



UIT

THE ARCTIC  
UNIVERSITY  
OF NORWAY

Faculty of Humanities, Social Sciences and Education

# The acquisition of Norwegian Object Shift by L<sub>n</sub> learners—

**Jelena Didriksen**

*Master thesis in LIN-3990 Theoretical Linguistics*

May 2016





## Abstract

This thesis investigates whether L<sub>n</sub> learners of Norwegian at different stages in their acquisition are familiar with the phenomenon known as Object Shift (OS), which allows a pronominal object to move across negation in certain contexts. An object is only allowed to shift if it is an unstressed pronoun that refers back to a specific noun. Objects in the form of pronouns that refer back to a whole clause or in the form of full DPs do not undergo OS. I investigate how L<sub>n</sub> learners accept Norwegian sentences with and without OS to see which word order they prefer and whether they make any distinctions based on the type of object in the sentence. Several studies in acquisition have shown that OS takes a long time to fully acquire for L1 Norwegian children (more than seven years). The children have been found to prefer the non-shifted word order despite it being the least frequent one, which has led researchers to conclude that their preference was based on economy and complexity. Findings in this thesis indicate that the L<sub>n</sub> learners of Norwegian also prefer the non-shifted word order, although most likely for different reasons than the children. I argue that the L<sub>n</sub> learners do not receive enough input containing OS to deduce that certain types of pronouns can shift in Norwegian. Further, I suggest that the L1 of the L<sub>n</sub> learners may be playing an important role in acquisition of OS, based on the fact that learners who have object movement in their L1s show a higher acceptance for shifted objects. Amount of proficiency is not found to contribute to a higher acceptance for shifted pronouns in this case. I predict that participants with higher proficiency are needed in order to see real progress in this area.

## Acknowledgements

I would like to express my gratitude to all the people who have supported and helped me during this process. First and foremost, I would like to thank my supervisor Marit Westergaard for all the time she spent helping me during the writing process. This thesis has benefitted greatly from her comments and invaluable advice. Secondly, I would like to thank the Faculty of Humanities, Social Sciences and Education for giving me a grant of 25.000kr for writing this thesis.

The thesis is connected to a bigger project about L2 acquisition of the phenomena Object Shift and Subject Shift in Norwegian. During the writing process I have been lucky enough to be part of the research group that initiated this project. I would like to thank all the members of the research group - Marit Westergaard, Merete Anderssen, Kristine Bentzen, Bjørn Lundquist (UiT), Anne Dahl and Guro Busterud (NTNU). -for their helpful input and ideas during the process of making and distributing the survey that was used to collect the data for this thesis and the rest of the project.

Special thanks to Bjørn Lundquist for patiently attempting to teach me how to use the statistical program R and spending a lot of time helping me with the code.

Finally, I am greatly indebted to all the people in my life: my mom for all her love and encouragement through the years and to my friends for being supportive during this whole process. Also, to my loving boyfriend Daniel for always being there and going out of his way to help me with whatever I need. His support during this whole process has been invaluable to me.

## Table of contents

1 Introduction .....	1
2 Object Shift .....	5
3 Previous acquisition research .....	11
3.1 Subject Shift .....	11
3.2 Object Shift .....	14
3.3 Complexity, frequency and economy .....	17
4 Ln vs. L2 acquisition .....	19
5 Object movement in different languages .....	27
5.1 Germanic Scrambling .....	27
5.2 Free word order in Slavic languages.....	29
5.3 English and Romance languages .....	30
6 Research questions and predictions .....	33
7 Methodology and participants .....	35
7.1 Participants .....	35
7.2 The SurveyGizmo platform .....	38
7.3 The OS survey .....	38
7.4 Types of sentences in the OS survey .....	41
8 Results .....	46
8.1 L1 speakers .....	46
8.2 Ln learners .....	49
8.3 Language families .....	52
8.4 Statistical difference between language groups.....	67

8.5 Proficiency groups .....	71
9 Discussion .....	78
10 Conclusion .....	86
References .....	88
Appendix 1: Object Shift survey from SurveyGizmo .....	93
Appendix 2: List of all Ln participants .....	109

## Tables

Table 1 <i>Placement of subject pronouns and full DPs by adult speakers from Tromsø in child directed speech from Anderssen &amp; Westergaard (2010:2571)</i> .....	13
Table 2 <i>Placement of pronominal objects by Norwegian L1 children from Anderssen et.al. (2015:53)</i> .....	14
Table 3 <i>Occurrence of subjects and objects in conversational speech Norwegian from Westergaard (2010:17)</i> .....	15
Table 4 <i>Occurrence of subjects and objects in child-directed speech from Westergaard (2010:17)</i> .....	16
Table 5 <i>Amount of terms transferred from Spanish and Basque by different grades from Cenoz (2001:14)</i> .....	20
Table 6 <i>Types of cross-linguistic influence and source language used by students at different levels of acquisition from Lindquist (2009:290)</i> .....	23
Table 7 <i>Overview of types of object movement in different languages</i> .....	32
Table 8 <i>First languages from the first answer box</i> .....	36
Table 9 <i>First languages from the second answer box</i> .....	37
Table 10 <i>Types of sentences in the OS survey</i> .....	42
Table 11 <i>Fillers in the OS survey</i> .....	45
Table 12 <i>L1 speaker results</i> .....	47
Table 13 <i>Ln learner results</i> .....	49
Table 14 <i>German L1 results</i> .....	53
Table 15 <i>Ln learner results without the German L1s</i> .....	53
Table 16 <i>English L1s results</i> .....	55
Table 17 <i>Ln learner results without the English L1s</i> .....	56
Table 18 <i>V2 Germanic L1s results</i> .....	58
Table 19 <i>Slavic L1s results</i> .....	61

Table 20 <i>Romance LIs results</i> .....	63
Table 21 <i>Other LIs results</i> .....	65

## Figures

Figure 1 A <i>Likert scale from the OS survey</i> .....	40
Figure 2 <i>Figure from OS survey demonstrating how to rate a completely grammatical sentence</i> .....	41
Figure 3 <i>Figure from OS survey demonstrating how to rate a completely ungrammatical sentence</i> .....	41
Figure 4 <i>Norwegian L1 preference for target-consistent word order over non-target-consistent word order</i> .....	49
Figure 5 <i>Ln learner preference for target consistent word order over non-target consistent word order</i> .....	51
Figure 6 <i>How Lns differ from L1s in relation to mean score given to the different conditions</i> .....	52
Figure 7 <i>German L1 preference for target consistent word order over non-target consistent word order</i> .....	54
Figure 8 <i>How German L1s differ from other Lns in relation to mean score given to the different conditions</i> .....	55
Figure 9 <i>English L1 preference for target consistent word order over non-target consistent word order</i> . ....	57
Figure 10 <i>How English L1s differ from other Lns in relation to mean score given to the different conditions</i> .....	58
Figure 11 <i>V2 Germanic learner preference for target-consistent word order over non-target consistent word order</i> . ....	60
Figure 12 <i>How V2 Germanic L1s differ from other Lns in relation to mean score given to the different conditions</i> .....	61
Figure 13 <i>Slavic learner preference for target-consistent word order over non-target-consistent word</i> .....	62
Figure 14 <i>How Slavic L1s differ from other Lns in relation to mean score given to the different conditions</i> .....	63



Figure 15 <i>Romance L1 learner preference for target-consistent word order over non-target-consistent word order.</i> .....	64
Figure 16 <i>How Romance L1s differ from other L1s in relation to mean score given to the different conditions.</i> .....	65
Figure 17 <i>Other L1 learner preference for target-consistent word order over non-target-consistent word order.</i> .....	66
Figure 18 <i>Mean score given to sentences with shifted and non-shifted referential pronouns by different language families.</i> .....	68
Figure 19 <i>Mean score given to sentences with shifted and non-shifted non-referential pronouns by different language families.</i> .....	69
Figure 20 <i>Mean score given to sentences with shifted and non-shifted full DPs by different language families.</i> .....	70
Figure 21 <i>Proficiency score by language family group.</i> .....	71
Figure 22 <i>Average score given to sentences with shifted and non-shifted referential pronouns by different proficiency groups.</i> .....	72
Figure 23 <i>Average score given to sentences with shifted and non-shifted non-referential pronouns by different proficiency groups.</i> .....	74
Figure 24 <i>Average score given to sentences with shifted and non-shifted DPs by different proficiency groups.</i> .....	75
Figure 25 <i>Scatter plot of correlation between proficiency score and preference for target consistent word order.</i> .....	76

# 1. Introduction

This thesis focuses on L2/Ln acquisition of the phenomenon Object Shift (OS) in Norwegian. The literature on OS in Scandinavian languages is extensive (see e.g. Holmberg 1986, 1999; Thráinsson 2001; Vikner 1994, 2006), but research linking OS to acquisition has largely been limited to child L1 acquisition (see e.g. Anderssen et.al, 2010, 2012; Anderssen and Bentzen, 2012). In Scandinavian languages, two object positions are available, one preceding and one following the sentential adverb or negation. We can also refer to these two positions as ‘high’ and ‘low’. Object Shift is the term given to the process that moves a pronominal object across negation. The Norwegian sentences in (1) have the object following negation, while in (2) the objects are preceding negation. The assumed difference between these two sets of sentences is the amount of focus intended. That is, objects that follow the negation should be considered as having more focus than those preceding negation. This is in line with the well-known principle that heavier segments with more focus appear further back than segments with less focus (see e.g., Firbas 1957; Halliday 1967; Gundel 1985). In other words, this is a pragmatic principle, but the process is more or less grammaticalized in Norwegian. In fact, an object cannot shift across the negation unless it is a pronoun. This is seen in (2a), which is ungrammatical because the full DP appears before the negation. When a DP is used this usually indicates that we are talking about new information, which would also entail more focus. Consequently, a sentence where a full DP has shifted is ungrammatical. In sentences that have a pronominal object, like the construction in (1b) and (2b), the preferred position of the pronoun is before the negation. The standard analysis has been that an object pronoun without focus cannot remain in situ. This means that the order in 1b would only be acceptable if there were stress on the pronoun. However, closer studies have found that there is more variation involved than that. Swedish has been found to be different from Danish in that it sometimes allows for unfocused pronouns to stay in situ (Josefsson 2001, 2003, 2010; Andréasson 2008, 2009, 2010). As we will see, Norwegian L1s also occasionally accept the word order in (1b), even when there is no obvious focus on the pronoun. This is why it has been marked with a % rather than \*.

(1) a. Han spiste **ikke eplet**.

He ate not apple-the

b. %Han spiste **ikke det**.

He ate not it

(2) a. \*Han spiste **eplet ikke**.

He ate apple-the not

b. Han spiste **det ikke**.

He ate it not

It has been found that children show a preference for constructions with the non-shifted word order regardless of whether the object is a full DP or a pronoun (see e.g. Anderssen et. al. (2010 etc.). In other words, they would prefer the construction in 1b, which differs from the preferred word order in the adult language.

The studies done so far have largely focused on child L1 acquisition. As a result, we now have a considerable amount of data that can tell us at what age children start to produce sentences with shifted objects. In this thesis, I have considered how adult acquisition compares to child acquisition by testing adult L2/Ln learners of Norwegian on OS.

Throughout the thesis, I mainly refer to the participants in the study as Ln learners of Norwegian. This is because most of the participants had already acquired at least two languages in addition to Norwegian. Thus, this is not a typical L3/Ln study in that it does not make comparisons with L2 acquisition, nor is it carefully designed to test possible transfer from different languages as L1 and L2. The Ln learners that were tested were at different stages in their acquisition of Norwegian, which will tell us something about how long it takes for the target-consistent word order to fall into place. I have also investigated whether adult Ln learners make the same types of mistakes as the child L1 learners. The Ln data may tell us something new both about the constructions in general and about adult Ln acquisition.

The data for the study were collected through an online survey distributed to the participants by email. The participants were students enrolled in Norwegian courses at UiT The Arctic University of Norway and NTNU Norwegian University of Science and Technology in Trondheim. In addition, a control group was asked to take the same survey in order to have something to compare the Ln data against. They were asked to perform acceptability judgement tasks on sentences with and without OS using a Likert Scale from 1 to 6. The survey included some sentences with object pronouns, while others had full DPs. In all of the sentences where the object was a full DP the target consistent sentences were the ones in

which the object did not shift. The sentences where the object was a pronoun were of two different types. One type of sentence had pronouns that it would be target consistent to shift, while the other type had pronouns that needed to stay in situ for the sentence to be target consistent.

By including three different types of objects, I hoped to discover whether the Ln learners made any distinctions between the different types of objects. My prediction was that it would be easier for the Lns to make a distinction between sentences with pronouns and full DPs, than it would be to distinguish between sentences with the two different types of pronouns. The reasoning behind this was that most languages make a distinction between full DPs and pronouns, in that the pronouns may be placed higher up in the sentence because they are lighter segments than DPs. I predicted that it would be more difficult to distinguish between the two different types of pronouns, due to the lack of relevant input. I argue that complexity and lack of relevant input can make OS difficult to acquire. It is complex due to the fact that it involves movement and that it does not apply to all types of pronouns. Shifted objects are also infrequent in the input. As we will see, objects are most often realized as full DPs and when they appear as pronouns, it is usually of the kind that does not shift. However, even though complexity is an important factor in child acquisition, I predict that adult learners are more affected by the amount of relevant input. This prediction is later confirmed by some of the findings.

The results also show that the Ln learners mostly prefer sentences with non-shifted word order, regardless of the type of object. However, their preference for non-shifted DPs is more clearly defined than their preference for non-shifted pronouns. In other words, the scores given to sentences with non-shifted pronouns are only slightly higher than the scores given to sentences with shifted pronouns. while the scores given to sentences with non-shifted DPs are much higher than the ones given to sentences with shifted DPs. Analysis in the statistical tool R show that there is no significant correlation between proficiency and higher acceptance of sentences with shifted pronouns. There is however, a significant correlation between proficiency score and placement of DPs. That is, the acceptance for the target-consistent word order rises with higher proficiency. I expected that the findings would show more acceptance for target-consistent word orders, particularly those involving OS, if the participants were more proficient in Norwegian. In other words, the survey likely needs to be taken by participants who have spent more time in Norway in order to see progress with regard to acceptance of sentences with shifted pronouns.

What does seem to influence acceptance for shifted pronouns, is the presence of similar processes in a person's L1. My prediction was that properties such as Scrambling or free word order in the L1 could influence a learner to be more accepting of shifted segments. In order to test for this I divided the participants into different groups based on their L1s. Unlike the rest of the Lns, the participants who had a V2 Germanic L1, showed a higher acceptance for sentences with shifted pronouns than for those with non-shifted pronouns. This is likely because these particular languages are typologically closer to Norwegian than most of the other L1s are. In addition, these languages have Scrambling, which is even freer with regard to movement than OS. At the same time, the V2 Germanic L1s do not make a distinction between the different types of pronouns. That is, they prefer the shifted word order for pronouns when it is target consistent and when it is not. Influence from the L1s was also visible in that the participants who have a Slavic L1 showed a higher acceptance for sentences with shifted pronouns than other participants. On the other hand, the participants with English as their L1 gave the sentences with shifted pronouns the lowest scores out of all the language groups. This is likely due to English being far more constrictive with regard to word order.

To summarize, the preference for different word orders differs significantly between the different language groups, but the results also show that the learners seem unfamiliar with the contexts in which OS occurs. The findings in this thesis show that OS is a construction that takes a long time to acquire, although the process may be facilitated by relevant linguistic knowledge of similar processes.

The outline of the thesis is as follows. I start by explaining OS and some of the theories around it in chapter 2. In chapter 3, I present some of the research that has been done on L1 child acquisition of OS. Here, I also present the phenomenon sometimes referred to as Subject Shift, which has often been studied in comparison to OS. In chapter 4, I present some of the findings on how Ln acquisition may be different from L2 acquisition. Chapter 5 describes how some languages differ with regard to word order and variation in word order. I present my research questions and prediction in chapter 6, before moving on to the methodology and participants in chapter 7. There is special focus on the L1s of the participants. In addition, the outline of the survey, the types of sentences and the SurveyGizmo platform are presented. In chapter 8 I present the results from the survey and I apply statistical analysis based on different groupings of participants. They are grouped together based on their proficiency scores and on which language group their L1 belongs to. Finally, in chapter 9 I discuss my findings and argue that the L1 plays a significant role in the acquisition of OS.

