. (1997). L2 acquisition by a Turkish speaking child: Evidence for L1 influence. In E. Hughes, M. Hughes & A. Greenhill (Eds.),

REFERENCES

- Proceedings of the 21st annual Boston University conference on language development* (pp. 245-256). Somerville, MA: Cascadilla Press.
- Haznedar, B., Schwartz, B. (1997). Are there optional infinitives in child L2 acquisition? In E. Hughes, M. Hughes & A. Greenhill (Eds.), *Proceedings of the 21st annual Boston University conference on language development* (pp. 257-268). Somerville, MA: Cascadilla Press.
- Herschensohn, J. (1998). Minimally raising the verb issue. In A. Greenhill, M. Hughes, H. Littlefield & H. Walsh (Eds.), *Proceedings of the 22nd annual Boston University conference on language development* (pp. 325-336). Somerville, MA: Cascadilla Press.
- Herschensohn, J. (2001). Missing inflection in second language French: Accidental infinitives and other verbal deficits. *Second Language Research*, 17, 273-305.
- Holes, C. (1995). *Modern Arabic: Structures, functions and varieties*. New York: Longman.
- Huebner, T. (1989). Establishing point of view: The development of coding mechanisms in a second language for the expression of cognitive and perceptual organization. *Linguistics*, 27, 111-143.
- Hulstijn, J., & Hazenberg, S. (1996). Defining a minimal receptive second-language vocabulary for non-native university students: An empirical investigation. *Applied Linguistics*, 17, 145-163.
- Hyltenstam, K. (1977). Implicational patterns in interlanguage syntax variation. *Language Learning*, 27, 383-411.
- Ionin, T., & Wexler, K. (2002). Why is 'is' easier than 's'? Acquisition of tense/agreement morphology by child second language learners of English. *Second Language Research*, 18, 2, 95-136.
- Jagtman, M. (1994). Computer-aided syntactic analysis on interlanguage data. Unpublished doctoral dissertation, Radboud University, Nijmegen.
- Jansen, B., Lalleman, J. , & Muysken, P. (1981). The Alternation Hypothesis: Acquisition of Dutch word order by Turkish and Moroccan foreign workers. *Language Learning*, 31, 315-336.
- Jespersen, O. (1924). *The philosophy of grammar*. London: Allen & Unwin.
- Jordens, P. (1988). The acquisition of word order in L2 Dutch and German. In P. Jordens & J. Lalleman (Eds.), *Language development* (pp. 149-180). Foris: Dordrecht.
- Jordens, P. (2002). Finiteness in L1 Dutch. *Linguistics*, 40, 687-765.

REFERENCES

- Jordens, P. (2004). Systematiek en dynamiek bij de verwerving van finietheid. *Toegepaste Taalwetenschap in Artikelen*, 71, 9-22.
- Jordens, P., & Dimroth, C. (2006). Finiteness in children and adults learning Dutch. In N. Gagarina & I. Gülzow (Eds.), *The acquisition of verbs and their grammar* (pp. 173-200), Dordrecht: Springer.
- Kiliçaslan, Y. (2004). Syntax of information structure in Turkish. *Linguistics*, 42, 717-764.
- Klein, W. (1984). *Zweitspracherwerb. Eine Einführung*. Königstein: Athenäum.
- Klein, W. (1994). *Time in language*. London: Routledge.
- Klein, W. (1998). Assertion and finiteness. In N. Dittmar & Z. Penner (Eds.), *Issues in the theory of language acquisition: Essays in honor of Jürgen Weissenborn* (pp. 225-245). Bern: Lang.
- Klein, W. (2006). On finiteness. In V. van Geenhoven (Ed.), *Semantics meets acquisition* (pp. 245-272). Dordrecht: Springer.
- Klein, W. (2007). A simple analysis of sentential negation in German. Manuscript. Max Planck Institute for Psycholinguistics.
- Klein, W., & Perdue, C. (1992). *Utterance structure: Developing grammars again*. In W. Klein & C. Perdue (Eds.), *Studies in Bilingualism*. Amsterdam: Benjamins.
- Klein, W., Coenen, J., van Helvert, K., & Hendriks, H., (1995). The acquisition of Dutch. In R. Dietrich, W. Klein and C. Noyau (Eds.), *The acquisition of temporality in a second language* (pp. 145-210). Amsterdam: John Benjamins.
- Klein, W., & Perdue, C. (1997). The basic variety (or: couldn't natural languages be much simpler?). *Second Language Research*, 13, 301-347.
- Krashen, S., & Terrell, T. (1983). *The natural approach: Language acquisition in the classroom*. London: Prentice Hall Europe.
- Kuczaj, S., & Maratsos, M. (1975). What children can say before they will. *Merrill Palmer Quarterly*, 21, 89-111.
- Lardiere, D. (1998). Dissociating syntax from morphology in a divergent L2 end-state grammar. *Second Language Research*, 14, 4, 359-375.
- Lardiere, D. (2000). Mapping features to forms in second language acquisition. In J. Archibald (Ed.), *Second language acquisition and linguistic theory* (pp. 102-129). Malden, MA: Blackwell.
- Lewis, G. (1967). *Turkish Grammar*. Oxford: Oxford University Press.
- Lucas, C. (2007). Jespersen's cycle in Arabic and Berber. *Transactions of the*

REFERENCES

- Philological Society*, 105, 398-431.
- MacWhinney, B. (1991). *The CHILDES project: Tools for analyzing talk*. Hillsdale, NJ: Lawrence Erlbaum.
- Marinis, T., Roberts, L., Felser, C., & Clahsen, H. (2005). Gaps in second language sentence processing. *Studies in Second Language Acquisition*, 27, 53-78.
- Markman, B., Spilka, I., & Tucker, G. (1975). The use of elicited imitation in search of an interim French grammar. *Language Learning*, 75, 31-41.
- Meisel, J. (1983). Strategies of second language acquisition: More than one kind of simplification. In R. Andersen (Ed.), *Pidginization and creolization as language acquisition* (pp. 120-157). Rowley, MA: Newbury House.
- Meisel, J. (1997). The acquisition of the syntax of negation in French and German: Contrasting first and second language development, *Second Language Research*, 13, 227-263.
- Meisel, J., Clahsen, H., & Pienemann, M. (1981). On determining developmental stages in natural second language acquisition. *Studies in Second Language Acquisition*, 3, 109-135.
- Munnich, E., Flynn, S., & Martohardjono, G. (1994). Elicited imitation and grammaticality judgment tasks: What they measure and how they relate to each other. In E. Tarone, S. Gass, & A. Cohen (Eds.), *Research methodology in second language acquisition* (pp. 227-243). Hillsdale, NJ: Lawrence Erlbaum.
- Naiman, N. (1974). The use of elicited imitation in second language acquisition research. *Working Papers on Bilingualism*, 2, 1-37.
- Ouali, H., & Fortin, C. (2007). The syntax of complex tense in Moroccan Arabic. In E. Benmamoun (Ed.), *Perspectives on Arabic linguistics XIV* (pp. 175-189). Amsterdam: John Benjamins.
- Ouhalla, J. (1991). *Functional categories and parametric variation*. London: Routledge.
- Ouhalla, J. (1994). Verb movement and word order in Arabic. In D. Lightfoot & N. Hornstein (Eds.), *Verb movement* (pp. 41-72). Cambridge: Cambridge University Press.
- Parodi, T. (2000). Finiteness and verb placement in second language acquisition. *Second Language Research*, 16, 4, 355-381.
- Perdue, C. (1993). *Adult language acquisition*. Vol 1: Field Methods. Cambridge University Press.

REFERENCES

- Perkins, K., Brutten, S., & Angelis, P. (1986). Derivational complexity and item difficulty in a sentence repetition task. *Language Learning*, 36, 125-141.
- Poeppel, D., & K. Wexler, (1993). The full competence hypothesis of clause structure in early German. *Language*, 69, 1-33.
- Pollock, J. (1989). Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry*, 20, 365-424.
- Prévost, P. (2003). Truncation and missing surface inflection in initial L2 German. *Studies in Second Language Acquisition*, 25, 65-97.
- Prévost, P. (2004). Morphological variation in early adult second language French: A cross-sectional study. In S. Foster-Cohen, M. Sharwood-Smith, S. Sorace & M. Ota (Eds.), *EUROSLA Yearbook 2004* (pp. 147-175). Amsterdam: John Benjamins.
- Prévost, P., & White, L. (1999). Accounting for morphological variation in second language acquisition: Truncation or missing surface inflection? In M. Friedemann & L. Rizzi (Eds.), *The acquisition of syntax* (pp. 202-235). London: Longman.
- Prévost, P., & White, L. (2000). Missing surface inflection or impairment in second language acquisition? Evidence from tense and agreement. *Second Language Research*, 16, 103-133.
- Rizzi, L. (1990). *Relativised minimality*. Cambridge, MA: MIT Press.
- Roberts, L., Gullberg, M., & Indefrey, P. (2008). Online pronoun resolution in L2 Discourse: L1 influence and general learner effects. *Studies in Second Language Acquisition*, 30, 333-357.
- Roberts, L., & Verhagen, J. (2006). *Using auditory sentence-matching to investigate sensitivity to grammaticality*. Unpublished manuscript.
- Rule, S., & Marsden, E. (2006). The acquisition of functional categories in early French second language grammars: The use of finite and non-finite verbs in negative contexts. *Second Language Research*, 22, 188-218.
- Sachs, J. (1967). Recognition memory for syntactic and semantic aspects of connected discourse. *Perception and Psychophysics*, 2, 437-442.
- Schimke, S. (2009). The acquisition of finiteness in Turkish learners of German and Turkish learners of French: Investigating knowledge about forms and functions in production and comprehension. Doctoral dissertation. Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands.
- Schimke, S., Verhagen, J., & Dimroth, C. (2008). Particules additives et finitude

REFERENCES

- en néerlandais et allemand L2: Etude expérimentale. *Acquisition et Interaction en Langue Etrangère*, 26, 191-210.
- Schumann, J. (1979). The acquisition of English negation by speakers of Spanish: A review of the literature. In R. Andersen (Ed.), *The acquisition and use of Spanish and English as first and second languages* (pp. 3-32). Washington DC: TESOL.
- Schwartz, B., & Sprouse, R. (1996). L2 cognitive states and the full transfer/full access model. *Second Language Research*, 12, 40-72.
- Schwartz, B. (1998). On two hypotheses of 'transfer' in L2A: Minimal trees and absolute L1 influence. In S. Flynn, G. Martohardjono & W. O'Neil (Eds.), *The generative study of second language acquisition* (pp. 35-59). Erlbaum: Mahwah.
- Smith, C. (1973). An experimental approach to children's linguistic competence. In C. Ferguson & D. Slobin (Eds.), *Studies of child language development* (pp. 497-521). New York: Holt, Rinehart and Winston.
- Starren, M. (2001). The second time. The acquisition of temporality in Dutch and French as a second language. Unpublished doctoral dissertation, University of Tilburg, The Netherlands.
- Starren, M., & Van Hout, R. (1996). Temporality in learner discourse: What temporal adverbials can and what they cannot express. *Zeitschrift für Literaturwissenschaft und Linguistik*, 104, 35-50.
- Stauble, A. (1984). A comparison of a Spanish-English and a Japanese-English second language continuum: Negation and verb morphology. In R. Andersen (Ed.), *Second languages: A cross-linguistic perspective* (pp. 323-353). Rowley, MA: Newbury House.
- Tabor, W., Galantucci, B., & Richardson, D. (2004). Effects of merely local syntactic coherence on sentence processing. *Journal of Memory and Language*, 50, 355-370.
- Thomaselli, A., & Schwartz, B. (1990). Analyzing the acquisition stages of negation in L2 German: Support for UG in adult SLA. *Second Language Research*, 61, 1-38.
- Tomasello, M. (2000). First steps in a usage based theory of first language acquisition. *Cognitive Linguistics*, 11, 61-82.
- Vainikka, A., & Young-Scholten, M. (1994). Direct access to X²-theory: Evidence from Korean and Turkish adults learning German. In T.

REFERENCES

- Hoekstra & B. Schwartz (Eds.), *Language acquisition studies in generative grammar* (pp. 265-316). Amsterdam: John Benjamins.
- Vainikka, A., & Young Scholten, M. (1996a). Gradual development of L2 phrase structure. *Second Language Research*, 12, 7-39.
- Vainikka, A., & Young Scholten, M. (1996b). The early stages in adult L2 syntax: Additional evidence from Romance speakers. *Second Language Research*, 12, 140-176.
- Van de Craats, I. (to appear). The role of IS in the acquisition of finiteness by adult Turkish learners of Dutch. *Studies in Second Language Acquisition*, 31.
- Van de Craats, I., Kurvers, J., & Young-Scholten, M. (2006). *Low-educated second language learners and literacy acquisition: Proceedings of the inaugural symposium Tilburg 2005*. Utrecht: LOT.
- Vinther, T. (2002). Elicited-imitation: A brief overview. *International Journal of Applied Linguistics*, 12, 54-73.
- Weber-Fox, C., & Neville, H. (1996). Maturation constraints on functional specializations for language processing: ERP and behavioral evidence in bilingual speakers. *Journal of Cognitive Neuroscience*, 8, 231-256.
- White, L. (1990/91). The verb movement parameter in second language acquisition: Some effects of positive and negative evidence in the classroom. *Language Acquisition*, 1, 337-360.
- White, L. (1991). Adverb placement in second language acquisition: Some effects of positive and negative evidence in the classroom. *Second Language Research*, 7, 133-161.
- White, L. (1992). Long and short movement in second language acquisition. *Canadian Journal of Linguistics/Revue Canadienne de Linguistique*, 37, 273-286.
- Zobl, H., & Liceras, J. (1994). Review article: Functional categories and acquisition orders. *Language Learning*, 44, 159-180.

Appendix A: Abbreviations used in the examples

<i>0</i>	bare stem
<i>acc</i>	accusative
<i>act.part</i>	active participle
<i>cop</i>	copula
<i>dat</i>	dative
<i>dim</i>	diminutive
<i>dur</i>	durative
<i>fin</i>	finite
<i>fut</i>	future
<i>imp</i>	imperfective
<i>inf</i>	infinite/infinitive
<i>ll</i>	learner language
<i>loc</i>	locative
<i>masc</i>	masculine
<i>neg</i>	negator
<i>pass.part</i>	passive participle
<i>past</i>	past
<i>perf</i>	perfective
<i>prog</i>	progressive
<i>pl</i>	plural
<i>pp</i>	past participle
<i>sg</i>	singular

Appendix B: Biographical information about the learners

The following tables present the main biographical details for the learners tested. In these tables, length of residence is given in years:months and levels 1 and 2 roughly correspond to the A1 and A2 level of the European framework of reference (Council of Europe, 2001). An X indicates lack of information. Tables B1.1 and B1.2 show the main biographical details for the learners that participated in the negation study, reported on in Chapters 3, 4, and 5. Table B2 shows the information for the learners of the agreement study, reported on in Chapter 5, and B3.1 and B3.2 do so for the Moroccan and Turkish learners in the adverbial study, reported on in Chapters 6 and 7.