## 2. Object Shift

OS exists in many of the Germanic languages and there is extensive literature about this construction. It has been found that the movement of object pronouns across an adverb tends to be obligatory in Mainland Scandinavian (Norwegian, Swedish and Danish). However as can be seen in (3) from Thráinsson (2001:150), this is not always the case.

(3) a.

\*Nemandinn las ekki **hana**. (Ic)

\*Studenten læste ikke **den**. (Da)

\*Næmingurin las ikki **hana**. (Fa)

%Studenten läste inte **den**. (Sw)

student-the read not it

b.

Nemandinn las **hana** ekki (Ic)

Studenten læste **den** ikke (Da)

Næmingurin las **hana** ikki (Fa)

Studenten läste **den** inte (Sw)

student-the read it not

“The student didn’t read it.

The examples are Icelandic, Faroese, Swedish and Danish sentences. The Swedish example is marked with %, which means that this may be possible in certain dialects. Other researchers have also argued that the movement of unstressed pronouns seems to be obligatory in Danish, but not in Swedish (see e.g. Andréasson 2008, 2010; Josefsson 2003, 2010). However the object pronouns very rarely stay in situ: 9% of the time in Swedish and 7% of the time in Danish (Andréasson 2008). The difference between the two languages has been found to be that while the in situ pronouns had to be overtly contrastive in Danish, this was not the case in Swedish.

As we have seen, not moving non-contrastive pronominal objects is also possible in Norwegian.

Bentzen (2014) presents findings from the Scandinavian Dialect Syntax Project (NSD), where acceptability of different word orders have been tested in the Scandinavian countries. The findings show that sentences where a pronominal, unstressed object does not shift are



generally rejected in the southern parts of Norway, but accepted elsewhere in the country. Nevertheless, from the Nordic Dialect Corpus (NDC), also presented in Bentzen (2014), have shown that pronominal objects are far more likely to shift than to not shift. In Norway OS was found to occur in 149 out of 170 potential contexts (87.6% of the time).

As mentioned above, shifting a full DP across an adverb leaves us with an ungrammatical sentence. As mentioned in Thráinsson (2001:150), Icelandic seems to be the only modern Scandinavian language in which a full DP or a stressed pronoun can shift. In Norwegian this kind of movement is always impossible. This can be seen in (4) and (5), where (4a) and (4b) contain a stressed pronoun while (5a) and (5b) contain a pronoun with contrastive focus. The sentences where the stressed or contrastive pronouns have shifted are ungrammatical.

(4) a. Han likte **ikke DEN**.

He liked not IT

b. \*Han likte **DEN ikke**.

He liked IT not

“He didn’t like that.”

(5) a. Han likte **ikke DEN**, men han likte den andre.

He liked not that, but he liked that other

b. \*Han likte **DEN ikke**, men han likte den andre.

He liked that not, but he liked that other

“He didn’t like that one, but he liked the other one.”

A pronoun can also appear below the adverb in a sentence if it does not have an individuated referent (see e.g. Anderssen et.al. 2012; Andréasson 2008, 2010). That is, if does not refer back to any specific word. An example of this can be seen in (6) where the pronoun *det* “it” refers back to *skjørtet* “the skirt”, which is a specific thing. For that reason, the pronoun should precede the negation. In (7), however, *det* does not refer back to any specific thing, but rather to a whole clause, and is therefore placed below the negation. Anderssen et.al. (2013) termed the antecedents of the object *det* as either nominal or non-nominal, nominal meaning that the object refers to a specific noun and non-nominal meaning that it refers to the whole clause. In the current thesis I call the kind of object that refers back to a specific thing “referential” and the kind that refers back to a whole clause “non-referential”.

(6) Skjørtet var på salg.

Skirt-the was on sale

a. \*Mona kjøpte **ikke det** den dagen.

Mona bought not it that day

b. Mona kjøpte **det ikke** den dagen.

Mona bought it not that day

“Mona didn’t buy it that day.”

(7) Maria vil de skal flytte.

Maria wants them will move

“Maria wants them to move.”

a. Magnus ønsker **ikke det** akkurat nå.

Magnus wishes not that right now

b. \*Magnus ønsker **det ikke** akkurat nå.

Magnus wishes that not right now

“Magnus doesn’t want that right now.”

Because negation and adverbials are assumed to mark the start of a verb phrase, OS implies that the object moves out of the VP. The negation or adverb does not move from its original position. One well-known restriction on OS is the fact that an object can only shift after the finite verb in the sentence has moved out of the VP. This is known as Holmberg’s Generalization (Holmberg 1986,1999). Both Holmberg (1999) and Mikkelsen (2011) have argued that Focus is what decides whether or not OS takes place. The argument is that an unfocused object may shift, while a focused object obligatorily has to stay in its non-shifted position. Holmberg (1999) suggests that an object with the feature [-Foc] needs to be governed by a [+Foc] feature. This means that an object that is unfocused obligatorily has to shift to a higher position. Holmberg further claims that because verbs and other phonologically visible segments, like prepositions and indirect objects, are inherently [+Foc], they can license a [-Foc]-marked object. Predicate adjuncts (adverbs), however, are not marked for focus and therefore are unable to license the [-Foc] feature of an object. Therefore, if the verb has moved away from the object with a [-Foc] feature, the object has to move further up the chain to get its feature licensed.

Holmberg's explanation does not explain why some objects, like the one in (7b), do not shift despite being unfocused. To account for this, Anderssen et.al.(2012), suggest that OS in Norwegian has to do with topicalization, rather than lack of focus, the idea being that a topical object obligatorily has to move to a low, IP-internal topic position (8c). As Anderssen et.al. point out, the pronominal objects that undergo OS in Norwegian, cannot appear in a clause-initial topic position (8a). If it does move to this clause-initial position, it gets contrastive stress (8b).

(8)

Vet Simon hva boka handler om?  
 Knows Simon what book-the is about?

a. \*Nei, **den** leste han ikke.

No, that read he not

b. Nei, **DEN** leste han ikke.

No, THAT read he not

c. Nei, han leste **den** ikke.

No, he read it not

“No, he didn't read it.”

The objects that can be topicalized to a clause-initial position are the ones that do not undergo OS, as shown in (9). The difference between (8) and (9) is that the object in (8) has an individuated referent, while the one in (9) does not. For this reason Anderssen et.al. assume that having an individual referent is a criterion for OS.

(9)

Skal vi flytte?

Shall we move?

a. Nei, **det** vil jeg ikke.

No, that want I not

b. Nei, jeg vil **ikke det**.

No, I want not that

c. \*Nei, jeg vil **det ikke**.

No, I want that not

No, I don't want that right now he said to her while smiling.

When it comes to indefinite pronouns, Anderssen et.al. conclude that these pronouns cannot be topics and for that reason do not undergo OS. This is illustrated in (10) from Anderssen et.al. (2012:45).

(10)

Jeg vil ha en sjokolade!

I want have a chocolate

‘I want a chocolate!’

a. Jeg har **ikke en**.

I have not one

b. \*Jeg har **en ikke**.

I have one not

c. \***En** har jeg ikke.

one have I not

‘I don’t have one’

Based on these data Anderssen et.al. (2012) conclude that topicalization and individuated referent are two features of OS.

Because there is no verb movement in embedded clauses in Norwegian, the verb does not move out of the VP in these cases and therefore blocks OS. As we can see from (11) both the finite verb and the object pronoun have to stay in their original positions behind the adverb in order for the sentence to be grammatical.

(11)

a. Siri fortalte at studentene **ikke leste** den.

Siri said that students.the not read it

b. \*Siri fortalte at studentene leste **ikke den**.

Siri said that students.the read not it

c. \*Siri fortalte at studentene leste **den ikke**.

Siri said that students.the read it not

d. \*Siri fortalte at studentene **den ikke** leste.

Siri said that students.the it not read

‘Siri said that the student’s didn’t read it.’

Another type of construction in which the object does not move is the one containing an auxiliary verb. In these cases, the auxiliary is the finite verb, while the lexical verb is a non-finite participle. From (12) we can see that the sentence with the auxiliary becomes ungrammatical as soon as we attempt to move the lexical verb across negation. Because Norwegian is a VO and not an OV language, the negation cannot move in front of the verb. Because the object is blocked by the lexical verb, we will not see OS in these cases.

(12)

a. Studenten har ikke lest **den**.

Student,the has not read it

b. \*Studenten har lest ikke **den**.

Student.the has read not it

c. \*Studenten har lest **den** ikke.

Student.the has read it not

d. \*Studenten har **den** ikke lest.

Student.the has it not read

“The student has not read it.”

### 3. Previous acquisition research

#### 3.1. *Subject Shift*

Some of the previous research regarding child language acquisition has compared OS to the phenomenon sometimes referred to as Subject Shift (SS). The two types of shifts are somewhat similar, but it has been found that there is a difference between children's acquisition of SS and their acquisition of OS, OS being acquired considerably later. The delay in the acquisition of OS has been attributed to this shift being less frequent in the language and more complex. I would here like to briefly introduce SS to compare the two types of shifts.

SS takes place when a subject is moved across an adverb or negation in a sentence. We can see SS in sentences that are topicalized, that is, sentences that do not start with a subject. In these types of sentences, the subject may either precede or follow the sentence adverbs, as seen in examples (13) and (14).

(13)

a. I går spiste **ikke Tore** middag  
Yesterday ate not Tore dinner

b. I går spiste **Tore ikke** middag  
Yesterday ate Tore not dinner  
“Yesterday Tore didn't eat dinner”

(14)

a. \*?I går spiste **ikke han** middag  
Yesterday ate not he dinner

b. I går spiste **han ikke** middag  
Yesterday ate he not dinner  
“Yesterday he didn't eat dinner.”

Subjects that follow a negation should be considered as having more focus than those preceding negation (Westergaard 2008). The placement of the subject can also depend on



whether the subject is previously introduced or new information, see e.g. Westergaard & Vangsnes, (2005). That means that in (15b); the pronoun needs to have focus in order for the sentence to be acceptable. When a DP is used and not a pronoun this usually indicates that we are not talking about previously given information. Consequently, sentences where a full DP has shifted (16) rarely occur in production.

(15)

- a. Hvorfor var **han ikke** der i går?  
Why was he not there yeaterday?
- b. \*?Hvorfor var **ikke han** der i går?  
Why was not he there yesterday?
- c. Hvorfor var **ikke HAN** der i går?  
Why was not HE there yeaterday?  
“Why wasn’t he there yesterday?”

(16)

- a. \*Hvorfor var **Simon ikke** der i går?  
Why was Simon not there yesterday?
- b. Hvorfor var **ikke Simon** der i går?  
Why was not Simon there yesterday?  
“Why wasn’t Simon there yesterday?”

It is, however, possible to have a subject shift to the higher position even if it is a full DP if it is already given in the discourse (Westergaard 2008). The difference between SS and OS lies in that OS only allows for pronouns to appear in the high position, while SS also allows for full DPs to shift, see e.g. Westergaard (2011). However, a corpus study of adult child-directed speech done by Anderssen & Westergaard (2010) shows that adults very rarely produce sentences with DPs in the high position ( only 2,3% of the time). In the examples where this kind of shift took place, the DP had already been mentioned in the immediately preceding context. In addition, it was the continued topic of the conversation (Anderssen & Westergaard (2012:10). The data is from a corpus of the Tromsø dialect that contains examples from both child and adult language. Table 1, from Anderssen & Westegaard (2010:2571), shows where the adults from the Tromsø corpus place pronominal and DP subjects.

**Table 1** *Placement of subject pronouns and full DPs by adult speakers from Tromsø in child directed speech from Anderssen & Westergaard (2010:2571)*

Pronominal and full DP subjects with S-Neg and Neg-S word order in main clauses in the Tromsø acquisition corpus, adult speakers.

	High position (S-Neg)		Low position (Neg-S)	
	Pronoun	Full DP	Pronoun	Full DP
MOT Ina.01-27	114	1	14	16
FAT Ina.01-27	62	0	7	4
MOT Ann.01-21	155	0	43	11
FAT Ann.01-21	9	0	11	3
MOT Ole.01-22	33	0	5	7
FAT Ole.01-22	20	0	6	2
INV Ina.01-12, 14, 17-27	363	0	42	17
INV Ann.01-21	271	1	39	17
INV Ole.01-11, 13	145	0	24	9
INV Ole.13-22	177	0	26	13
<b>Total</b>	<b>1349</b>	<b>2</b>	<b>217</b>	<b>99</b>
	1351 (81%)		316 (19%)	

The adults seem to show a preference for placing DPs in the low position even when they are previously mentioned and present in the context. This indicates that instances where DPs appear in the high position are very rare. The corpus data also shows that the adults generally use a lot less full DP subjects in child-directed speech than pronouns (6,1% in main clauses and 5,9% in embedded clauses). A corpus study of speech that is not child-directed reveals that the number of full DPs is even lower (only 1,3% in embedded clauses and 5,9% in main clauses) (Westergaard 2011).

It has been found that child speech differs from adult speech with respect to placement of subjects and objects. As mentioned, informationally light, pronominal subjects are usually placed above the negation in adult speech. However, children up to the age of about three have a tendency to place subjects behind the negation more often than ahead of it (Westergaard 2008, Andersen et al. 2010). In other words, children show a preference for non-shifted word order at the earliest stages of their language acquisition. According to Westergaard (2008), children start producing subjects overwhelmingly in the high position between the ages 2;6-3;0. At the same time, the children are found to always place DPs in the low position. Westergaard (2008) interprets that this is due to the fact that children are sensitive to information structure from an early age. As mentioned, adults too almost always place DPs in the low position, indicating that this placement is most frequent in the input that the children receive.

It has been suggested that children produce this type of non-target-consistent word order due to structural economy (Westergaard 2008, Andersen et al. 2010, etc.). That is, children avoid moving certain elements further up in the structure before they have received enough evidence for this movement in the input. Movement of a segment from one position to another

implies what Anderssen et.al. (2012) refer to as derivational complexity. In other words, we assume that moving a segment is more complex than not moving it, which could explain why not moving a segment would be easier for a child.

### 3.2. *Object Shift*

As mentioned above, there is a difference between the children's acquisition of SS and their acquisition of OS. What differs is the amount of time it takes for children to start showing a preference for sentences where the subject has moved as opposed to those where the object has moved. In fact, it appears that Object Shift is still not properly in place at the age of seven. Anderssen et.al. (2012) tested 11 children aged 4;05-5;06 and 16 children aged 6;01-7;00. The results are here shown in Table 2 (Anderssen et.al. 2012:53).

**Table 2** *Placement of pronominal objects by Norwegian L1 children from Anderssen et.al. (2015:53)*

Children's Production of Shifted and Unshifted Pronominal Objects <sup>1</sup>						
Age Groups	Topical Pronouns		Total	Contr/Indef Pronouns		Total
	Shifted	*Unshifted		*Shifted	Unshifted	
4;05-5;06	15 (19.0%)	64 (81.0%)	79	0	39 (100%)	39
6;01-7;00	102 (69.4%)	45 (30.6%)	147	0	55 (100%)	55

<sup>1</sup>In Table 2 and all subsequent tables, the asterisks denote nontarget-like words.

As we can see from the table, both the youngest and the oldest children place indefinite and contrastive pronouns in the target-consistent non-shifted position 100% of the time. This means that children do not overgeneralize OS to pronouns that do not shift in the adult language. When it comes to topical pronouns, on the other hand, we can see that the youngest children only shift these 19% of the time. With the oldest group, the percentage of shifted topical pronouns is considerably higher (69.4%). In other words, the children of this age group shift topical pronouns more often than not, but they still do not shift it target-consistently all of the time.

In Anderssen et al. (2010) the difference between acquisition of SS and OS was attributed to lack of relevant input. This hypothesis is based on the fact that children seem to receive a lot less input which has object shift as opposed to the input with subject shift, which is simply due to subjects being a lot more frequent in language in general.

In Andersen et al. (2010:265) a sample of child directed speech had 187 examples with the context for SS and 93 examples with potential contexts for OS. Out of the 187 examples with context for SS 157 contain shifted pronouns, while there are only 3 examples with shifted objects. In other words, not only do contexts with potential for SS occur more than twice as much as the ones with potential for OS, but actual examples where the object has been shifted are also extremely rare.

In a later paper Anderssen et.al. (2012) argue that the delay can be attributed to OS being more complex than SS. As we have seen, an object can only shift if it is a topical, individuated pronoun. Anderssen et.al. point out that this makes OS distributionally complex. That is, the children have to distinguish between the types of pronouns that shift and those that do not. In the examples (6) and (7) we saw how the pronominal object *det* (it) behaves differently depending on whether it refers back to a specific thing or not. Anderssen et.al. call this referential complexity. Finally, OS is derivationally complex because it involves syntactic movement. As Anderssen et.al. point out, derivational complexity alone can not account for the extreme delay in acquisition of OS. After all, SS, which also involves syntactic movement, is acquired a lot earlier.