Table B1.1 *Biographical information for the Moroccan learners in the negation study*

Learner	L1(s)	L2(s)	Age	Length of residence	Months of instruction	Years of education	Level
1	Arabic	French	36	1:8	6	10	1
2	Arabic Berber	French	22	3:0	21	5	2
3	Arabic	English French	34	8:8	6	12	1
4	Arabic	French English	27	2:6	6	10	1
5	Arabic	French English	33	1:1	6	11	1
6	Arabic	French	24	2:9	10	8	1
7	Arabic Berber	French	22	3:0	21	5	2
8	Arabic	French English	33	3:0	5	12	2
9	Arabic	-	28	7:0	13	0	2
10	Arabic Berber	French	29	11:0	2	5	2
11	Arabic	French	27	1:6	0	6	2
12	Arabic	French	40	1:6	9	12	2
13	Arabic	French	31	6:1	20	8	1
14	Arabic	French English	19	1:1	10	11	1
15	Arabic	French	26	3:0	11	10	1

APPENDICES

16	Arabic	French Spanish	31	13:0	10	10	2
17	Arabic	French English	38	1:0	0	11	1
18	Arabic	English	30	2:6	4	12	2
19	Arabic	French English	26	3:0	5	11	1
20	Arabic Berber	French	24	3:0	30	5	2
21	Arabic Berber	English French Spanish	28	1:3	3	12	1
22	Arabic	-	28	3:5	X	0	1
23	Arabic Berber	French	22	3:0	7	9	2
24	Arabic	French	19	0:9	1	9	1
25	Arabic	French English Spanish Berber	36	3:0	7	11	1
26	Arabic	Italian English	29	4:6	3	12	2
27	Arabic	English	24	2:0	10	11	2
28	Arabic	English	22	3:6	20	13	1
29	Arabic Berber	French	30	7:0	5	5	2
30	Arabic Berber	Spanish (good) French	26	1:6	8	8	2
31	Arabic Berber	French English	29	1:1	13	12	2
32	Arabic Berber	French Spanish	25	1:6	5	10	2
33	Arabic	Spanish French	31	1:6	10	12	2
34	Arabic Berber	French	23	2:0	10	9	1
35	Arabic	English	32	4:5	6	12	1
36	Arabic	French	35	4:0	10	6	2
37	Arabic	French	36	3:5	5	9	1
38	Arabic	French	33	12:0	14	10	2
39	Arabic	French	36	3:0	4	6	1

APPENDICES

40	Arabic	English French	27	2:9	10	4	2
41	Arabic	English Greek	28	1:1	3	12	2
42	Arabic	Spanish French	20	1:2	3	11	1
43	Arabic	English	31	3:1	10	11	1
44	Arabic	French Spanish	19	1:6	10	12	1
45	Arabic Berber	French Spanish English	36	3:6	10	12	2
46	Arabic	French	19	1:4	10	8	1
47	Arabic	English	22	3:0	13	12	2
48	Arabic	French English Berber	20	1:1	2	11	2
49	Arabic	-	28	2:1	20	3	1
50	Arabic Berber	French	30	12:0	35	9	2
51	Arabic Berber	French Spanish	34	5:0	10	10	2
52	Arabic Berber	Spanish French English	42	10:0	6	8	2
53	Arabic	French	23	1:6	2	9	1
54	Arabic Berber	-	22	2:1	23	3	2
55	Arabic	French English	30	2:4	16	10	2
Mean	-	-	28	3:6	9,6	9	1.6

Table B1.2 *Biographical information for the Turkish learners in the negation study*

Learner	L1(s)	L2(s)	Age	Length residence	Months of instruction	Years of education	Level
1	Turkish	-	37	11:0	10	5	1
2	Turkish	-	25	10:0	16	3	2
3	Turkish	English	35	3:5	10	8	2
4	Turkish	-	30	4:0	10	5	1
5	Turkish	-	38	10:6	8	5	1
6	Turkish	French	40	10:0	4	0	1

APPENDICES

7	Turkish	English	26	4:0	6	8	2
8	Turkish	English	X	1:1	13	12	2
9	Turkish	-	27	9:0	8	5	2
10	Turkish	-	24	5:1	5	8	1
11	Turkish	-	23	3:6	10	5	1
12	Turkish	English	28	1:6	9	11	2
13	Turkish	-	25	2:5	7	0	1
14	Turkish	-	27	2:6	10	11	1
15	Turkish	-	32	12	10	5	2
16	Turkish	-	42	26	40	8	2
17	Turkish	-	21	1:8	10	5	2
18	Turkish	-	22	3:0	20	8	1
19	Turkish	English	29	2:0	10	11	2
20	Turkish	-	25	1:8	8	11	2
21	Turkish	-	23	1:6	6	9	1
22	Turkish	German English	34	10:0	26	9	2
23	Turkish	-	29	2:0	8	8	2
24	Turkish	-	32	1:6	9	5	1
25	Turkish	-	21	2:2	20	8	1
26	Turkish	English	31	5:0	26	8	2
27	Turkish	English	27	2:5	20	8	2
28	Turkish	-	28	8:0	20	5	1
29	Turkish	-	23	1:6	5	5	1
30	Turkish	English German	26	1:7	10	11	2
31	Arabic	French	19	1:6	10	12	2
32	Turkish	-	30	5:0	10	14	2
33	Turkish	-	31	7:0	10	11	2
34	Turkish	-	19	2:0	14	5	2
35	Turkish	-	27	8:9	15	5	2
36	Turkish	-	24	7:0	10	9	2
37	Turkish	-	25	1:4	4	8	2

APPENDICES

38	Turkish	-	23	2:1	20	11	2
39	Turkish	English	31	5:0	16	13	1
40	Turkish	-	39	25:0	25	5	2
41	Turkish	English	25	2:5	10	11	2
42	Turkish	English	23	3:0	25	8	2
43	Turkish	English	29	4:8	4	8	2
44	Turkish	-	20	3:0	20	5	2
45	Turkish	-	26	2:6	20	5	1
46	Turkish	English	24	2:0	10	11	2
Mean	-	-	28	5:3	13	7.6	1.7

Table B2. *Biographical information for the learners in the agreement study*

Learner	L1(s)	L2(s)	Age	Length residence	Months of instruction	Years of education	Level
1	Arabic	French	32	2:1	13	4	0
2	Arabic	French	23	2:6	6	5	0
3	Arabic	-	27	2:8	24	2	0
4	Arabic	French	31	2:0	16	8	0
5	Turkish	French	28	0:10	1	6	0
6	Turkish	French	23	3:2	7	6	0
7	Arabic	French	28	1:1	1	5	0
8	Arabic	-	X	X	X	X	0
9	Arabic	French	27	1:9	12	5	0
10	Arabic, Berber	French	26	1:1	6	6	0
11	Turkish	French	39	1:0	12	5	0
12	Arabic	French	21	1:9	12	5	0
13	Arabic, Berber	French	26	1:1	6	4	0
14	Turkish	English	X	1:0	1	16	0

APPENDICES

15	Arabic	Berber, French	25	1:8	8	14	0
16	Arabic, Berber	-	30	12:0	20	4	0
17	Arabic, Berber	-	46	25:0	28	0	0
18	Turkish	English	27	X	X	16	0
19	Arabic	-	27	5:0	5	0	0
20	Arabic	-	49	24:0	41	0	0
21	Arabic	-	42	3:10	41	0	0
Mean	-	-	30	4:11	14	5.6	0

Table B3.1. *Biographical information for the Moroccan learners in the adverbial study*

Learner	L1(s)	L2(s)	Age	Length residence	Months of instruction	Years of education	Level
1	Arabic Berber	French English	42	1:5	12	13	1
2	Arabic	French	22	2:0	16	6	2
3	Arabic	French English	27	1:0	3	12	2
4	Arabic	French Spanish	24	2:0	12	10	2
5	Arabic Berber	French	21	2:8	8	9	1
6	Arabic	French	30	1:6	12	8	2
7	Arabic	French	19	1:3	5	7	1
8	Arabic	French	21	1:6	12	8	1
9	Arabic	French English Spanish	34	2:0	18	11	2
10	Arabic	French English	34	1:6	10	14	1
11	Arabic Berber	-	27	3:5	30	2	X