Westergaard (2007) argues that objects relatively infrequently appear in the informationally given position because of the infrequency with which pronominal objects appear in spoken language. The tables below, from Westergaard (2010) illustrate how often objects and subjects appear as pronouns and as full DPs in spoken Norwegian language. The word *det* “it/that” appears separately in the tables because it can be either referential, in which case it could appear in the higher position with the rest of the pronouns, or non-referential, in which case it would appear in the lower position. Table 3 shows the occurrence of subjects and objects in a sample of conversational speech from a corpus of spoken Norwegian.

**Table 3** Occurrence of subjects and objects in conversational speech Norwegian from Westergaard (2010:17)

	Pronouns (pers/refl)	<i>det</i> (‘it/that’)	DPs/clauses	Misc/Other	Total
Sub- jects	340/0 (57.8%)	204 (34.7%)	35/0 (6.0%)	9 (1.5%)	588 (100%)
Ob- jects	11/22 (15.4%)	37 (17.3%)	104/38 (66.4%)	2 (0.9%)	214 (100%)

From Table 3 we can see that objects are much more often realized as DPs/clauses (66.4% of the time) than as pronouns (15.4% of the time). Westergaard also points out that the word *det* tends to be a demonstrative rather than a referential pronoun when it is an object, although this cannot be seen in this table. This tells us that objects more often than not are new/focused information and occupy the lower position, after the negation. Similar results can be seen in Table 4, which has a sample of child-directed speech taken from the Norwegian corpus of acquisition.

**Table 4** *Occurrence of subjects and objects in child-directed speech from Westergaard (2010:17)*

	Pronouns (pers/refl)	<i>det</i> (‘it/that’)	DPs/clauses	Misc/Other	Total
Sub- jects	272/0 (67.5%)	99 (24.6%)	29/0 (7.2%)	3 (0.7%)	403 (100%)
Ob- jects	26/3 (16.4%)	40 (22.6%)	74/32 (59.9%)	2 (1.1%)	177 (100%)

In Table 4, we once again see that object DPs/clauses are much more frequent than object pronouns (59.9% vs. 16.4%).

### 3.3. *Complexity, frequency and economy*

So far, we have seen that frequency, complexity and economy have been thought to play a role in child acquisition. Anderssen & Westergaard (2010, 2015) find support for these theories by looking at the acquisition of Norwegian Subject Shift and possessives. The two possessive constructions in question are shown in (17) and (18) from Anderssen & Westergaard (2015:3). While (17) shows the prenominal possessive position, (18) shows the postnominal one. Anderssen & Westergaard argue that the postnominal position is the more complex one, based on the assumption that the postnominal position involves the noun having to move across the possessive to merge with the determiner.

(17)

*min bil*

my car

(DET- suff) POSS – NOUN

(18)

<i>bilen</i>	<i>min</i>	<i>bil</i>
car.DEF	my	car
NOUN+DET	POSS	NOUN

Even though it is the more complex construction, it is also the most frequently used. Anderssen & Westergaard (2010) found that in child directed speech the possessive appears in the postnominal 75% of the time and in the prenominal position only 25% of the time. In an adult corpus of 166 people from Oslo in Norway, Anderssen and Westergaard found a similar division between the use of postnominal and prenominal position (73% vs. 27%). Even though the postnominal position is the most frequent one in the input, Anderssen and Westergaard (2010) found that children start out using only the prenominal position and then begin using the postnominal one more and more between the ages of 2 and 3. Based on their findings, Anderssen and Westergaard (2010) conclude that frequency is not the most important factor in the acquisition of such constructions that involve either possessives or Subject Shift. Instead, they suggest that economy and complexity may be playing an important role in first language acquisition, due to the fact that children seem to first acquire the least complex word orders that do not require movement.

In Anderssen and Westergaard (2015) the child data on possessives was compared to data collected from Norwegian-Americans living in the USA to find out if these speakers also preferred the prenominal position. The subjects were in this case mostly third generation Norwegian immigrants between the ages of 70 and 90. The data was collected through interviews and the goal was to study the effects of attrition on a language. It turned out that the Norwegian-American heritage speakers use the postnominal position for possessives slightly more than the adults in the Norwegian corpuses do. The division between the prenominal and postnominal possessives produced by the heritage speakers is 19.9% vs. 79.9%. Based on these findings, the authors conclude that complexity is important when it comes to acquisition, but that adults may be more influenced by frequency. They suggest that this may indicate that complexity is only an issue before a construction is acquired. Here it is important to note that the findings concern child L1 acquisition and that the adult data is on attrition rather than acquisition. For my own data, I have to take into consideration that the participants may not be familiar with the constructions in question. Would complexity still play a role when the construction is not previously acquired, or is frequency the more important factor when it comes to adult acquisition? As we will see in chapter 5, some



participants may have an advantage when acquiring OS due to some properties in their own L1s. Furthermore, if the findings from Anderssen and Westergaard (2015) do apply to adult language in general, it could mean that linguistic complexity is less difficult for adults than it is for children during the acquisition process.

## 4. Ln vs. L2 acquisition

How well someone is able to acquire a new language is related to many different factors. The success of learners at acquiring a language may depend on such things as their individual capabilities, the teaching style and the other languages they know. Looking at the acquisition of a third or fourth language may be more complex than looking at the acquisition of a first or second language. For decades, researchers focused mainly on the acquisition of a first or second language, largely ignoring the acquisition of languages beyond the L2 (Cenoz, 2001; Leung, 2005). Consequently, the fact that there is a difference between the acquisition of an L1 and an L2 has been extensively studied and agreed upon (De Angelis, 2007; Rothman and Cabrelli Amaro 2010). At the same time, the acquisition of any language beyond an L2 has often been grouped together with L2 acquisition and many have suggested that there is no difference in how any of the non-native languages after the L1 are acquired. De Angelis (2007:5) claims that this can in part be attributed to the fact that the term 'second' has been overgeneralized in the literature to refer to second languages as well as all other non-native languages.

During the last couple of decades, it has become more and more accepted that acquisition of an L2 is different from the acquisition of an L3. This is due to the fact that the different languages a person knows may be influencing how s/he acquires a new language in different ways. It is not always clear how the different languages play into the acquisition process. However, it has become more and more common for researchers to stress that L3 acquisition is not the same as L2 acquisition. To support this claim, it has become important to demonstrate that transfer in L3A does not only come from L1. Some have argued that both the L1 and L2 can act as a source of transfer when acquiring an additional language (see e.g., Flynn et.al, 2004; Westergaard et.al. 2016) and that acquisition of additional languages becomes easier the more languages a learner already has in his/her inventory (see e.g. Leung, 2005). Others have put the focus on the L2, claiming that it is the main or only source of transfer (see e.g. Bardel and Falk, 2007). Factors such as which language the person acquired last, which languages s/he is most dominant in and the linguistic distance may be contributing, but it is not easy to tell which of the factors are most important. Below I present the findings of some previous studies on Ln acquisition to get a clearer picture of which factors seem to be contributing to the acquisition process.

Cenoz (2001) presents a project in which 90 elementary and secondary school students from the Basque country were asked to produce a story in English. The students had Basque and/or Spanish as their first languages and they were learning Spanish and English at school. While Spanish and English are Indo-European languages, Basque is a non-Indo-European language. Transfer was categorized as one or more Basque or Spanish terms being produced as part of an English sentence. The transferred words were not cognates. In Cenoz (2001) they were termed as “borrowings” and “foreignisings”. The former refers to the use of a word from the source language in the middle of an English sentence without any phonological or morphological adaptation. While “foreignising” means the word does undergo phonological and morphological adaptation. Two factors that were taken into consideration in this project were age and linguistic distance. It was found that the older students transferred more than the younger ones. In addition, the older students transferred more from Spanish than they did from Basque. Table 5 from Cenoz (2001:14) shows how many utterances were transferred from Basque and Spanish by each grade.

**Table 5** *Amount of terms transferred from Spanish and Basque by different grades from Cenoz (2001:14)*

	<b><i>Basque</i></b>	<b><i>Spanish</i></b>	<b><i>Total</i></b>
<b>Grade 2</b>	21 (34%)	41 (66%)	62
<b>Grade 6</b>	25 (38%)	41 (62%)	66
<b>Grade 9</b>	9 (13%)	61 (87%)	70
<b>Total</b>	55	143	198

From the table we see that all groups mostly use Spanish over Basque for transfer when speaking English (143 vs. 55 utterances). This tendency seems to become more frequent as the students get older. Cenoz (2001) concludes that linguistic distance plays an important role in cross-linguistic transfer because the students are choosing to transfer from Spanish, which is more like English than Basque. The fact that the older students transfer even less from Basque than the younger ones is attributed to older learners having higher metalinguistic awareness.

Cenoz (2001) also found that those who have Basque as an L1 used Spanish as the source language more than those whose L1 was Spanish. At the same time, those with a Spanish L1 transferred more terms from Basque than those with Basque as their L1, although they still used Spanish as their main source language. The author attributes this to the fact that learners have a tendency to use their L2 as the source language when acquiring a new language. This

is also known as L2 status (Williams and Hammarberg, 1998 and Hammarberg, 2001). The idea of L2 status is that an L2 impacts the acquisition of an L3 more than an L1 does. Bardel and Falk (2007) suggest that this is because the learners group the L2 and L3 together as non-native languages and co-activate them during acquisition. This is in line with the declarative/procedural model (Ullman, 2001), which suggests that there are different memory sources linked to L1 as opposed to L2 acquisition. The model suggests that L1 grammar is implicitly acquired, similarly to motor and cognitive skills, and is dependent on procedural memory. L2 grammar, on the other hand, is dependent on memorization and explicit knowledge and it is sustained by declarative memory. Because an L3 is acquired similarly to an L2 and they are both dependent on the declarative memory, it is likely that transfer will occur between the L2 and the L3 (Westergaard et.al, 2016). Leung (2005) similarly found that transfer in L3A mainly came from L2 in the initial state. The findings in Leung also indicated that the pool of a learner's known language can facilitate the acquisition of subsequent languages, especially if there is typological similarities between some of the known languages and the target language (Leung, 2005:58).

Even though the learners in the above project mainly used their L2 as source language, all learners transferred more from Spanish than from Basque. For that reason, Cenoz (2001) concludes that linguistic distance has more influence on acquisition than L2 status. As we will see, the below studies have varying theories about the importance of L2 status and typological closeness.

Hammarberg (2001) is another study that demonstrates how a learner starts out relying on their L2, but rely more on their L1 as they become more proficient in the target language. It presents a longitudinal study of one person whose L1 is English and L2 is German. The study focuses on language switches and on which languages are most used as a source for the different types of switches. The data was gathered through recorded conversations between the learner and an interlocutor whose L1 was Swedish. The L1 was most often activated when used for some pragmatic purpose, such as asking a question or making a comment on the communicative situation. The L2, on the other hand, tended to be activated in the formulation process and was also most used in the construction of new words. Hammarberg refers to English as the external instrumental language and to German as the external supplemental language.

The switches into English continued, although at a decreasing rate, throughout the entire period of recording of two years, while the German switches ceased after a year and a half.

The influence from L2 German was most noticeable in the early stages of acquisition. Hammarberg attributes this to the learner relying on the L2 as a strategy while s/he is still too unfamiliar with the L3. As the German influence disappeared, the influence from English L1 became more noticeable. This influence from the L1 was most noticeable in the phonetic domain. Hammarberg attributes this to neuro-motor routines that are difficult to control.

The use of English for utterance with a pragmatic purpose is attributed to the fact that both the learner of Swedish and her interlocutor used English outside the project sessions. For that reason, English became the most natural language to use. The fact that German is used as the supplier language is attributed to its L2 status. Williams and Hammarberg (1998) suggest that the factors recency, typology, proficiency and L2 status decide which languages become the supplier language. Williams and Hammarberg consider German to be somewhat typologically closer to Swedish than English, but not enough for the typological closeness to be the deciding factor in German being chosen as the supplier language. Instead, the fact that German, like Swedish, is a foreign language is chosen over English, which has the status of non-foreign language. There is no clear indication in Williams and Hammarberg (1998) that one factor has more influence than another when it comes to choice of supplier language. Rather, the sum of the value of all the four factors (recency, typology, proficiency and L2 status) is considered to be key.

Lindquist (2009) is a study that demonstrates how the roles of the different languages in ones repertoire change as proficiency rises. The study involves Swedish L1s acquiring French as an L<sub>n</sub>. The participants were split into three groups: beginners (n=30), secondary school students (n=30) and university students (n=30). All participants had been learning English for nine years at school. In addition, most participants had been learning other languages, such as German, Spanish, Italian and Latin for various periods of time. The learners participated in fifteen-minute-interviews with a native speaker of French who also understood Swedish. One type of cross-linguistic influence that was identified in the analysis was code-switching. Code-switches are by Lindquist defined as utterances produced in one of the background languages that are in no way adapted to the target language. The other type of cross-linguistic influence was word construction attempts. That is, “(...) attempts at producing a word in the target language on the basis of a word from a background language.” (Lindquist 2009:287).

One of the findings of the study was that the beginners produced the most cross-linguistic lexemes and that the number became lower the more advanced the learners were. At the same time, the more advanced students produced many more words than the less proficient ones.

Based on the findings Lindquist concludes that the amount of cross-linguistic influence is reduced with higher proficiency in the target language. This was also found by Williams and Hammarberg (1998) and Williams and Hammarberg (2009).

Table 6 shows the types of cross-linguistic influence and the source language used. The interesting thing about these findings is that the most used source language is the L1. These findings are contrary to what we have seen so far from the other studies, which have found L2 status to be one of the most, if not the most, important factor. Lindquist suggests, referring to De Bot's (2004) hypothesis, that the L1 is the most activated language because it is the strongest language for the participants. The table also shows that the beginners resort more to their background languages than the more advanced learners. They also use several background languages, while the more advanced learners only rely on English in addition to their L1. This might also be an indication of the strongest languages being activated more often.

**Table 6** *Types of cross-linguistic influence and source language used by students at different levels of acquisition from Lindquist (2009:290)*

Group	L1 code-switches		L1 word construction attempts		L2 code-switches		L2 word construction attempts		Ambiguous cases			Total cross-linguistic lexemes		
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>N</i>	(%)
Beginners ( <i>n</i> = 10)	175	72	3	1	47 (Eng, Spa, It)	19	10 (Eng, Spa, It)	4	7	3			242	100
Secondary-school students ( <i>n</i> = 10)	121	90	7	5	4 (Eng)	3	1 (Eng)	0.7	3	2.3			136	100
University students ( <i>n</i> = 10)	20	54	3	8	6 (Eng)	16	5 (Eng)	14	3	8			37	100

The type of cross-linguistic influence most used is the code switching. Lindquist attributes this to the fact that it was easier for the learners to resort to a background language when they cannot find the correct target language word. She further assumes that Swedish is the most frequently used language because it is understood by the interviewer. Even though the L1 is the most activated language in this case, this is only the case for the code switches. When it comes to word construction attempts, both the beginners and the university students activate the L2s more often than the L1.

Like some of the above studies, the study by Rothman and Cabrelli Amaro (2010) also found that the participants transferred from their L2 rather than their L1 even when transfer from the L1 would lead to target-like L3 constructions. The L1 of the participants was English, the L2 was Spanish and the target languages were either French or Italian. The focus of the study was



the Null-Subject Parameter (see e.g. Chomsky 1981; Rizzi 1982), which refers to the fact that subjects must be overtly expressed in some languages, but that other languages allow for the subjects to be either pronounced or omitted. Out of the languages in the study English and French require all subjects to be pronounced, while in the null-subject languages Spanish and Italian overtly expressing the subject is optional. Because both English and French are non-null-subject languages, Rothman and Cabrelli Amaro argue that it would be more economic to transfer from their L1 than their L2. However, because the participants mostly transferred from their L2, Rothman and Cabrelli Amaro argued that this was because both the L2 and the target languages were non-native, but also because they were closely related to each other. In other words, in addition to the L2 status factor, the participants were assumed to be influenced by (psycho)typology, a term coined by Kellerman (1983), which refers to the learner's own perception about typological closeness between languages. In other words, the participants in Rothman and Cabrelli Amaro transferred from their L2 because they perceived it to be typologically closer to the target language. The findings are explained in light of the Typological Primacy Model (TPM; Rothman, 2011, 2013, 2015), which suggests that the learners choose one of the languages in their repertoire at an early stage that they think will facilitate the acquisition process. As a result, the learners only transfer from the system they have selected in the initial stages of L3A. In other words, because the learners in the study perceived Spanish to be typologically closer to both Italian and French, they chose to transfer from Spanish in both cases. However, while transfer from Spanish was facilitative for Italian, it was non-facilitative for French.