APPENDICES

12	Arabic	French English	28	3:11	4	12	2
13	Arabic	French	19	3:5	8	8	2
14	Arabic	-	47	27:6	20	0	
15	Arabic	French	26	4:0	15	7	1
16	Arabic	French	35	3:0	12	12	2
17	Arabic	French English	24	2:0	12	11	1
18	Arabic Berber	French English	36	2:0	12	13	2
	Arabic	French English	30	3:0	11	14	1
19	Arabic Berber	French	32	2:0	12	5	1
20	Arabic	French	32	2:5	18	10	2
21	Arabic Berber	French	34	15:0	6	9	2
22	Arabic Berber	-	21	2:4	18	0	2
23	Arabic	French Spanish	33	1:6	10	11	1
24	Arabic Berber	French	38	6:0	12	5	2
25	Arabic Berber	-	29	3:6	12	0	1
26	Arabic Berber	French	31	2:6	12	8	1
27	Arabic Berber	-	40	1:1	4	0	1
28	Arabic	French Spanish	21	5:0	18	8	1
29	Arabic	-	21	4:0	35	0	2
30	Arabic	French English	26	1:0	3	12	1
31	Arabic	French Spanish	31	9:11	6	8	2
32	Arabic	French	22	1:6	12	12	2
33	Arabic Berber	French	19	2:3	15	8	1
34	Arabic	French	40	1:6	5	5	1
35	Arabic	French	24	2:6	20	7	2

APPENDICES

36	Arabic	Spanish French	29	1:5	12	5	1
37	Arabic	French English	24	2:8	12	12	2
38	Arabic	French	33	1:6	8	5	1
39	Arabic	French	30	5:6	8	9	2
40	Arabic Berber	French	22	1:5	14	7	2
41	Arabic	French	20	1:6	12	10	2
42	Arabic	French	21	2:8	12	8	2
43	Arabic Berber	French German	25	5:0	3	8	2
44	Arabic	Spanish	34	8:0	9	0	1
46	Arabic	English French	24	2:0	14	10	1
47	Arabic	Spanish French	24	2:0	12	10	1
48	Arabic	French English	22	1:6	3	11	1
49	Arabic	French	20	2:0	12	8	2
50	Arabic	French Spanish	35	1:0	2	5	1
Mean	-	-	28	3:5	11,7	7,7	1.5

Table B3.2. *Biographical information for the Turkish learners in the adverbial study*

Learner	L1(s)	L2(s)	Age	Length residence	Months of instruction	Years of education	Level
1	Turkish	-	20	1:6	8	5	1
2	Turkish	-	29	8:0	23	5	1
3	Turkish	-	38	17:0	19	5	2
4	Turkish	-	24	4:10	16	8	1
5	Turkish	-	27	5:3	30	5	2

APPENDICES

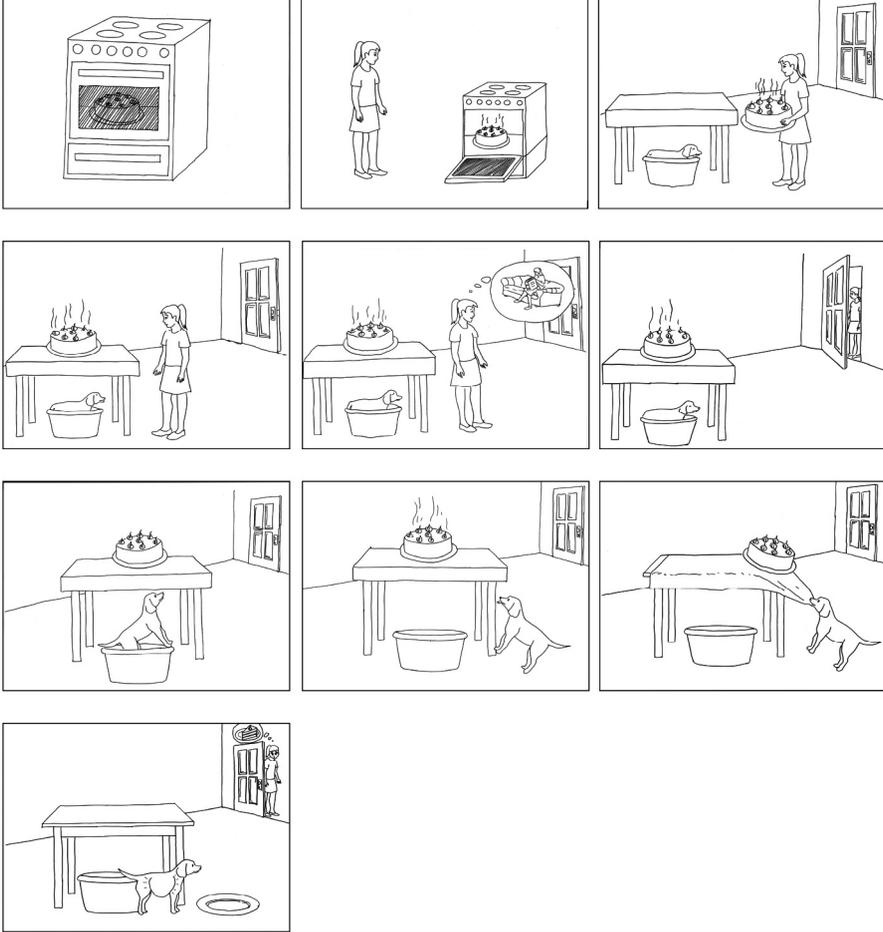
6	Turkish	-	20	3:7	16	5	1
7	Turkish	-	23	8:0	20	5	2
8	Turkish	-	26	2:0	7	5	1
9	Turkish	-	32	16:0	X	8	2
10	Turkish	Arabic	32	16:0	20	6	2
11	Turkish	Arabic	37	16:0	10	11	2
12	Turkish	-	27	5:0	30	6	2
13	Turkish	-	34	4:6	5	13	1
14	Turkish	English German	39	25:0	20	7	1
15	Turkish	-	35	16:0	4	8	1
16	Turkish	-	19	1:6	12	5	1
17	Turkish	-	22	3:0	20	5	1
18	Turkish	-	44	29:0	20	5	2
19	Turkish	English	30	2:9	18	5	1
20	Turkish	English	29	2:0	8	11	2
21	Turkish	-	34	9:0	18	11	2
22	Turkish	-	23	3:0	3	5	1
23	Turkish	-	39	4:0	25	5	1
24	Turkish	-	26	8:0	30	5	1
25	Turkish	-	48	26:0	22	5	1
26	Turkish	-	46	27:0	25	5	1
27	Turkish	-	22	4:0	20	6	2
28	Turkish	-	23	1:1	3	11	1
29	Turkish	-	37	15:0	20	6	2
30	Turkish	-	22	1:6	12	8	1
31	Turkish	German	27	2:5	12	4	1
32	Turkish	-	20	2:9	20	5	2
33	Turkish	-	32	16:0	14	5	1
34	Turkish	-	40	2:5	7	5	
35	Turkish	-	31	12:0	6	5	2
36	Turkish	-	20	2:2	5	5	1

APPENDICES

37	Turkish	-	26	3:4	14	9	2
38	Turkish	English	31	14:0	12	11	2
39	Turkish	-	28	2:0	12	5	
40	Turkish	-	25	1:5	12	8	2
41	Turkish	-	33	18:0	18	0	1
42	Turkish	-	24	3:0	26	8	2
43	Turkish	-	21	2:4	18	8	2
44	Turkish	English	32	2:0	3	8	2
45	Turkish	-	21	4:2	16	8	2
46	Turkish	-	22	1:6	12	5	1
47	Turkish	-	27	2:5	12	6	1
Mean	-	-	29	8:0	15	6.5	1.5