Like TPM, the Linguistic Proximity Model (LPM; Westergaard et.al, 2016) suggests that influence from previously acquired languages can be both facilitative and non-facilitative. Another similarity is that the LPM also suggests that transfer happens when structural similarity between one of the known languages and one of the previously acquired languages is detected in the Ln. However, the LPM does not imply that the learner transfers the whole grammar of the language he/she perceives to be typologically/structurally similar to the L3, excluding all transfer from the other known languages. Instead, LPM suggests that the learner should benefit from all known languages, regardless of whether the language is an L1 or an L2. Transfer is thought to occur property-by-property. That is, if the learner recognizes that a linguistic property of the Ln is structurally similar to one or both of his/her known languages this may encourage transfer.

In Westergaard et.al (2016) predictions of the LPM are tested in a study comparing L2A and L3A. The participants in the study were from three different groups: monolingual Norwegian (1L1), monolingual Russian (1L1) and bilingual Norwegian-Russian speakers (2L1). The participants were all acquiring L3 English. Their task was to mark on a scoring sheet whether a certain sentence was grammatical or ungrammatical. The sentences were of two different types: declaratives and questions. As can be seen in (19a and b) from Westergaard et.al, 2016:6) the English declaratives have a similar word order to Russian, while English questions have word order similar to Norwegian. This means that influence from Russian would be facilitative with regard to declarative English sentences and non-facilitative for English questions. Contrastively, influence from Norwegian would be facilitative for questions and non-facilitative for declaratives.

(19)

a. *Adverb-Verb word order (no V2)*

ENG = RUS  $\neq$  NOR

Emma **often** eats sweets. ENG

Emma **často** jest konfety. RUS

Emma often eats sweets

Emma spiser **ofte** konfekt. NOR

Emma eats often sweets

b. *Subject-Auxiliary inversion (residual V2)*

ENG = NOR  $\neq$  RUS

What **will** the little girl read? ENG

Hva **vil** den lille jenta lese? NOR

What will the little girl read?

Čto eta malen'kaja devočka **budet** čitat'? RUS

What the little girl will read?

The results from the study supported the predictions Westergaard et.al made based on the LPM. The Norwegian monolinguals give the target-consistent word order in (19a) a lower score (60%) than the two other groups because of influence from the V2 property from Norwegian. The Russian monolinguals showed facilitative influence from their L1 and gave the English declarative sentences the highest score out of the three groups (84%). The Norwegian-Russian bilinguals landed between the Russian and the Norwegian monolinguals

with a score of (75%). Westergaard et.al suggest that the bilinguals score between the two monolingual groups due to influence from both of the L1s. For questions both the Norwegian-Russian bilinguals and the Norwegian monolinguals gave high scores (81% and 80%), while the Russian monolinguals gave a slightly lower score of 72%. The authors suggest that a language that is perceived as being overall typologically closer to the L3 can be dominantly used for transfer in the initial stages of acquisition. However, as the learners get more input from the L3, structural proximity of individual properties should play a bigger role.

Considering all of the different findings described above, it is safe to say that we do not yet have an approach to Ln acquisition that fully explains how prior linguistic knowledge influences the acquisition of a third or subsequent language. Nevertheless, based on many of the findings from the above studies, it would seem appropriate to take into consideration whether languages besides the L1 may be influencing the judgements the participants in the current study make. At the same time, most of the above studies make a distinction between the initial state and more advanced acquisition, arguing that the L2 status factor is most prominent during the initial state. Influence from the language that is perceived to have overall typological proximity to the target language is also argued to be most prominent at the beginning/early in the acquisition process. This implies that other factors may be more important in more advanced acquisition and that different languages are activated for transfer. Following Westergaard et.al (2016) we may expect the learners to rely more on the language that is typologically closer (not just perceived as being typologically closer) to the target language as their proficiency grows. The current study does not contain production tasks like most of the above studies. However, how the participants rate the different sentences may reflect which language they are activating while taking the survey. Because this is not an L3 study, I do not have the data to make a reliable comparison between the first and additional language of the participants in my study. The participants had many different additional languages and most had unique combinations of known languages. However, the results are likely to throw some light on the role of the L1 when it comes to acquisition of word order.

## 5. Object movement in different languages

Because the shifting of referential pronouns does not seem to be obligatory in Norwegian, OS this may be interpreted as a case of optional word order. Optional word order has been described as being difficult to acquire due to ambiguity in the input. The learners may have limited access to relevant input and may struggle to learn whether a word order is truly optional, or subject to certain restrictions (see e.g. Papp, 2000; Hopp, 2005). Because of the infrequent occurrence of OS in Norwegian, the learners may not get sufficient input to decide that this is the target consistent word order. At the same time, if the learners do notice that shifting is a property of Norwegian, they may not be able to decide in which contexts it is applicable. The lack of shifting in certain contexts would not be sufficient to conclude that shifting is not applicable in these contexts. Some studies suggest that scrambling in ones L1 can influence the acceptance for scrambling in the target language. Hopp (2005) found that Japanese learners of German were much more accepting of scrambled word orders than English learners. At the same time, the Japanese also accepted scrambling in more contexts than the native German participants did. Hopp suggests that this happens due to the Japanese learners not being able to conclude from the lack of input that scrambling does not occur in certain contexts.

I predict that how the participants in the study rate the different sentences they are presented with may be influenced by the other languages in their repertoire and whether they have phenomena that resemble OS. This chapter contains a brief introduction of some languages that have object movement, with foremost focus on languages that several participants in my survey reported to know.

### 5.1. *Germanic Scrambling*

There are other Germanic languages, aside from the Scandinavian ones, that allow for the object to be moved across an adverb or negation to a higher position. OS is one of the types of object movement that exists in Germanic languages. It exists in all Germanic SVO languages except for English. The other type is scrambling and exists in Germanic SOV languages such as Dutch and German.

OS and scrambling are similar in several ways. As mentioned, they both involve movement of an object to a higher position. However, scrambling is different from Scandinavian OS in that in addition to NPs, scrambling allows for movement of PPs and APs. The examples (20)-(23)

from Thráinsson (2001) show the different kinds of shifts that can occur in German and Dutch scrambling. These examples show that scrambling, unlike OS, can occur in embedded clauses. In addition, scrambling differs from mainland Scandinavian in that it allows movement of full DPs, as we can see in (20). In (21c and d) we see that a PP has been moved across the adverb, while (22) shows that the movement of an AP is not possible. As mentioned, OS can only take place when the main verb is finite and has moved out of the VP. Example (23) shows how an object in German can shift even when the main verb is non-finite.

(20)

- a. . . . dass Jens nicht die Bücher kauft. (Ge)
- b. . . . dat Jan niet de boeken koopt. (Du)  
     “that John not the books buys anymore”
- c. . . . dass Jens **die Bücher** nicht kauft.
- d. . . . dat Jan **de boekeni** niet koopt.

(21)

- a. . . . dass Jens kaum auf meine Bemerkung reagierte. (Ge)
- b. . . . dat Jan nauwelijks op mijn opmerking reageerde. (Du)  
     “that John hardly on my remark reacted to the thing he liked most”
- c. . . . dass Jens **auf meine Bemerkungi** kaum reagierte.
- d. . . . dat Jan **op mijn opmerkingi** nauwelijks reageerde.

(22)

- a. . . . dass Jens morgen die Tür dunkelgrün streicht. (Ge)
- b. b. . . . dat Jan morgen de deur donkergroen verft. (Du)  
     “that John tomorrow the door dark green paints”
- c. c. \*. . . . dass Jens **dunkelgrüni** morgen die Tür streicht.
- d. d. \*. . . . dat Jan **donkergroeni** morgen de deur verft.

(23)

- a. . . . dass Jens gestern das Buch gekauft hat. (Ge)  
     that John yesterday the book bought has
- b. . . . dass Jens **das Buchi** gestern ti gekauft hat.  
     “. . . that John bought the book yesterday.”

At the same time, scrambling can look very similar to OS in that there is pronoun movement over negation, as can be seen in (24) from Thráinsson (2001).

(24)

- a. I går læste han **dem** ikke (Da)
- b. Gestern las er **sie** nicht (Ge)  
yesterday read he them not

It is assumed that scrambling can move segments higher up than OS, as scrambling in some cases allows for objects to be moved across subjects. This is not possible for OS. However, this distinction is not visible in the above example, where the object is placed just above the negation in both languages. Because of the similarities between the languages in this case, it is possible that people who have scrambling in their known languages can be more accepting of sentences with OS. This could at least be the case in German and Dutch, as these languages are quite close to Norwegian typologically.

## 5.2. *Free word order in Slavic languages*

Other languages that may not be so closely related to Norwegian may also have certain properties that facilitate their acquisition of OS. Certain Slavic languages have what is called a “free word order”, meaning that they allow for constituents to be ordered in many different ways. Example (25) from Bailyn (2003) shows all possible word orders in Russian with a sentence that has a Subject, Verb and Direct Object. The first sentence (a) has SVO word order, which is considered to be the underlying word order in Russian. The other sentences are also perfectly acceptable, although in different contexts.

(25)

- |    |                         |                       |     |
|----|-------------------------|-----------------------|-----|
| a. | Mal’čiki čitajut knigi  |                       | SVO |
|    | Boys-NOM read books-ACC |                       |     |
| b. | Mal’čiki knigi čitajut  | Мальчики книги читают | SOV |
| c. | Knigi mal’čiki čitajut  | Книги мальчики читают | OSV |
| d. | Knigi čitajut mal’čiki  | Книги читают мальчики | OVS |
| e. | Čitajut mal’čiki knigi  | Читают мальчики книги | VSO |
| f. | Čitajut knigi mal’čiki  | Читают книги мальчики | VOS |
- “ The boys read books”

As shown in the above examples, the object can appear in many different positions, including both in front of and behind the Subject and/or Verb. The below examples (26) have examples of Russian sentences with a negation. The sentences cannot have the exact same word order as Norwegian because Russian does not have verb movement, which is essential for

Scandinavian OS. Unlike Germanic Scrambling, the object moves across the verb, rather than the adverb/negation. However, from (b) and (d) we can see that both a pronoun and a DP can appear in front of a negation, which means that pre-negation placement of objects would not be unfamiliar to speakers of Russian.

(26)

- a. Saša ne čitajet knigi  
Sasha NEG read books-ACC
- b. Saša knigi ne čitajet  
Sasha books-ACC NEG read  
“Sasha doesn’t read books”
- c. Saša ne čitajet ix  
Sasha NEG read them-ACC
- d. Saša ix ne čitajet  
Sasha them-ACC NEG read  
“Sasha doesn’t read them”

### 5.3. *English and Romance languages*

Other languages, such as English and languages of the Romance family, do not have the benefit of being familiar with object movement from their own L1s. English, despite being a Germanic language, differs from the languages in its family in various ways. English is always VO, which means that it never has object movement regardless of whether the object is a pronoun or a full DP. In addition, it does not move thematic verbs out of the VP (see e.g. Bardel and Falk 2007, 2011). While non-thematic verbs do move across negation, the thematic verbs and object always stay behind (27).

(27)

- a. Sam did not read the book.
- b. Sam did not read it.
- c. \*Sam read not it
- d. \*Sam read it not.

A distinction between pronouns and full DPs is only made in a double-object construction (28). When a sentence contains both a pronoun and a full DP, the pronouns usually comes first. The construction in (28c) is also possible, but (28a) is much more usual. In other words,

the position of the object in English can only vary when there are more than one object in the sentence.

(28)

- a. Sam gave me the book
- b. \*Sam gave the book me
- c. Sam gave the book to me

The Romance languages do not have object movement across negation either. At the same time, the examples in (29) and (30) from Spanish show that an object has to move across the verb if it is a pronoun, but stay behind the verb if it is a full DP.

(29)

- a. Juan no lee libros  
Juan not reads books
- b. \*Juan no libros lee  
Juan not books reads
- c. \*Juan libros no lee  
Juan books not reads  
“Juan doesn’t read books.”

(30)

- a. Juan no los lee  
Juan not them reads
- b. \*Juan no lee los  
Juan not reads them
- c. \*Juan los no lee  
Juan them not reads  
“Juan doesn’t read them.”

In fact, most languages treat pronouns and DPs differently. That is, they allow for pronouns, which are the lighter segments, to appear further up in the sentence than the heavier DPs.

Based on this fact, we may expect that understanding the difference between pronouns and full DPs would be easier for learners of Norwegian than separating between referential and non-referential pronouns.

In sum, if transfer from the L1 can facilitate the acquisition of OS, then some participants may have an advantage in having an L1 that has object movement. Table 7 shows an overview of



the languages discussed in this chapter and some other languages that I will be looking at in chapter 9. It shows which languages have object movement across negation and which languages have movement across the verb. From the table it looks like OS would be most difficult to acquire for English L1s, as the language does not allow objects to move across negations or verbs. However, if we also consider typological closeness, the languages that are not from the same language family as Norwegian may have more of a challenge in acquiring the new language in general.

**Table 7** *Overview of types of object movement in different languages*

<b>Object movement and object placement in different languages</b>			
Object movement across negation	Object movement across verb	Clitic pronoun movement across the verb	Variation in object placement only visible in double object constructions
German	Russian	Spanish	English
Dutch	Ukrainian	Italian	
Swiss German	Polish	French	
	Serbo-Croatian		

## 6. Research questions and predictions

The survey for this project produced a large amount of data that can be approached in many different ways. In this chapter I present the questions I hope can be answered through statistical analysis of the data.

### 1. Do L<sub>n</sub> learners prefer the non-shifted word order?

If the participants show a general preference for the non-shifted word order, it could be due to the lack of OS in the spoken language. As we have seen, objects rarely appear in the higher position, as they are most often DPs or non-referential pronouns. Their preference for non-shifted objects could also be due to complexity. As mentioned, OS seems to be much more complex than for example SS, making it more difficult to acquire for children. The amount of complexity could also play a part in adult acquisition. As we have seen, children with Norwegian L1s start out with a preference for the non-shifted word order. If the L<sub>n</sub> learners do in fact prefer the non-shifted word order, it could be an indication that there are some similarities between L2A and L1A. However, there may be separate reasons for why adult L2 learners and child L1 learners prefer the non-shifted word order. As we have seen, some findings from Anderssen and Westergaard (2015) indicate that complexity may not be an important factor in adult acquisition. The studies on children were production studies, so we do not know how children would rate different sentences. As we have seen, children do not overgeneralize, as they never shift pronouns that should not shift. For this reason, it seems more likely that it is economy and complexity that influences the children not to shift. However, for the L2 learners it may have to do with lack of input.

Based on the fact that OS is so infrequent in the language, I predict that the L2 learners do in fact prefer the non-shifted word order. Many of the participants have only been learning Norwegian for a couple of months, while some have been learning it for a couple years at the most. This may not be enough time to acquire a process that takes more than seven years to fully acquire for child L1 learners of Norwegian.

### 2. Do L<sub>n</sub> learners accept shifted pronouns more if they have higher proficiency in Norwegian?

If the acquisition of OS does have to do with lack of input, they may become aware of this phenomenon the more time they spend in Norway. For this reason, I would predict that they would accept shifted pronouns more if they have heard enough similar sentences in the input.

3. Do Ln learners distinguish between pronominal and DP segments?

As we have seen, the DPs usually do not appear ahead of the negation, while pronouns usually do. For that reason we should see less of an acceptance for sentences where DPs have shifted across the negation (as in (2a)) if the participant has understood this difference. As we have seen, DP objects are much more frequent than pronouns, which could indicate that the participants are more familiar with where the DPs should be in a sentence. In addition, almost all languages make some distinction between pronouns and DPs. It is a salient linguistic distinction related to pragmatics and information structure.

4. Do Ln learners make a distinction between referential and non-referential pronouns?

Object pronouns only shift when they refer back to a specific thing. When they do not do this, they should remain in their non-shifted position. At the same time, non-referential pronouns are far more common than referential ones. The fact that objects in the non-shifted position are more common than objects that have shifted, may influence the Ln learners to think that no pronouns should shift. In other words, just as it is with the previous two research questions, this one is also connected to frequency. My prediction is that the distinction between referential and non-referential pronouns may be too difficult to make for the Lns with their current level of proficiency.

5. Do certain phenomena, such as Scrambling, in the learner's L1 have an effect on how well he or she acquires the Norwegian Object Shift?

To answer this question I check for whether participants with L1s from different language families differ in how they rate sentences with shifted objects. One relevant phenomenon is Scrambling, which can be found in German and Icelandic, among other languages. Scrambling differs from OS in that it allows for other elements than the object to be moved and that the elements can have other landing sites other than just above the negation. In addition, scrambling can take place even though the lexical verb does not move out of the VP (Anderssen & Bentzen 2012). It would also be interesting to see whether a freer word order in the L1 can help someone acquire Norwegian OS.

## 7. Methodology and participants

### 7.1. *Participants*

For this project, I have collected data from students acquiring Norwegian at UiT The Arctic University of Norway in Tromsø and NTNU Norwegian University of Science and Technology in Trondheim. The students were at different levels in their acquisition process and came from different parts of the world. The levels I am referring to are the levels of the Norwegian courses each of them were enrolled in. Most foreign students of Norwegian start at out at Level 1 and work their way up to Level 3 as they become more proficient. Twenty-six participants were at the introductory level of the Norwegian courses (Level 1), thirty participants were at the intermediate level (Level 2) and nineteen were in Level 3. They were not asked which countries they came from, only which languages they spoke. In case they were bilingual from birth, they could write two first languages. The question was presented in the following way:

**First languages. Here you have the option to write two languages if you were bilingual from birth.**

Language 1:

Language 2:

Twenty-one of the participants wrote that they had two first languages, eleven of whom listed English as their second first language. Table 8 has an overview of the number of participants per language and language group. The participants were not asked about their proficiency in their first languages, whether they had maintained both languages, or if one first language was more dominant than the other. For that reason, Table 8 below only holds the languages that were written in the first answer box, while Table 9 has the languages from the second answer box. Because they were students at the university, this allowed for easy access to participants. At the same time, I assumed that they had some proficiency in English, as they are required to take subjects in English at the university. This is crucial, as the explanation to the survey they were presented with was in English. This makes Norwegian an L3/Ln for most of the people who took the test, rather than L2, which means that the project contains data from Ln speakers of Norwegian.

**Table 8** *First languages from the first answer box*

<b>First languages of Ln speakers #1</b>					
Romance languages					Sum Romance languages
Spanish	Portuguese	Italian	French	Galician	17
6	3	4	3	1	
Germanic languages					Sum Germanic languages
German	Dutch	English	Swiss German		24
11	4	8	1		
Slavic languages					Sum Slavic languages
Russian	Polish	Serbo-Croatian			12
6	5	1			
Other languages					Sum other languages
Persian	Chinese	Nepali	Hungarian	Finnish	23
4	3	3	2	1	
Thai	Arabic	Urdu	Sakha	Lithuanian	
1	1	1	1	1	
Albanian	Basque	Georgian	Japanese	Turkish	
1	1	1	1	1	
					Sum all languages
					76

**Table 9** *First languages from the second answer box*

<b>First languages of Ln Speakers #2</b>			
Romance languages			Sum Romance languages
Spanish	French	Catalan	4
2	1	1	
Germanic languages			Sum Germanic languages
German	English		12
1	11		
Slavic languages			Sum Slavic languages
Russian	Polish	Ukrainian	3
1	1	1	
Other languages			Sum other languages
Hungarian	Arabic		2
1	1		
			Sum all languages
			21

In total 76 Ln learners completed the OS survey. Twenty-seven different languages were listed as first language. There were some languages that were more represented than others. The largest groups were German (n=eleven), English (n=eight), Russian (n=six), and Spanish (n=six). See appendix for complete list of participants and their languages. In addition, thirty

additional (L2/Ln) languages were listed. However, the data were not collected for an L3 survey, so I do not have the sufficient information to make any definite assumptions about the role of additional languages. This is due to there being too many languages, not having enough participants in each language group, as well as the fact that I did not test their proficiency in these languages.

In order to ensure that the sentences used in the survey generated the desired responses from the participants a control group consisting of people who have Norwegian as their L1 and some Ln learners of Norwegian were tested before the test was given to people acquiring Norwegian as an Ln. Three Norwegian L1 speakers and six Ln learners were part of this pilot.

In addition, a second group of Norwegian L1 speakers were given the surveys in order to compare their results to the results of the learners. There were fifty-one Norwegians participated in the survey, 30 of whom were from Troms and 21 of whom were from Trøndelag. I tested for whether there was any significant difference between the judgements of the participants from Troms and those from Trøndelag, which there was not. For this reason, I have chosen to group both the Trøndelag and Troms scores into one group (L1 results).

## 7.2. *The SurveyGizmo platform*

The software SurveyGizmo was used to make the OS survey. In SurveyGizmo one can write in the questions and decide in which way you want the participants to answer them. That is, you can choose whether you want them to provide a written response, check one or more boxes, choose an answer from a dropdown menu, and so on. You can decide whether you want the questions to appear in a specific order or whether each participant should see the questions in a random order. You can also decide how many questions you want to have on each page. SurveyGizmo also provides you with a link for your survey, which you can send to the people you want as participants. The answers are registered in SurveyGizmo as either complete or partial, depending on how many questions have been answered. The participants need to answer at least one question per page for the result to be labeled as complete. You can also choose to disqualify certain participants if they do not fulfill the requirements you have set. For example, you may have some participants who are not the right age or do not speak the right language. Finally, the results can be exported to a CSV or a PDF file for further analysis of the data.

### 7.3. *The OS survey*

For my own project, the people from the target group were given a survey consisting of a number of sentences with and without OS. The survey contained 30 sentences concerning OS and 20 fillers. The whole survey can be found in the Appendix.

The survey also had a proficiency test, consisting of 20 multiple-choice questions, where the participants had to choose the correct word to complete a sentence (31a) or conversation (31b). As shown in the examples, each question had four options. Only one option was correct. The participants could only select one box per question. Choosing the correct option gave one point, while choosing any of the other options gave no points, which means that the participants could score a maximum of 20 points on the proficiency test.

(31)

- a. Han elsket ... sjarmerende latter  
He loved ... charming laughter  
“He loved ... charming laughter”

hennes

“her”

dette

“this”

disse

“these”

seg

“himself”

- b. Skal du på ferie i sommer?  
Will you on holiday in summer?  
“Are you going on holiday this summer?”

Jeg har dessverre ikke råd til det.

I have unfortunately not afford for that.

“Unfortunately, I can’t afford that.”

Ja, for et par uker siden.

Yes, for a couple weeks ago.

“Yes, a couple of weeks ago.”

Nei, jeg må skynde meg.

No, I must hurry me.

“No, I have to hurry.”

Ja, jeg skal ødelegge det.

Yes, I will destroy it.

“Yes, I will destroy it.”

The test items were selected from a bigger test made by the teachers of Norwegian as a foreign language at UiT. There was no fixed correlation between the amount of correct questions and a specific proficiency level. The original test was a placement test that consisted of 80 test items and was used to decide which level Norwegian course the students belong in. Students who have just started to learn Norwegian are in level 1. The more advanced students are either in level 2 or 3. The proficiency test is used to decide which students belong in level 3, which only has 20 places. All of the questions give one point if answered correctly, but the last 30 questions of the test are more difficult than the others. I chose 20 questions for my own survey from these last 30 questions.

In addition, at the end of the survey, the participants were asked to provide some background information about themselves. I asked for their names, e-mail addresses, first languages other languages spoken, the level of the Norwegian course they were part of that semester (1, 2 or 3), and the amount of time they had been learning Norwegian. The names and e-mail addresses were needed for the purpose of the distribution of a second survey, the results of which will not be used in this project.

The OS survey was distributed by e-mail so that the students could choose whether and when they wanted to participate. The survey was sent out twice to try to recruit more participants.



The first time the survey was sent out was at the start of December 2015, and the second time was at the beginning of January 2016. It is possible that the survey may have proven too difficult for some of the participants, especially if they had just recently started to learn Norwegian. The fact that it may have been too difficult or too long was demonstrated by the fact that there were 124 partially finished surveys. Note that this number includes both the surveys where some of the questions were answered and surveys that were left completely blank. The results from these unfinished surveys are not included in my analyses.

There might be a gap in what a person is able to understand and what s/he is able to produce. Based on the assumption that learners of a foreign language are able to understand more of the new language than what they are able to produce, the Ln learners of Norwegian in this project were not asked to produce Norwegian sentences. Instead, they were given several sentences both with and without shifts and asked to perform acceptability judgements on them. That is, they were given some sentences where the object preceded the negation and some where it followed the negation. This type of test is called an Acceptability Judgement Task. They judged the sentences by use of a Likert scale, that is, by giving every sentence a score ranging from one, meaning they did not accept the sentence, to six, meaning the sentence was perfectly acceptable. The scale was chosen because the examples provided in the surveys were not always completely acceptable or completely unacceptable. What is most acceptable varies from person to person and from dialect to dialect. Norwegians may have somewhat different opinions of what they accept and do not accept. For that reason, I have used a Norwegian control group in order to have them as a baseline. By using a scale, it gives the participants the option to give more nuanced answers, while still capturing the tendencies of acceptance for the different types of examples. The scale was made up of numbers and smiley faces of different appearances and colors, to better illustrate which number best reflects the participant's attitude to the grammaticality of a sentence, as illustrated in Figure 1.

**Figure 1** *Likert scale from the OS survey*



In the introduction to the survey the participants were informed that they should choose the number 6 smiley if they thought that a sentence was completely grammatical (Figure 2), and the number 1 smiley if they thought a sentence was completely ungrammatical (Figure 3).

They were also informed that they could choose one of the smileys between 1 and 6 if they were less sure of the grammaticality of the sentence.

**Figure 2** *Figure from OS survey demonstrating how to rate a completely grammatical sentence*



**Figure 3** *Figure from OS survey demonstrating how to rate a completely ungrammatical sentence*



#### 7.4. *Types of sentences in the OS survey*

There was no time limit set for reading the sentence and judging its grammaticality. It was important that all the participants had enough time to read and understand the sentence, regardless of their proficiency level. Each example had a context sentence followed by a sentence that did or did not contain OS. The context sentences were written in italics in the survey in order to separate them from the sentences the participants were supposed to judge. It was specified in the introduction to the survey that the participants should only judge the sentences that were *not* in italics. The same example appeared twice in the survey – once with a shifted object and once where the object had not been shifted. All in all, there were 15 sentences where the object had shifted and 15 sentences where it had not done so. There were three types of sentences in the survey: the ones that had object pronouns that referred back to a specific word, the ones that had DP objects, and the ones that had object pronouns that did not refer back to a specific word. This is illustrated in Table 10. The green numbers represent the target consistent word order, while the red ones represent the non-target consistent word order. The red color does not indicate that the sentences are ungrammatical or completely unacceptable, as we will see when looking at how the Norwegian L1s have scored the different word orders.

**Table 10** *Types of sentences in the OS survey*

OS					
Referential pronouns		Referential DPs		Non-referential pronouns	
pro-neg	5	DP-neg	5	pro-neg	5
neg-pro	5	neg-DP	5	neg-pro	5
	10		10		10
30					

In example (32) the sentences in (a) and (b) refer back to the word *skjørtet* “the skirt” in the first sentence. The difference is that in (a) the object has shifted, while the object in (b) has not. This makes (32a) one of the five sentences that are in the category *Referential pronouns* under *pro-neg*. On the other hand, (32b) would be one of the sentences under *neg-pro*. In the survey the context sentence *Det gule skjørtet var på salg* (*The yellow skirt was on sale*) appeared once followed by (a) and once followed by (b). What I wanted to find out was whether or not the Ln speakers of Norwegian rated one alternative as more acceptable than the other one.

(32)

Det gule skjørtet var på salg.

The yellow skirt-the was on sale

“The yellow skirt was on sale”

a. Mona kjøpte **det ikke**.

Mona bought **it** not

b. Mona kjøpte **ikke det**.

Mona bought not **it**

“Mona didn’t buy it”

Because the object in (32) refers back to the noun *skjørtet* “the skirt”, it is known and may appear in the shifted position. However, as we have seen, both (32a) and (32b) may be accepted by Norwegian L1 speakers, especially if the object in (32a) has contrastive focus. In order to try to avoid having implied stress or contrastive focus put on an object at the end of the sentence an adverbial or PP can be added to the sentence, as we see in (33). This was done everywhere in the survey to the examples with OS.

(33)

Det gule skjørtet var på salg.

The yellow skirt-the was on sale

“The yellow skirt was on sale”

c. Mona kjøpte **det ikke** den dagen.

Mona bought it not that day

d. Mona kjøpte **ikke det** den dagen.

Mona bought not it that day

“Mona didn’t buy it that day”

For each example with a shifted or non-shifted object pronoun there was also an example with a shifted or non-shifted DP. In Table 7 we can see that here are 10 sentences in the category Referential DPs. Five of them have a shifted DP (DP-neg) and five have an non-shifted DP (neg-DP). We can see an example of this in (34), where there is a DP *klær* “clothes” in the target sentences. In (34a) we see the shifted option, while (34b) has the non-shifted one. Both examples randomly appear in the survey, just like the ones with the pronoun. As opposed to pronouns, object DPs never shift. Sentences like (34a) are very clearly ungrammatical in Norwegian.

(34)

Det var salg på kjøpesenteret.

It was sale at mall-the

“There was a sale at the mall”

a. \*Mona kjøpte klær ikke der den dagen.

Mona bought clothes not there that day

b. Mona kjøpte ikke klær der den dagen.

Mona bought not clothes there that day

“Mona didn’t buy clothes there that day”

In the non-referential pronoun group, we have sentences like the ones in (35). In the survey there were 5 sentences like the one in (35a), where the object pronoun had shifted. The pronoun refers back to the whole clause and for that reason the sentence becomes ungrammatical if the object shifts in front of the negation. There are also 5 sentences in the survey where the non-referential object has not shifted, like in (35b).

(35)

Maria vil at de skal flytte.

Maria wants that they will move

“Maria wants them to move.”

a. \*Magnus vil **det ikke** akkurat nå.

Magnus wants that not right now

b. Magnus vil **ikke det** akkurat nå.

Magnus wants not that right now

“Magnus doesn’t want that right now.”

In order to ensure that the participants did not realize what it was I was testing for, the surveys needed a considerable number of fillers. Some of these fillers were completely grammatical, while others were clearly ungrammatical. Norwegian is a V2 language, which means that the finite verb always appears in second position in main clauses (Westergaard 2008:63).

However, in embedded clauses with negation, the negation comes before the verb or auxiliary. Some clearly ungrammatical fillers would be ones in which the verb is placed before the negation, like in (36b). There were also just as many fillers that had the target-consistent word order. This means that the participants were also asked to rate sentences that have negation in second position, like the one in (36a). In the survey there were 5 sentences like (36a) and five like (36b).

(36)

a. Kjell fortalte at Petter **ikke lagde** kylling til middag i går.

Kjell said that Petter not made chicken for dinner yesterday

b. \*Kjell fortalte at Petter **lagde ikke** kylling til middag i går.

Kjell said that Petter made not chicken for dinner yesterday

“Kjell said that Petter didn’t make chicken for dinner yeaterday.”

The participants were also asked to rate fillers in which the auxiliary, rather than the negation, was in second position in an embedded clause. In (37) we can see the grammatical word order in (a) and the ungrammatical one in (b). Again, there were 5 sentences with the grammatical word order and 5 with the ungrammatical word order in the survey.

(37)

a. Daniel fortalte at Kjell **ikke hadde** spist kylling i går.

Daniel said that Kjell not had eaten chicken yesterday

b. \*Daniel fortalte at Kjell **hadde ikke** spist kylling i går.

Daniel said that Kjell had not eaten chicken yesterday

“Daniel said that Kjell hadn’t eaten chicken yesterday.”

The total amount of fillers and what type of fillers there were is shown in Table 11.