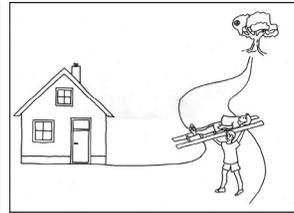
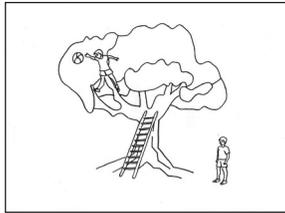
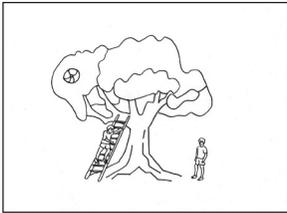
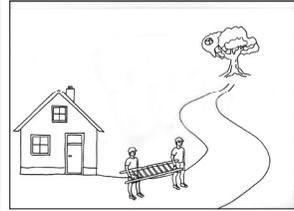
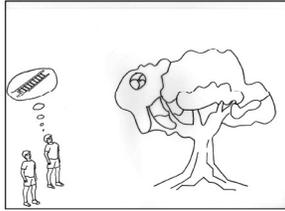
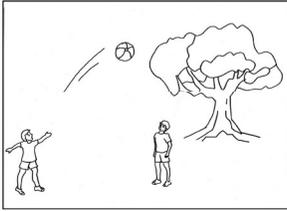
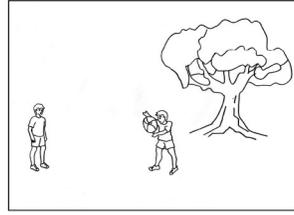
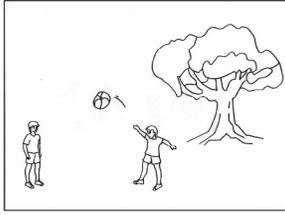
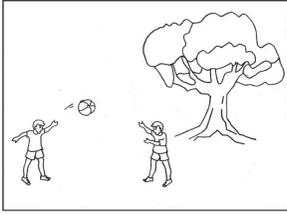
Appendix C: Picture stories

‘Cake story’:



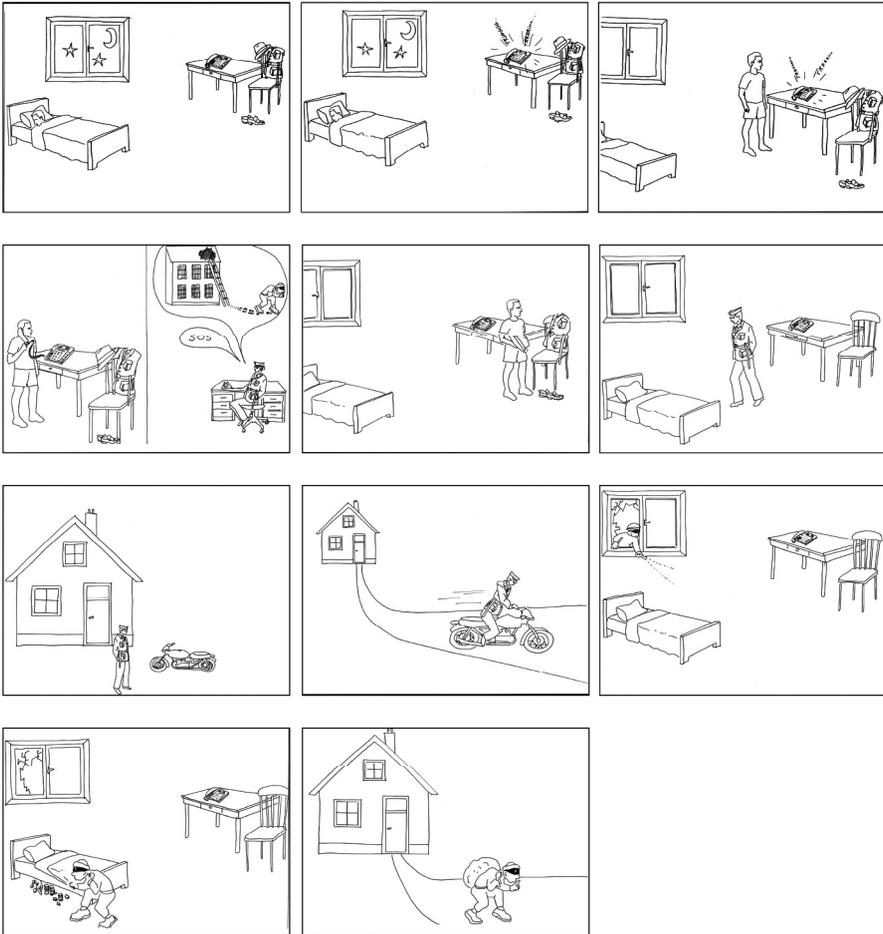
APPENDICES

'Ball story':



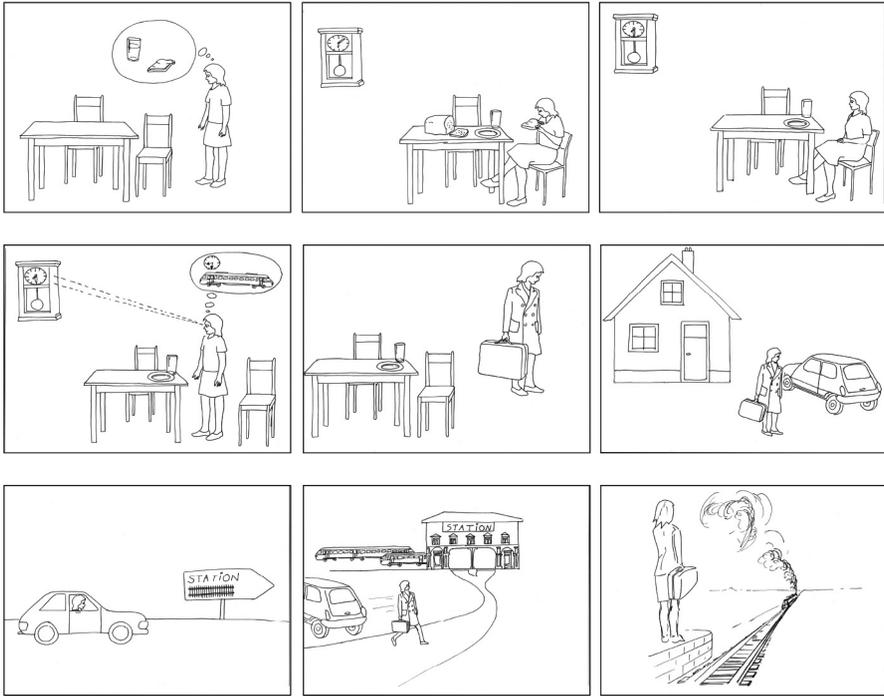
APPENDICES

'Thief story':



APPENDICES

‘Train story’:



Appendix D: Items

To preserve space, only one sentence type is given for each target item and only example items of the fillers are provided.

D1. Items of the elicited-imitation task in the negation study

Target items:

1. De minister praat niet over het grote probleem
(“The minister talks not about the big problem”)
*De minister niet praat over het grote probleem
(“The minister not talks about the big problem”)
De minister heeft niet over het probleem gepraat
(“The minister has not about the problem talked”)
*De minister niet heeft over het probleem gepraat
(“The mayor not has about the problem talked”)
2. De koningin lacht niet naar de aardige mensen
(“The queen laughs not to the nice people”)
3. De burgemeester werkt niet op een groot kantoor
(“The mayor works not at a big office”)
4. De oude leraren dansen niet op het feestje
(“The old teachers dance not at the party”)
5. De mannen luisteren niet naar de mooie muziek
(“The men listen not to the nice music”)
6. De jongens en meisjes lopen niet op het strand
(“The boys and girls walk not on the beach”)

Examples of filler items:

1. De man geeft een mooi cadeau aan de directeur
(“The man gives a nice present to the director”)
*De man geven een mooi cadeau aan de directeur
(“The man give a nice present to the director”)
De man heeft een cadeau aan de directeur gegeven

APPENDICES

(The man has given a nice present to the director’)

*De man hebben een cadeau aan de directeur gegeven

(‘The man have given a present to the director’)