**Table 11** *Fillers in the OS survey*

Fillers			
Embedded			
Main verb		Auxiliary verb	
V-Neg	5	V-Neg	5
Neg-V	5	Neg-V	5
	10		10
20			

## 8. Results

### 8.1. *L1 speakers*

The responses from the 76 L1 speakers and the 51 L1 speakers were first written into an excel document. Table 12 shows the average (mean) scores the different sentence types got from the fifty-one L1 speakers. The mean scores show us the middle of the dataset, also called the central tendency. However, the mean alone does not always give us an accurate picture of our data. This is because the average score of a dataset can be distorted by outliers. That is, if most of the participants have given a sentence the score 1, while a few have given it the score 6, the mean may be skewed upward. For that reason I have also included the median score here. The median also indicates the middle of a dataset, but in a different way. Half of the observations lie above the median and half of them lie below the median. For example, if seven people had given a sentence score 1, while two people had given it score 6, we would have a dataset that looked like this:

1 1 1 1 1 1 1 6 6

The mean score of this dataset would be 2.1, while the median would be 1.

A third score I have included is the mode. The mode is the number that has been selected the most times. In the dataset above the mode would be 1, because this number appears seven times, while the number 6 only appears twice.

To return to the mean scores given by the Norwegian participants in Table 12: three are above 5, and two of the scores are below 3. This tells us that the L1 speakers do seem to have clear preferences regarding most of the constructions. The exception is the score given to the sentences with non-shifted referential pronouns, which is the score that is closest to the middle out of all six means. All the median scores are quite close to the mean, meaning that none of the means seem to be terribly skewed. The mode is mostly close to or equal to the median. The exception, again, is the non-shifted referential pronouns. I come back to this point below.

**Table 12** *L1 speaker results*

Results from OS-survey L1 speakers n=51						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>5,24</b>	<b>3,85</b>	<b>1,36</b>	<b>5,65</b>	<b>2,87</b>	<b>5,17</b>
<b>Median</b>	<b>6</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>6</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>6</b>

The mean score given to the sentences with a shifted DP by the L1s is 1.36, which shows very little acceptance for sentences of this type. There is a big gap between the score given to the sentences with the shifted and the non-shifted DPs. The 5.65 score, given by the L1s to the sentences with non-shifted DPs, is very close to the maximum score of 6. The median and mode scores for the sentences with shifted DPs and non-shifted DPs are 1 and 6 respectively.

The Norwegian participants have given the shifted word order in sentences with referential pronouns (i.e. the OS contexts) the high score of 5.24. Both the median and the mode for these sentences was 6. The non-shifted word order has received a score of 3.85, which is still above the average score of 3.5. This shows neither a large preference nor dispreference for this word order. The median for this construction is 4, while the mode is 6. As we can see, all of the modes are either a 1 or a 6. This means that most of the L1s have been very clear with their preferences in what they find acceptable and unacceptable. It is interesting that 6 is the score that was most often given to the sentences with non-shifted referential pronouns. It could perhaps mean that some of these types of sentences were more acceptable than others to the L1s. It could also mean that many people thought the sentences looked good, while the rest gave them a score somewhere in the middle. The two mean scores for the sentences with referential pronouns show that there is a higher preference for the shifted word order, as expected.

The score given by the L1s to the sentences with the non-referential pronouns is 2.87. This is a low score, but perhaps not as low as one could expect if the sentences were completely ungrammatical. The score is close to 3, which may indicate that these types of sentences are not completely unacceptable. However, the median here is 2 and the mode is 1, both lower than the mean. It could mean that the mean score has been skewed by a few participants. The non-shifted version, which is the target-consistent version, has received a score of 5.17. The median and mode have the score 6. Again, the mean here can have been skewed somewhat by a few outliers.

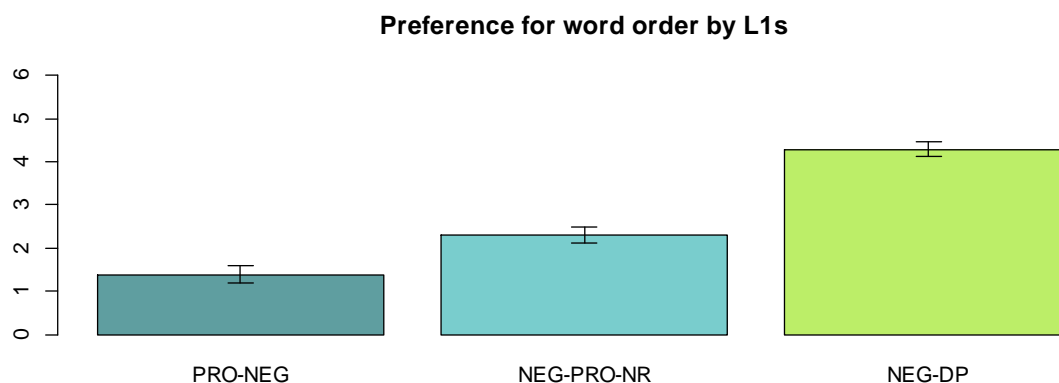


I now consider whether the differences between word order preferences in the L1 group is statistically significant. To do this I need to find the p-value that tells me how likely it is that the preference for a certain word order is not simply coincidental, but actually reflects the general tendency within a certain group. One checks the p-value in order to see if one can discard a null hypothesis. In this case, the null hypothesis is that the preference for a particular word order is not statistically significant. To decide whether something is statistically significant, I will use the value  $p < 0.05$  (5%) as a cut-off point, which is the value most often used to determine significance. A p-value of  $< 0.05$  means that there is a 5% chance that one is making a mistake by claiming that the preference for a certain word order is not due to chance. In other words, there is a confidence level of 95%. Other values often used to represent statistical significance are  $p < 0.01$  (1%) and 0.001 (0.1%). The asterisk rating system can also be used when presenting p-values, in which case a p-value of  $< 0.05$  has one asterisk ( $p < 0.05^*$ ), the value 0.01 gets two asterisks ( $p < 0.01^{**}$ ) and 0.001 gets three ( $0.001^{***}$ ), the last often referred to as “highly significant”. When presenting my own findings I have given some exact ratings and some I have simply categorized as “highly significant” and given the value  $p < 0.001^{***}$ . This is because  $p < 0.001$  equals to less than one in a thousand chance of being wrong and providing this information is descriptive enough of the level of significance. Note that  $p = 0.001^{**}$  means that the p-value is exactly that number and gets two asterisks, while  $p < 0.001^{***}$  means that the p-value is lower than 0.001 and therefore gets three asterisks.

The tables and figures presented in this chapter have the labels PRO-NEG (shifted referential pronouns), NEG-PRO (non-shifted referential pronouns), PRO-NEG-NR (shifted non-referential pronouns), NEG-PRO-NR (non-shifted non-referential pronouns), DP-NEG (shifted DPs) and NEG-DP (non-shifted DPs). In the bar plots below, each bar represents the preference for each of the target consistent word orders (PRO-NEG, NEG-PRO-NR and NEG-DP). If the graph is on the positive side of the y-axis, it means that the preference is target consistent. If it is on the negative side of the y-axis (below the vertical line), the preference is not target consistent.

Unsurprisingly, Figure 4 shows that all the preferences of the L1s are target consistent. When plotting the data into the R console, the results say that all the preferences are significant ( $p < 0.001^{***}$ ). This means that Norwegian L1s prefer the shifted word order over the non-shifted word order for referential pronouns and the non-shifted word order over the shifted word order for non-referential pronouns and full DPs.

**Figure 4** Norwegian L1 preference for target-consistent word order over non-target-consistent word order. All the bars are above the y-axis, which means that the Norwegian L1s – unsurprisingly - show preference for the target-consistent word order for all of the three types of sentences (PRO-NEG, NEG-PRO-NR, NEG-DP).



## 8.2. L<sub>n</sub> learners

The scores for every group of sentences given by the L<sub>n</sub>s are shown in Table 13. Right away, we can see a notable difference between the scores the L<sub>n</sub> learners and the L1 speakers have given the different groups of sentences. For one thing, the tendencies in these scores are less clear than the ones seen in the scores given by the L1s. In addition, if we look at the mode scores, we can see that all except one type of sentence has the mode 6. This could mean that the L<sub>n</sub>s thought most of the sentences sounded fine. It could also mean that most of the scores are positively skewed. This means that more participants gave these sentences a high rating than a low rating. The high values can inflate the mean to make it greater than the median (Levshina 2015:53).

**Table 13** L<sub>n</sub> learner results

Results from OS-survey L <sub>n</sub> learners n=76						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>3,79</b>	<b>4,63</b>	<b>2,57</b>	<b>5</b>	<b>3,69</b>	<b>4,34</b>
<b>Median</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>5</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>

From Table 13 we can see that five out of the six sentence groups have received an average score that is above 3.5, i.e. an above average score. The exception is the DP-neg sentences,

which have an average score of 2.57. The median here is 2 and the mode is 1. It is the only group of sentences where the mode is not 6. Both groups of participants (L1s and Lns) gave a low score to the sentences with a shifted DP. The score of 2.57, given by the Lns is somewhat higher than the 1.36 score given by the L1s, but still lower than any other score given by this group.

The neg-DP group, on the other hand, has a score of 5. The median and mode have the score 6. It seems that the Ln learners have a much stronger preference for sentences where the DP object follows negation, than sentences with the DP preceding negation. The sentences with the non-shifted DPs have the highest scores from both groups of participants. The difference in scores between shifted and non-shifted objects is most clear in the group of sentences with DP objects.

The table also shows that the Ln speakers prefer the non-shifted word order for all three constructions. When it comes to referential pronouns, the sentences with a shifted object have a score of 3.79, which is above 3.5, although not by much. The median is 4 and the mode is 6. As we saw, the L1s gave the shifted word order the score of 5.24. This is much higher than the score given by the Ln learners. However, the Ln learners have given a higher score to the sentences with the referential pronouns in the non-shifted position than the L1s. The Ln learners have given these sentences a score of 4.63, while the L1s gave it a score of 3.85. The median for this constructions given by the Lns is 5 and the mode is 6, both higher than the mean. The scores given to the sentences with referential pronouns support the prediction that the Lns prefer the non-shifted word order regardless of the type of construction.

The score for shifted non-referential pronouns is even lower than for the referential pronouns, at 3.69. This score is very close to the middle, which indicates that the Ln speakers do not have a clear idea of whether or not this construction is grammatical. The median, which is 4, supports this, while the mode, once again, is 6. As we saw, the L1s gave these types of sentences a lower score of 2.87. The two scores for sentences with shifted pronouns are still higher than the one given to sentences with a shifted DP. This tells us that the Lns may be more familiar with sentences with full DPs, or at least with where a DP should be placed in a sentence. The score for the sentences with non-shifted non-referential pronouns is 4.34. The median is 5 and the mode is 6. This is somewhat lower than the 5.17 score given by the L1s.

Figure 5 shows the word order preferences of the Lns. The bars for NEG-PRO-NR and the NEG-DPs are on the plus side of the y-axis, which means that the participants are showing a

preference for the non-shifted word order in sentences with non-referential pronouns and DPs, which is the target-consistent word order. The bar for PRO-NEG is on the negative side of the y-axis, which means that the participants have shown a preference for the non-target-consistent word order when it comes to sentences with referential pronouns. In other words, they have shown a preference for non-shifted referential pronouns, while the pronoun in this case needs to shift for these sentences to be target-consistent. Statistical analysis in R shows that all the preferences are significant ( $<0.001^{***}$  for PRO-NEG and NEG-DP and  $<0.004^{**}$  for NEG-PRO-NR).

**Figure 5** *Ln learner preference for target consistent word order over non-target consistent word order. The bar representing sentences with referential pronouns on the minus-side of (below) the y-axis indicates that the Lns prefer the non-target-consistent word order for these sentences (i.e. NEG-PRO). The bars representing the sentences with the non-referential pronouns and the DPs on the plus side of (above) the y-axis indicate that the Lns as a group prefer the target consistent word order for these types of sentences (i.e. NEG-PRO-NR and NEG-DP).*

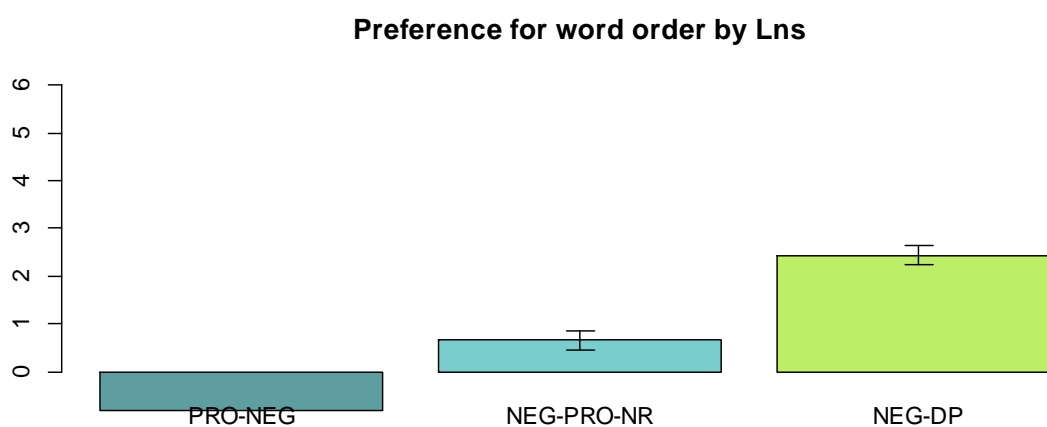
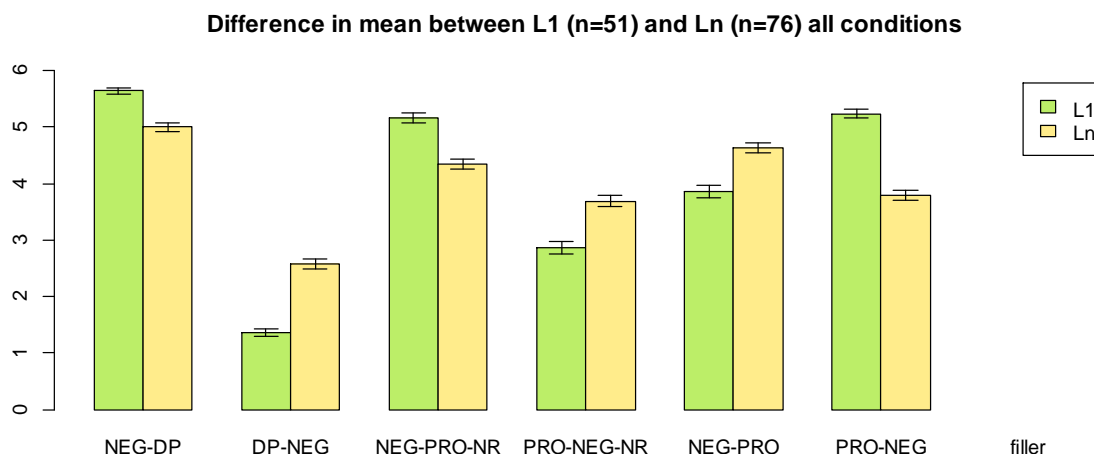


Figure 6 shows the difference between the scores given by the L1s and the Lns to the different types of sentences. The difference between L1s and Lns is highly significant for all conditions ( $p < 0.001^{***}$ ). Within the Ln group, we have seen in Figure 5 that the preference for the non-shifted word order is significantly higher than for the shifted word order for all three types of sentences. The difference in score given to the shifted referential and the shifted non-referential pronouns is not significant ( $p = 0.4$ ). In other words, the Lns have not made a distinction between the two types of pronouns. In contrast, the L1s have given the sentences

with shifted non-referential pronouns a score that is significantly lower than the one given to sentences with a shifted referential pronoun ( $p < 0.001^{***}$ ). The scores given by the Lns to the sentences containing shifted pronouns are significantly higher than the scores given to sentences with shifted DPs ( $p < 0.001^{***}$ ). This indicates that the Lns make a distinction between pronouns and full DPs.

**Figure 6** *How Lns differ from L1s in relation to mean score given to the different conditions*



### 8.3. *Language families*

In order to find out whether learners with object movement in their L1s do accept shifted pronouns more than those who are not familiar with this type of movement in their L1s; I would like to see whether there are any significant differences between the results of speakers with different language backgrounds. For those participants who have provided two different languages as their first language, I have no way of knowing which language they are dominant in, and even if I did, I would not be able to distinguish influence from one of them. Consequently, the tables below only have the results from the participants who have provided the language in question as their only first language. That is, if German is the only first language they have provided, their results are in Table 14. If they have written that they have two first languages, their results are not part of the table. Table 14 has the German results, table 15 has the scores from all Ln speakers minus the ones with German as L1 and Table 16 has the English L1s. Eleven participants provided German as their only first language, while English had five participants.