2. Elke dag rookt de oude meneer rookt een sigaret
(‘Each day smokes the old man a cigarette’)
*Elke dag de oude meneer rookt een sigaret
(‘Each day the old man smokes a cigarette’)
Elke dag heeft de meneer een sigaret gerookt
(‘Each day has the man a cigarette smoked’)
*Elke dag de meneer heeft een sigaret gerookt
(‘Each day the man has a cigarette smoked’)

D2. Items of the elicited-imitation task in the agreement study

Target items:

1. De docent komt niet naar de school
(‘The teacher comes not to the school’)
*De docent niet komt naar de school
(‘The teacher not comes to the school’)
*De docent komen niet naar de school
(‘The teacher come not to the school’)
*De docent niet komen naar de school
(‘The teacher not come to the school’)
2. De vrouw belt niet naar de gemeente
(‘The woman calls not to the municipality’)
3. De vrouw eet niet in het restaurant
(‘The woman eats not in the restaurant’)
4. De collega leest niet in het boek
(‘The colleague reads not in the book’)
5. De mevrouw slaapt niet op de bank
(‘The woman not sleeps on the couch’)
6. Het kind gooit niet met de voetbal

APPENDICES

- (“The child throws not with the football”)
7. De dokter praat niet met de mensen
(“The doctor talks not to the people”)
 8. Het meisje danst niet in het café
(“The girl dances not in the cafe”)
 7. De buurman loopt niet naar de winkel
(“The neighbor walks not to the shop”)
 9. Het jongetje fietst niet op de straat
(“The boy bikes not on the street”)
 10. De meneer kijkt niet naar de tv
(“The man watches not to the television”)
 11. Het kind luistert niet naar zijn ouders
(“The child listens not to his parents”)
 12. Het meisje valt niet van de fiets
(“The girl falls not off the bike”)
 13. De buurman gaat niet naar de markt
(“The neighbor goes not to the market”)
 14. De vrouw zit niet in de kantine
(“The woman sits not in the canteen”)
 15. De vader rijdt niet naar de stad
(“The father drives not to the town”)
 16. De man werkt niet in het ziekenhuis
(“The man works not in the hospital”)
 17. De man woont niet in het buitenland
(“The man lives not abroad”)
 18. De vrouw denkt niet aan haar familie
(“The woman thinks not about her family”)
 19. De student schrijft niet op het bord
(“The student writes not on the board”)
 20. De meneer rent niet naar het station
(“The man runs not to the station”)
 21. Het jongetje ligt niet in het bed
(“The boy lies not in the bed”)
 22. De buurman trouwt niet met het meisje
(“The neighbor marries not with the girl”)
 23. De collega helpt niet met het werk

(‘The colleague helps not with the work’)

Examples of filler items:

1. Het meisje heeft op de bus gewacht
(‘The girl has for the bus waited’)
*Het meisje is op de bus wachten
(‘Het meisje is for the bus wait’)
2. De student doet nooit het huiswerk
(‘The student does never the homework’)

D3. Items of the sentence-matching task in the negation study

Only one sentence of a pair is given for the target items, since all pairs were matching. For the filler pairs, both sentences are presented, but only one example item of each type is provided.

Target items:

1. Nadia en Bushra dansen niet op het feest
(‘N. and B. dance not at the party’)
*Nadia en Bushra niet dansen op het feest
(‘N. and B. not dance at the party’)
Nadia en Bushra hebben niet op het feest gedanst
(‘N. and B. have not at the party danced’)
*Nadia en Bushra niet hebben op het feest gedanst
(‘N. and B. not have at the party danced’)
2. Hans en Sara dansen niet in het café
(‘H. and S. dance not in the café’)
3. Roos en Hessa eten niet bij hun vriendin
(‘R. and H. eat not at their friend’s’)
4. Sam en Peter eten niet in de klas
(‘S. and P. eat not in the class’)

APPENDICES

5. Abdul en Nada fietsen niet in de stad
(‘A. and N. bike not in the city’)
6. Yassir en Edwin fietsen niet op het gras
(‘Y. and E. bike not on the grass’)
7. Anna en Frank koken niet in de keuken
(‘A. and F. cook not in the kitchen’)
8. Gul en Nermin koken niet voor het kind
(‘G. and N. cook not for the child’)
9. Dirk en Hans luisteren niet naar de radio
(‘D. and H. listen not to the radio’)
10. Hanif en Thara luisteren niet naar de muziek
(‘H and T listen not to the music’)
11. Jos en Wim praten niet over de vakantie
(‘J. and W. talk not about the holiday’)
12. Femke en Lotte praten niet met de meneer
(‘F. and L. talk not with the man’)
13. Marie en Rashid roken niet in de kamer
(‘M. and R. smoke not in the room’)
14. Kees en Sander roken niet in de trein
(‘K. and S. smoke not in the train’)
15. Habib en Haifa slapen niet op de bank
(‘H. and H. sleep not on the couch’)
16. Marieke en Chris slapen niet in de bus
(‘M. and C. sleep not in the bus’)
17. Daan en Ed studeren niet in Turkije
(‘D. and E. study not in Turkey’)
18. Bert en Freck studeren niet in Marokko
(‘B. and F. study not in Morocco’)
19. Piet en Engin werken niet in een restaurant
(‘P. and E. work not in a restaurant’)
20. Elmas en Pinar werken niet in een dorp
(‘E. and P. work not in a village’)
21. Ayse en Ozlem wonen niet in Nederland
(‘A. and O. live not in the Netherlands’)
22. Nasser en Asli wonen niet in Rotterdam
(‘N. and A. live not in Rotterdam’)

APPENDICES

23. Mehmet en Anke wachten niet op het meisje
(‘M. and A. wait not for the girl’)
24. Anneke en Suzan wachten niet op de trein
(‘A. and S. wait not for the train’)

Examples of filler items:

Grammatical - lexically different:

1. a. Job en Gert betalen geld aan de mevrouw
(‘J. and G pay money to the woman’)
- b. Job en Gert betalen geld aan de meneer
(‘J. and G. pay money to the man’)

Grammatical - syntactically different:

2. a. Ali maakt een kop thee voor zijn vader
(‘A. makes a cup of tea for his father’)
- b. Ali maakt voor zijn vader een kop thee
(‘A. makes for his father a cup of tea’)

Ungrammatical - lexically different:

3. a. *Snel de politie Max en Luuk bellen
(‘Quickly the police M. and L. call’)
- b. *Snel het ziekenhuis Max en Luuk bellen
(‘Quickly the hospital M. and L. call’)

Ungrammatical - syntactically different:

4. a. *Rashida naar het station gaat op de fiets
(‘R. to the station goes by bike’)
- b. *Rashida naar het station op de fiets gaat
(‘R. to the station by bike goes’)

D4. Items of the sentence-matching task in the adverbial study

1. Dirk en Hans luisteren vaak naar de radio
 ('D. and H. listen often to the radio')
 *Dirk en Hans vaak luisteren naar de radio
 ('D. and H. often listen to the radio')
 Dirk en Hans hebben vaak naar de radio geluisterd
 ('D. and H. have often to the radio listened')
 *Dirk en Hans vaak hebben naar de radio geluisterd
 ('D. and H. often have to the radio listened')
Vaak luisteren Dirk en Hans naar de radio
 ('Often listen D. and H. To the radio')
 *Vaak Dirk en Hans luisteren naar de radio
 ('Often D. and H. listen to the radio')
Vaak hebben Dirk en Hans naar de radio geluisterd
 ('Often have D. and H. to the radio listened')
 *Vaak Dirk en Hans hebben naar de radio geluisterd
 ('Often D. and H. have ... listened')
2. Ron en Malik werken vaak in een restaurant
 ('R. and M. work often in a restaurant')
3. Jos en Frank betalen altijd de rekening
 ('J. and F. pay always the bill')
4. Abdul en Khalid fietsen altijd op de stoep
 ('A. and K. bike always on the sidewalk')
5. Yunus en Sabah lopen soms op het strand
 ('Y. and S. walk sometimes on the beach')
6. Semra en Anna koken soms aardappelen
 ('S. and A. cook sometimes potatoes')
7. Nada en Layla wachten af en toe op de bus
 ('N. and L. wait now and then for the bus')
8. Habib en Nadia spelen af en toe met de bal
 ('H and N play now and then with the ball')
9. Bada en Zaid praten nooit over het werk
 ('B. and Z. talk never about the work')
10. Nadhir en Nawal vertellen nooit een verhaal