**Table 14** *German L1 results*

Results from OS-survey German n=11						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>4,78</b>	<b>3,95</b>	<b>2,13</b>	<b>4,96</b>	<b>4,31</b>	<b>4,04</b>
<b>Median</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>5</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>

The German L1 group stands out with regard to acceptance for moved objects. As we will see, their preference for the shifted word order is statistically significant. The results in table 15 show the scores given by all participants except for the ones who have German as their L1.

**Table 15** *Ln learner results without the German L1s*

Results from OS-survey Ln learners –German n=64						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>3,61</b>	<b>4,75</b>	<b>2,63</b>	<b>5,01</b>	<b>3,55</b>	<b>4,37</b>
<b>Median</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>5</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>

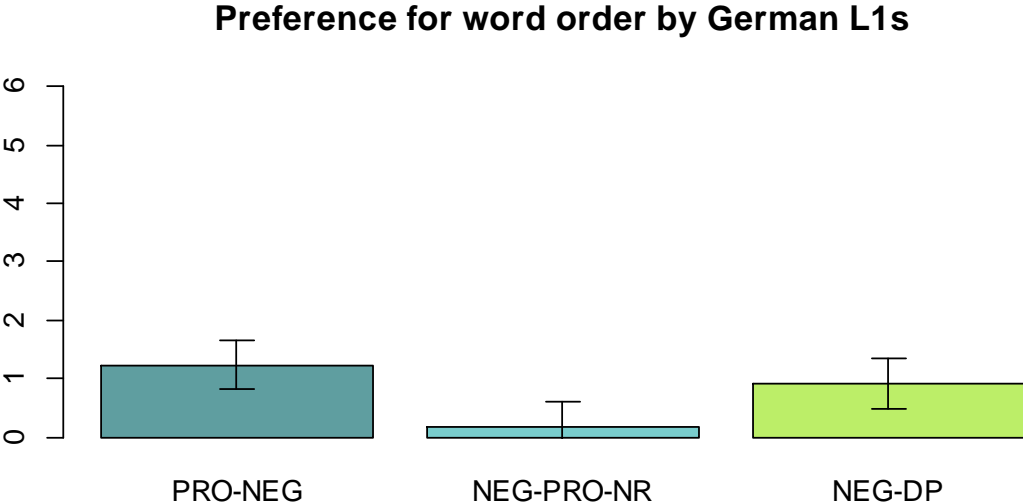
From Tables 14 and 15 we can see that the mean score for shifted referential objects given by learners with German as their L1 is somewhat higher than the score given by all other learners (4.72 vs. 3.61). Both the median and mode is 6, which tells us that most of the sentences of this kind have received the highest score. The score for the non-shifted word order is 4.06, which is lower than the score given by other learners (4.75). In other words, the German learners, like the Norwegian speakers seem to show a preference for the shifted word order. Still, the scores given by the Norwegians more clearly favored the shifted word order (5.24 for shifted word order and 3.85 for non-shifted word order).

When it comes to non-referential pronouns, once again the German L1s are showing a slight preference for the shifted word order (4.24 vs. 3.55). This is interesting, as shifting should not occur in these types of sentences. It looks like the German participants prefer that pronouns shift, regardless of the type of pronoun. At the same time, there is also an acceptance for non-shifted pronouns, although the scores here are somewhat lower. The medians for the shifted pronouns are lower for the non-German L1s, while the mode is always 6, regardless of L1 or type of pronoun.

However, when it comes to DPs, the German participants have given the shifted word order a score of 2.14, while the non-shifted word order has the score 4.9. The score for the shifted DPs stands out as it is the only score that is lower than 3. The median (2) and mode (1) also stand out, as they are lower than all the other medians and modes in the table.

The preference for different word orders by German participants is shown in Figure 7. Statistical analysis shows that the preference for the shifted referential pronouns and the non-shifted DPs is significant ( $p = 0.006^{**}$  and  $p = 0.04^{*}$ ).

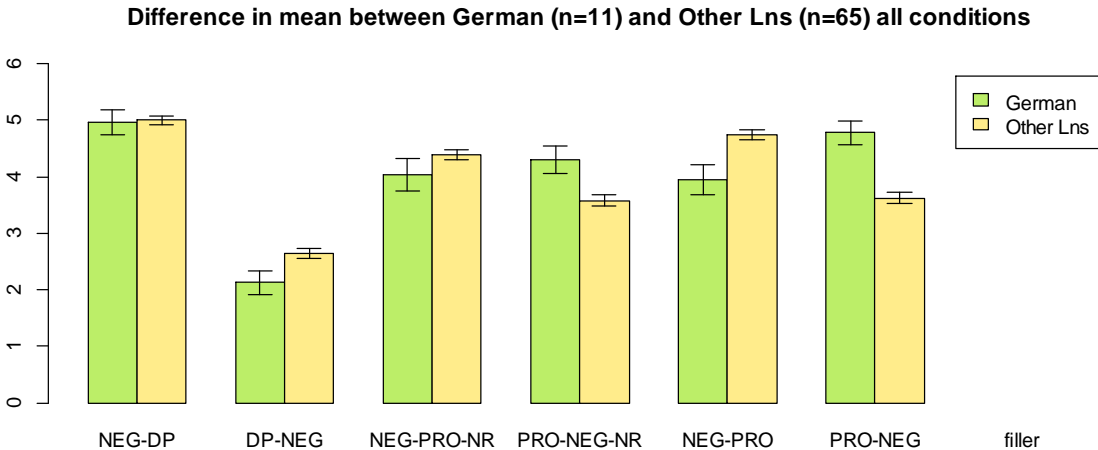
**Figure 7** German L1 preference for target consistent word order over non-target consistent word order. All the bars are above the y-axis, which means that the German L1s show preference for the target-consistent word order for all of the three types of sentences (PRO-NEG, NEG-PRO-NR, NEG-DP).



In Figure 8 we see the difference between the scores given to the different conditions by German L1s and the scores given by the non-German Lns. As we can see from the table, the largest difference seems to be in the scores given to the sentences with shifted referential pronouns. The p-value for this difference is  $<0.001^{***}$ , which means that it is highly significant. While the German L1s have given a higher score than the rest of the Lns to the shifted referential pronouns, they have given a lower score to the non-shifted word order. The difference between the scores given by the German L1s and the other Lns is somewhat smaller for the non-shifted pronouns than for the shifted ones, but it is still significant ( $p = 0.001^{**}$ ). There is also a significant difference between German L1s and the rest for the

scores given to shifted non-referential pronouns ( $p = 0.007^{**}$ ) and for the scores given to shifted DPs ( $p = 0.03^*$ ). The score given by the German L1s to the non-shifted non-referential pronouns is somewhat lower than the score given by the rest of the Lns, but this difference is not statistically significant ( $p = 0.1$ ). Neither is the difference in score given to the non-shifted DPs ( $p = 0.8$ ).

**Figure 8** *How German L1s differ from other Lns in relation to mean score given to the different conditions*



**Table 16** *English L1s results*

Results from OS-survey English n=5						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>2.29</b>	<b>4.32</b>	<b>1.96</b>	<b>5.12</b>	<b>2.92</b>	<b>4.32</b>
<b>Median</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>5</b>
<b>Mode</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>6</b>

Out of the five English participants in Table 16, two were completely monolingual, not counting their current acquisition of Norwegian. One had intermediate knowledge of Igala, another had intermediate knowledge of Mandarin and French and basic knowledge of Hakka and Cantonese, and a third had basic knowledge of German.

We can immediately see a difference between the scores given to shifted pronouns in tables 14 and 16. The participants who have English as their only first language have given the shifted referential pronouns a score of 2.29 vs. the 4.72 score given by the German L1s. The median (2) and mode (1) are also very low. The non-shifted word order has received a higher



score than the one given by German L1s (4.32 vs. 4.06). The non-shifted non-referential pronouns have also received a score of 4.32 by the English L1s, while the shifted word order has a score of 2.92. From the two tables it looks like the German L1s prefer shifted word order, regardless of the type of pronoun, while the opposite is true for the English L1s. In fact, the participants with English L1s have given a low score in every case of shifted word order.

The difference between the shifted and non-shifted word order for DPs is even clearer for the English L1s than for the German L1s. The shifted word order has received a score of 1.96, while the non-shifted one has the score 5.12. In other words, the preference of the English L1s for the non-shifted word order is most clear when it comes to DPs. The scores given to the examples with the shifted pronouns are slightly higher, but there is no difference between referential and non-referential pronouns.

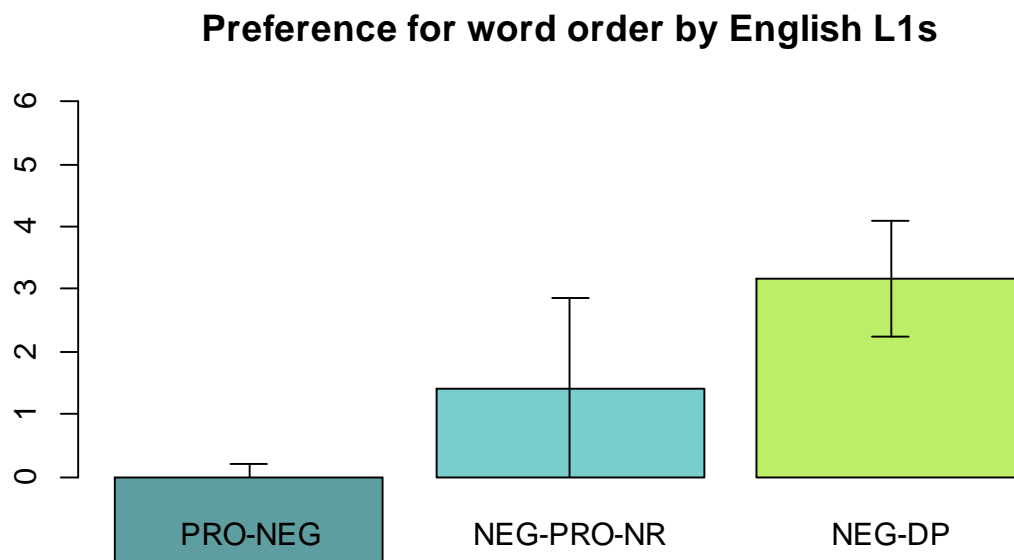
Table 17 holds the results from all Ln participants who do not have English as one of their L1s. We can see that all the values for the shifted word orders are higher when the English L1s are not included. While the scores for both referential and non-referential shifted pronouns are close to 4 in Table 17, they are between 2 and 3 in the English L1 table.

**Table 17** *Ln learner results without the English L1s*

Results from OS-survey Ln learners -English n=57						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>3,79</b>	<b>4,75</b>	<b>2,6</b>	<b>5,01</b>	<b>3,78</b>	<b>4,29</b>
<b>Median</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>5</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>

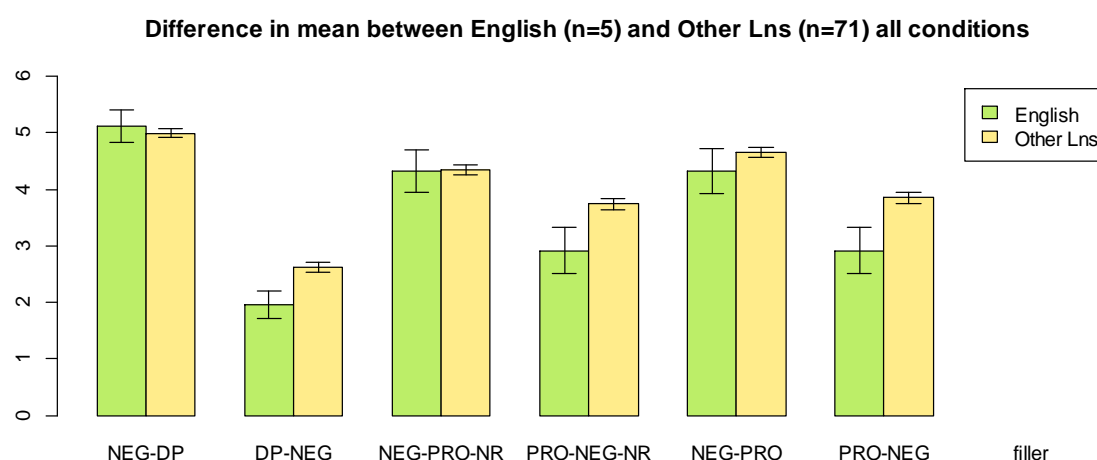
Figure 9 shows the preference for each version of the sentences by the English L1s. Their preference for the non-shifted non-referential pronouns and DPs is target-consistent, while their preference for non-shifted referential pronouns is not. Their preference for the non-shifted referential pronouns over the shifted one has a p-value of 0.3, which means it is not statistically significant. The preference for non-shifted non-referential pronouns is also 0.3 and for non-shifted DPs it is 0.04\*. This tells us that only the preference for the word order with non-shifted DPs can be considered statistically significant.

**Figure 9** English L1 preference for target consistent word order over non-target consistent word order. The bar representing sentences with referential pronouns on the minus-side of (below) the y-axis indicates that the participants with English L1s prefer the non-target-consistent word order for these sentences (i.e. NEG-PRO). The bars representing the sentences with the non-referential pronouns and the DPs on the plus side of (above) the y-axis indicate that these participants prefer the target-consistent word order for these types of sentences (i.e. NEG-PRO-NR and NED-DP).



From Figure 10 we can see that the English L1s have given a lower score than the other participants to the shifted referential pronouns. Statistical analysis in R shows that this difference has a p-value of 0.01\*, which is significant. The score given to the non-shifted non-referential pronouns is closer to the rest of the participants and is not significant ( $p = 0.3$ ). The only other significant difference in score is for the shifted non-referential pronouns. Here the English L1s have given the shifted word order a much lower score than the rest of the participants. The p-value for this difference is 0.03\*. The rest of the p-values are 0.9 for NEG-PRO-NR, 0.05 for DP-NEG and 0.6 for NEG-DP.

**Figure 10** *How English L1s differ from other Lns in relation to mean score given to the different conditions*



The tables below contain the results from different language groups. They are divided into V2 Germanic (Table 18), Slavic (Table 19), Romance (Table 20) and Other languages (Table 21). Each table only contains the results from those participants who have first languages belonging to the relevant language group. That is, if a participant has provided German and Dutch as his or her two first languages, s/he will be part of the V2 Germanic table. If the first languages provided were Russian and English, the participant will not be part of any of the tables below, as it is not clear which language s/he is dominant in. If the participant has provided only Russian or, for example, Russian and Ukrainian as their first language, s/he will be part of the Slavic table, etc. The German L1s have been combined with the Dutch L1s because they are both V2 Germanic languages and together they make up a larger group.

**Table 18** *V2 Germanic L1s results*

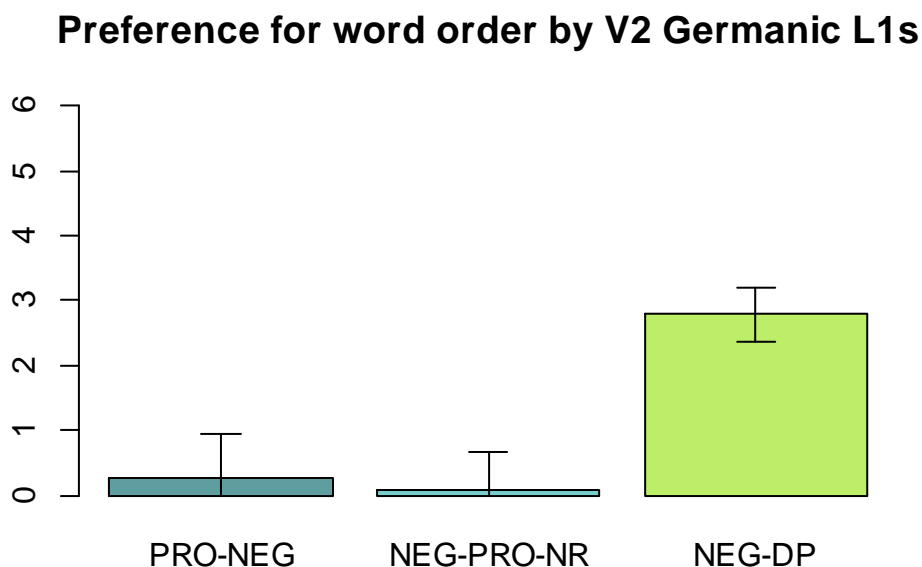
Results from OS-survey V2 Germanic n=14						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>4,53</b>	<b>4,26</b>	<b>2,29</b>	<b>5,07</b>	<b>4,11</b>	<b>4,19</b>
<b>Median</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>5</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>

If it is true that participants who have some sort of object movement in their known languages may have an easier time of acquiring OS, then a higher acceptance for shifted pronouns may be seen in Dutch as well as German participants. For that reason, it is interesting to consider the scores given by those participants who have a Germanic language other than English as

their L1. Table 18 holds the results from eleven German and three Dutch L1s. Here the score for the shifted referential pronouns is still higher than for the non-shifted ones (4.53 vs. 4.26), but it is not as high as it was when I only counted the German L1s. The score given to shifted non-referential pronouns is also lower for this group than for exclusively German L1s (4.11 vs. 4.24) and it is also lower than the 4.19 score given to the non-shifted word order. In other words, the acceptance for non-shifted pronouns seems to have sunk when the scores from the Dutch L1s were added, but because it is only a matter of three participants, I cannot assume that this tendency is typical for Dutch L1s.