APPENDICES

- (‘N. and N. tell never a story’)
11. Marieke en Eva bakken eerst het vlees
(‘M. and E. bake first the meat’)
 12. Fouad en Hanif maken eerst een tekening
(‘F. and H. make first a drawing’)
 13. Omar en Roos bellen vanavond de dokter
(‘O. and R. call tonight the doctor’)
 14. Mehmet en Hakan leren dit jaar Nederlands
(‘M. and H. learn this year Dutch’)
 15. Rob en Hind bouwen in april een ziekenhuis
(‘R. and H. build in April a hospital’)
 16. Max en Paul wonen in juli in Turkije
(‘M. and P. live in July in Turkey’)
 17. Ergun en Rashid horen zondag het nieuws
(‘E. and R. hear Sunday the news’)
 18. Bas en Anke slapen dinsdag op de bank
(‘B. and A. sleep Tuesday on the couch’)
 19. Bart en Ivo lezen ’s ochtends de krant
(‘B. and I. read in the morning the paper’)
 20. Fred en Ad wandelen ’s middags in het bos
(‘F and A walk in the afternoon in the forest’)
 21. Karimah en Elmas sturen deze maand geld
(‘K. and E. send this month money’)
 22. Thabit en Abdel zien vandaag een film
(‘T. and A. see today a movie’)
 23. Chris en Pinar wassen om tien uur de auto
(‘C. and P. wash at ten o’clock the car’)
 24. Joop en Erol eten om drie uur brood
(‘J. and E. eat at three o’clock bread’)

Samenvatting

Het verwerven van een tweede taal verloopt zelden moeiteloos: niet alleen moet iemand die een tweede taal leert veel nieuwe klanken en woorden leren, ook moet hij of zij zich een nieuwe grammatica eigen maken. Uit studies naar tweedetaalverwerving is gebleken dat dit proces vaak in vaste stadia verloopt. De verwerving van finietheid is hierop geen uitzondering: aanvankelijk gebruiken tweedetaalleerders enkel constructies waarin geen werkwoord voorkomt of het werkwoord niet finiet is, d.w.z., ongemarkeerd voor persoon, getal of tijd. Het werkwoord staat in dit stadium in de eindpositie, zoals in de zin “Hij niet Nederlands praten”. In een later stadium leren tweedetaalverwerwers modale werkwoorden en hulpwerkwoorden. Opvallend genoeg zijn deze werkwoorden al vanaf het eerste gebruik finiet en staan zij vrijwel altijd in tweede positie (“Hij heeft Nederlands geleerd”). Uiteindelijk verschijnen ook lexicale werkwoorden in finiete constructies, maar niet elke tweedetaalleerder bereikt dit laatste stadium en vaak duurt het lang voordat niet finiete constructies helemaal uit de taalproductie zijn verdwenen (Klein & Perdue, 1997; Vainikka & Young-Scholten, 1996).

In dit proefschrift wordt de ontwikkeling van een niet finiet naar een finiet stadium beschreven voor Marokkaans- en Turkstalige volwassenen die Nederlands als tweede taal verwerven. Anders dan in eerdere studies die vooral gebaseerd zijn op corpusonderzoek is hierbij gebruik gemaakt van experimenten met relatief grote aantallen tweedetaalleerders. In deze experimenten is zowel de kennis onderzocht die blijkt uit de actieve taalproductie van taalleerders als de meer ‘passieve’ kennis die deel kan uitmaken van iemands grammaticakennis, maar zich nog niet openbaart in de taalproductie.

Na een algemene inleiding en een korte beschrijving van de belangrijkste typologische kenmerken van het Nederlands en de moedertalen van de leerders (Turks en Marokkaans Arabisch), wordt in Hoofdstuk 3 de verwerving van werkwoordsplaatsing onderzocht. Er wordt in dit hoofdstuk gekeken naar ontkenkende zinnen. De reden hiervoor is dat in ontkenkende zinnen goed kan worden bepaald of een zin syntactisch finiet is of niet. Er wordt namelijk aangenomen dat de ontkenning een vaste plaats in de syntactische structuur inneemt: de plaatsing van het werkwoord *voor* de ontkenning laat dan zien dat het werkwoord verplaatst is naar een finiete syntactische positie en de plaatsing van het werkwoord *achter* de ontkenning laat

zien dat het werkwoord in een niet finiete positie staat. De vragen die centraal staan in Hoofdstuk 3 zijn: Wanneer verwerven de tweedetaalleerders werkwoordsplaatsing en wat is de rol van modalen en hulpwerkwoorden in het verwervingsproces? Om deze vragen te beantwoorden, zijn data geanalyseerd die verkregen zijn uit een aantal verteltaken. De resultaten bevestigen de hierboven besproken bevindingen uit eerder onderzoek dat tweedetaalleerders leren om koppelwerkwoorden, modalen en hulpwerkwoorden in een finiete positie voor de ontkenning te plaatsen voordat zij dit doen met lexicale werkwoorden. Verder blijkt dat het hulpwerkwoord ‘hebben’ een cruciale rol speelt, in die zin dat alleen die taalleerders die ‘hebben’ al hebben verworven, lexicale werkwoorden in een finiete positie zetten. De overige leerders zetten lexicale werkwoorden vrijwel uitsluitend in een niet finiete positie. Deze bevinding ondersteunt eerdere resultaten uit corpusstudies (Becker, 2005; Jordens & Dimroth, 2006) en laat zien dat de belangrijke rol van ‘hebben’ voor grotere aantallen tweedetaalleerders geldt dan tot nu toe zijn bestudeerd.

In Hoofdstuk 4 wordt nader onderzocht in hoeverre de verwerving van ‘hebben’ cruciaal is voor de verwerving van finietheid door gebruik te maken van een imitatietask (*elicited imitation*) en een online zinsoordelentask (*sentence-matching*). In de imitatietask werd aan de proefpersonen gevraagd om zinnen te imiteren waarin het lexicale werkwoord of hulpwerkwoord ofwel *voor* ofwel *na* de ontkenning was geplaatst (bijv. ‘De minister praat niet over het grote probleem’ vs. ‘De minister niet praat over het grote probleem’). In een dergelijke taak worden relatief lange zinnen aangeboden die niet gemakkelijk kunnen worden opgeslagen in het werkgeheugen en daarom moeten worden gereconstrueerd voordat zij kunnen worden herhaald. Als gevolg van dit reconstructieproces verschillen de responsen in een imitatietask vaak van de aangeboden stimuluszinnen: ze zijn aangepast aan de mentale grammatica van de leerder. Vaak overstijgt de grammaticakennis die leerders laten zien in een imitatietask de kennis die blijkt uit hun taalproductie als gevolg van het feit dat zinnen niet actief geconstrueerd, maar slechts gereconstrueerd, hoeven te worden.

De imitatiegegevens in Hoofdstuk 4 bevestigen het patroon dat gevonden werd in Hoofdstuk 3: leerders die het hulpwerkwoord ‘hebben’ nog niet hebben verworven, verplaatsen het lexicale werkwoord van een positie *voor* de ontkenning naar een positie *na* de ontkenning (‘praat niet’ wordt ‘niet praat’). De omgekeerde verandering, echter, wordt gevonden bij de tweedetaalleerders

die ‘hebben’ al wel hebben verworven (‘niet praat’ wordt ‘praat niet’). Interessant genoeg blijkt er tussen beide groepen geen verschil te zijn voor zinnen met een hulpwerkwoord: zowel de leerders die ‘hebben’ kunnen gebruiken als de leerders die dat niet kunnen, verplaatsen het hulpwerkwoord van een positie *na* de ontkenning naar een positie *voor* de ontkenning en nooit omgekeerd (‘niet heeft’ wordt ‘heeft niet’). Dit resultaat laat zien dat beginnende tweedetaalleerders van het Nederlands beschikken over grammaticakennis over de plaats van het hulpwerkwoord ‘hebben’ binnen de zin voordat zij dit hulpwerkwoord zelf actief kunnen gebruiken.

In de zinsoordelentaak die gebruikt werd voor de studie in Hoofdstuk 4 moesten de proefpersonen met een druk op de knop beoordelen of twee zinnen hetzelfde waren of niet. Daarbij werd hun snelheid van reageren gemeten. Uit eerder onderzoek is gebleken dat mensen sneller kunnen beoordelen of twee zinnen hetzelfde zijn wanneer deze twee zinnen grammaticaal zijn dan wanneer deze ongrammaticaal zijn. De snelheid waarmee oordelen over zinsparen gevormd worden is dus indicatief voor de mate waarin zinnen als grammaticaal beschouwd kunnen worden. De resultaten van de zinsoordelentaak in Hoofdstuk 4 leverden voor de minder gevorderde groep hetzelfde patroon op als de imitatietaak: een voorkeur voor lexicale werkwoorden *na* de ontkenning maar een duidelijke voorkeur voor hulpwerkwoorden in de positie *voor* de ontkenning. Hoewel er met deze taak geen effecten werden gevonden voor de gevorderde groep, bevestigen de resultaten in Hoofdstuk 4 al met al de belangrijke rol van hulpwerkwoorden bij de verwerving van syntactische finietheid: tweedetaalleerders die ‘hebben’ nog niet kunnen gebruiken gedragen zich niet alleen anders dan leerders die dat wel kunnen, maar bezitten ook al over kennis van de plaats van hulpwerkwoorden in de zin voordat zij ‘hebben’ zelf kunnen produceren.

Tweedetaalleerders van het Nederlands moeten niet alleen leren dat het finiete werkwoord in een bepaalde positie binnen de zin voorkomt (syntactische finietheid), maar ook dat een finiet werkwoord congrueert met het grammaticale subject (morfologische finietheid). In Hoofdstuk 5 wordt onderzocht of de verwerving van morfologische en syntactische finietheid twee onafhankelijke processen zijn of dat ze samenhangen. In de literatuur is bewijs aangedragen voor beide standpunten. Dit bewijs is echter vrijwel uitsluitend gebaseerd op (spontane) productiedata. In Hoofdstuk 5 worden productiedata vergeleken met data die verkregen zijn door middel van een zinsimitatietaak.

Deze productiedata laten een verband zien tussen de plaats van een werkwoord in de zin en morfologische markering: werkwoorden in een finiete positie zijn vrijwel altijd finiet ('Hij loopt niet'), maar werkwoorden in een niet finiete positie zijn meestal niet finiet ('Hij niet lopen'). Dit verband blijkt het sterkst voor de meest gevorderde leerders. Minder gevorderde leerders daarentegen produceren relatief vaak finiete werkwoorden in een niet finiete positie ('Hij niet loopt'). De imitatiegegevens bevestigen dit beeld en leveren dus verder bewijs voor het idee dat er in de vroegste stadia van taalverwerving nog geen verband is tussen morfologische en syntactische finietheid.

In Hoofdstuk 6 wordt opnieuw gekeken naar werkwoordsplaatsing, maar ditmaal wordt zowel gekeken naar ontkennende zinnen als naar zinnen met een bijwoord van tijd. Deze vergelijking maakt het mogelijk om het idee te testen dat beginnende taalleerders lexicale werkwoorden bij voorkeur na de ontkenning te zetten omdat zij een semantisch principe hanteren, namelijk: 'scope marking'. Kort gezegd houdt dit idee in dat tweedetaalleerders bepaalde elementen graag voor die delen van de zin plaatsen waarop deze - semantisch gezien - betrekking hebben. Dus in de zin 'Mijn zus niet school gaan' staat 'niet' voor het predicat 'school gaan' omdat de ontkenning daar betrekking op heeft. In Hoofdstuk 6 wordt onderzocht hoe tweedetaalleerders van het Nederlands de plaatsing verwerven van elementen met verschillende 'scope'-eigenschappen: bijwoorden van tijd zoals 'morgen' die typisch betrekking hebben op de hele zin aan de ene kant en bijwoorden van tijd zoals 'altijd' en de ontkenning 'niet' die meestal betrekking hebben op het predicat aan de andere kant. De resultaten in dit hoofdstuk laten zien dat beginnende tweedetaalleerders van het Nederlands sterk worden gestuurd door het hierboven beschreven 'scope-marking'-principe: bijwoorden van tijd zoals 'morgen' worden door hen namelijk in een andere positie in de zin gezet dan bijwoorden zoals 'altijd' en de ontkenning.

In Hoofdstuk 7 wordt de semantische benadering uit het vorige hoofdstuk nader onderzocht en naast een puur syntactische benadering gezet. Anders dan in het vorige hoofdstuk worden in dit hoofdstuk zowel productiedata geanalyseerd als reactietijdgegevens die verkregen zijn met behulp van de eerdergenoemde zinsoordelentaak. Om te bepalen of een semantische of syntactische benadering de beste verklaring biedt voor de verwerving van finietheid, worden de resultaten uit Hoofdstuk 4 (ontkennende zinnen) vergeleken met resultaten uit vergelijkbare experimenten naar de verwerving

SAMENVATTING

van werkwoordsplaatsing in zinnen met bijwoorden van tijd. Naast een paar belangrijke overeenkomsten, wordt een aantal verschillen gevonden tussen beide datasets die niet goed te verklaren zijn in termen van ‘scope marking’. Ook blijken er verschillen te zijn tussen de Turkse en Marokkaanse proefpersonen wat betreft werkwoordsplaatsing in zinnen met bijwoorden, maar niet wat betreft werkwoordsplaatsing in ontkennende zinnen. Op grond van deze verschillen wordt geconcludeerd dat ‘scope marking’ weliswaar een belangrijk principe is in vroege tweedetaalverwerving maar dat het niet alles kan verklaren: ook het taalaanbod en de moedertaal blijken van invloed.

Op basis van de resultaten in dit proefschrift kan een aantal conclusies worden getrokken. In de eerste plaats blijkt de moedertaal nauwelijks van invloed op het verwervingsproces: Turks- en Marokkaanstalige tweedetaalleerders van het Nederlands doorlopen dezelfde stadia en verschillen slechts van elkaar in hun voorkeur voor bepaalde constructies in een bepaald stadium van taalverwerving. De verwerving van het hulpwerkwoord ‘hebben’ blijkt voor beide groepen een cruciale stap: pas nadat dit hulpwerkwoord is geleerd, verschijnen lexicale werkwoorden in een syntactisch finiete positie. Tot die tijd worden beide groepen tweedetaalleerders sterk gestuurd door een semantisch principe, namelijk: ‘scope-marking’. Een belangrijke bevinding in het proefschrift is ten slotte dat ‘passieve’ taalkennis van finietheid vaak voorafgaat aan taalkennis die actief ingezet kan worden voor de taalproductie.

Curriculum Vitae

Josje Verhagen was born in 1979 in Nijmegen, the Netherlands. After graduating from Pax Christi College in 1997, she worked one year as an *au pair* in Paris. She then studied Applied Linguistics at the Vrije Universiteit in Amsterdam (first year) and Theoretical linguistics at the Universiteit van Amsterdam (major), specialising in Psychology and Second Language Acquisition (minors). After graduating in 2002, she enrolled for an MPhil in Linguistics at the Universiteit van Amsterdam from which she graduated in 2003. In 2004, she was employed as a PhD student at the Vrije Universiteit in Amsterdam and the Max Planck Institute for Psycholinguistics in Nijmegen.