The preference of the V2 Germanic L1s for different word orders is represented in Figure 11. As seen in the above table, the V2 Germanic L1s have given the shifted word order for both types of pronouns a higher score than to the non-shifted word order. The preference is not statistically significant ( $p = 0.6$  for PRO-NEG and  $p = 0.9$  for NEG-PRO-NR). As we saw earlier, the preference for shifted referential pronouns was significant for the exclusively German group. The preference for the non-shifted DPs is highly significant ( $p < 0.001$ ). The bar for PRO-NEG is somewhat higher than for NEG-PRO-NR, but the difference between them is not statistically significant ( $p = 0.8$ ).

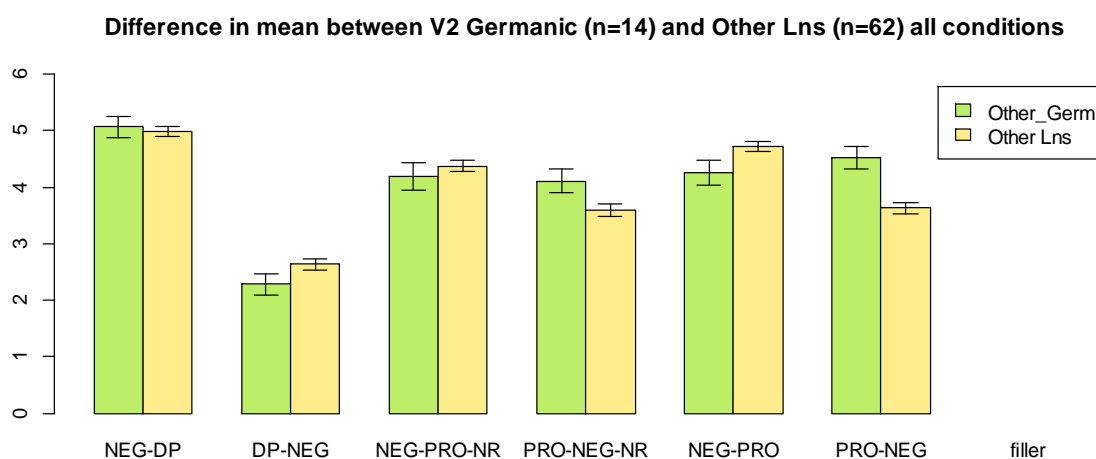
**Figure 11** V2 Germanic learner preference for target-consistent word order over non-target consistent word order. All the bars are above the y-axis, which means that the V2 Germanic L1s show preference for the target consistent word-order for all of the three types of sentences (PRO-NEG, NEG-PRO-NR, NEG-DP).



In Figure 12 shows how the V2 Germanic group and the rest of the Lns compare. The p-value for the score given to the shifted referential pronouns is significantly higher ( $p < 0.001^{***}$ ) from the score given by the rest of the Lns. In other words, adding the Dutch L1s does not seem to have affected the score to the point where there is any change in amount of significance compared to the rest of the participants. The scores given to the non-shifted referential pronouns is significantly lower than the score given by other Lns ( $p = 0.04^*$ ), but somewhat less significant than it was when compared only to the German L1s, when the p-value was  $0.001^{**}$  (c.f. Figure 8). The score given to the shifted non-referential pronouns is also significantly higher than the one given by other Lns ( $p = 0.03^*$ ). However, once again the difference is somewhat smaller than when only German L1s were in the group, when the p-value was  $0.007^{**}$ . The score given to the shifted DPs is no longer significantly lower in this case ( $p = 0.1$ ). The rest of the p-values are 0.4 for NEG-PRO-NR and 0.6 for NEG-DP. In other words, adding the three Dutch L1s to the German L1s seems to have masked some of the differences from the other Lns. This could be due to the fact that the groups are not very big, which means that if one person's scores deviates strongly from the rest of the group, it

may influence the scores quite a lot. Within the V2 Germanic group, the score given to shifted referential pronouns is not significantly different from the score given to shifted non-referential pronouns ( $p = 0.2$ ). Neither is the score given to the non-shifted referential and non-referential pronouns ( $p = 0.8$ ). In other words, although the V2 German group has given a higher score to shifted referential pronouns, they have done the same for non-referential pronouns. Consequently, it seems they have not picked up on the difference between the two types of pronouns.

**Figure 12** *How V2 Germanic L1s differ from other Lns in relation to mean score given to the different conditions*



**Table 19** *Slavic L1s results*

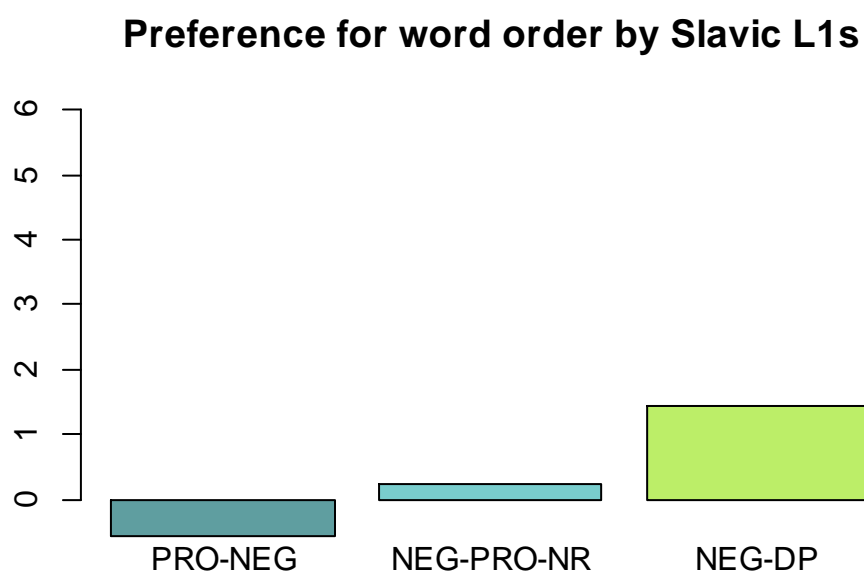
Results from OS-survey Slavic n=12						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>4,15</b>	<b>4,72</b>	<b>3,28</b>	<b>4,72</b>	<b>4,18</b>	<b>4,42</b>
<b>Median</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>5</b>	<b>4</b>	<b>5</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>6</b>

Out of the participants in Table 19, five had Russian as their only first language, five had Polish and one had Serbo-Croatian. In addition, one participant had Russian and Ukrainian as first languages. Here we see that the scores for the non-shifted pronouns are higher than the scores for shifted pronouns, although not by a lot. The shifted referential pronouns have a score of 4.15, while the non-shifted ones have 4.72. This score for the shifted word order is lower than the one given by the German L1s (4.78), but higher than the one given by English

L1s (2.29). The same is true for the shifted non-referential pronouns, which have received a 4.18 score by the Slavic L1s. The score given by German L1s was 4.31, which is only slightly higher. The scores are not as defined as those given by the English L1s, where the scores for non-referential pronouns were 2.92 (shifted) and 4.32 (non-shifted). The scores in Table 19 are mostly at around 4, the exception being the score for shifted DPs, which is 3.28. In other words, at first glance there does not seem to be a lot of variation between the scores given to the different types of sentences.

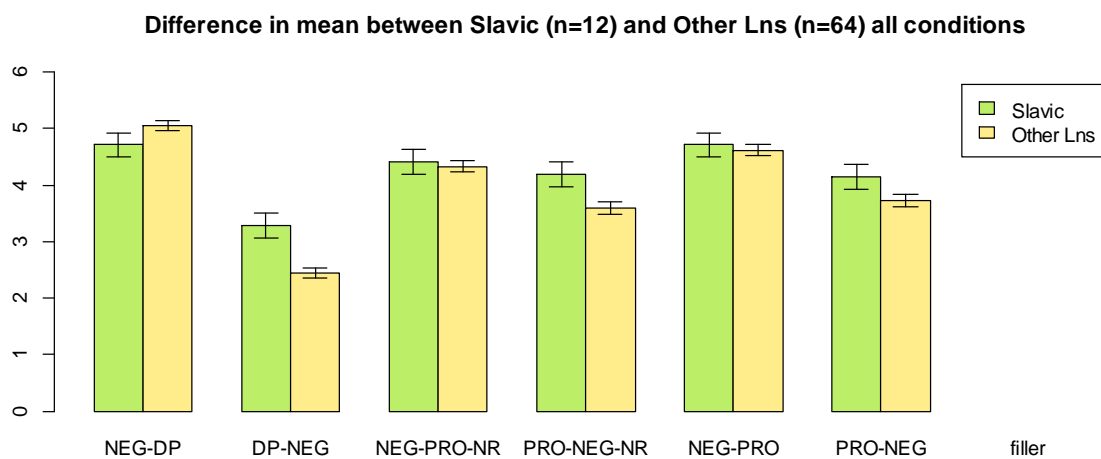
The Slavic preferences for word order are shown in Figure 13. Once again, only the preference for the non-shifted DPs is significant, with the p-value 0.01\*. Non-shifted referential pronouns have the p-value 0.3 and it is 0.9 for non-shifted non-referential pronouns. This shows that there is disagreement or uncertainty within the group about the preferred word orders for sentences with pronouns.

**Figure 13** *Slavic learner preference for target-consistent word order over non-target-consistent word order. The bar representing sentences with referential pronouns on the minus-side of (below) the y-axis indicates that the participants with Slavic L1s prefer the non-target-consistent word order for these sentences (i.e. NEG-PRO). The bars representing the sentences with the non-referential pronouns and the DPs on the plus side of (above) the y-axis indicate that these participants prefer the target-consistent word order for these types of sentences (i.e. NEG-PRO-NR and NED-DP).*



The Slavic group has, as the V2 Germanic L1s, given a score to the shifted non-referential pronouns that is significantly higher than the score given by the rest of the Lns ( $p = 0.02^*$ ). However, the score given to the shifted referential pronouns, which is the target consistent alternative, has not received a significantly higher score ( $p = 0.1$ ). A score that stands out for the Slavic L1s, is the one given to the shifted DPs. As we can see, the Slavic group has given a higher score to these sentences than the rest of the participants. The difference is highly significant ( $p < 0.001^{***}$ ). The rest of the p-values are 0.7 for NEG-PRO-NR and 0.1 for NEG-DP.

**Figure 14** *How Slavic L1s differ from other Lns in relation to mean score given to the different conditions*



**Table 20** *Romance L1s results*

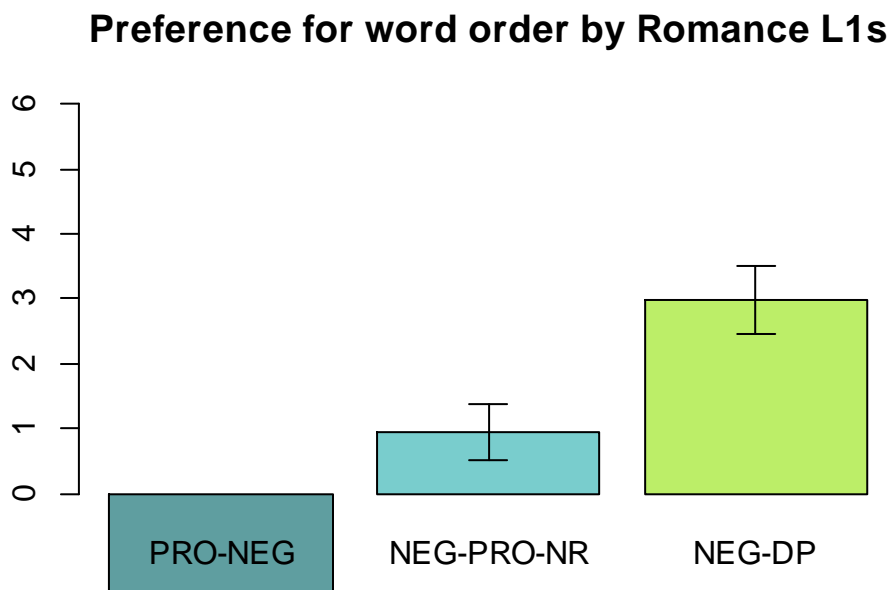
Results from OS-survey Romance n=14						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>3,26</b>	<b>4,8</b>	<b>2,19</b>	<b>5,16</b>	<b>3,06</b>	<b>3,99</b>
<b>Median</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>4</b>
<b>Mode</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>6</b>

Table 20 holds the scores from fourteen participants. Five of them have Spanish as their only first language, three have Italian, two have Portuguese and two have French. In addition, one participant has Spanish and Catalan as first languages and one has Spanish and Galician.



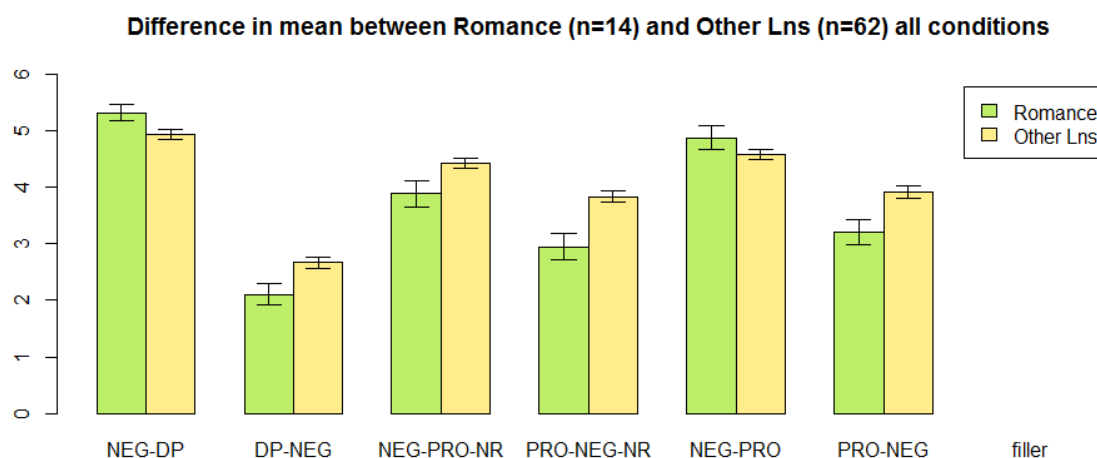
When it comes to the different preferences of the Romance L1s, the scores are more clearly defined than in the other language groups. While the preference for non-shifted non-referential pronouns is not quite significant ( $p = 0.09$ ), both the non-shifted referential pronouns and DPs have statistical significance ( $p = 0.01^*$  for PRO-NEG and  $p < 0.001^{***}$  for NEG-DP).

**Figure 15** *Romance L1 learner preference for target-consistent word order over non-target-consistent word order. The bar representing sentences with referential pronouns on the minus-side of (below) the y-axis indicates that the participants with Romance L1s prefer the non-target-consistent word order for these sentences (i.e. NEG-PRO). The bars representing the sentences with the non-referential pronouns and the DPs on the plus side of (above) the y-axis indicate that these participants prefer the target-consistent word order for these types of sentences (i.e. NEG-PRO-NR and NEG-DP).*



The Romance L1s have given the shifted referential pronouns a significantly lower score than other Lns have ( $p = 0.005^{**}$ ). As we saw, the Romance group's preference for the non-shifted over the shifted referential pronouns is significant. The score for the shifted non-referential pronouns is also significantly lower than the score given by the other Lns ( $p < 0.001^{***}$ ), as is the score for non-shifted non-referential pronouns ( $p = 0.02^*$ ). The score given by Romance L1s to the shifted DPs is also significantly different from other Lns ( $p = 0.01^*$ ), while the score given to non-shifted DPs is not ( $p = 0.06$ ).

**Figure 16** *How Romance L1s differ from other L1s in relation to mean score given to the different conditions*



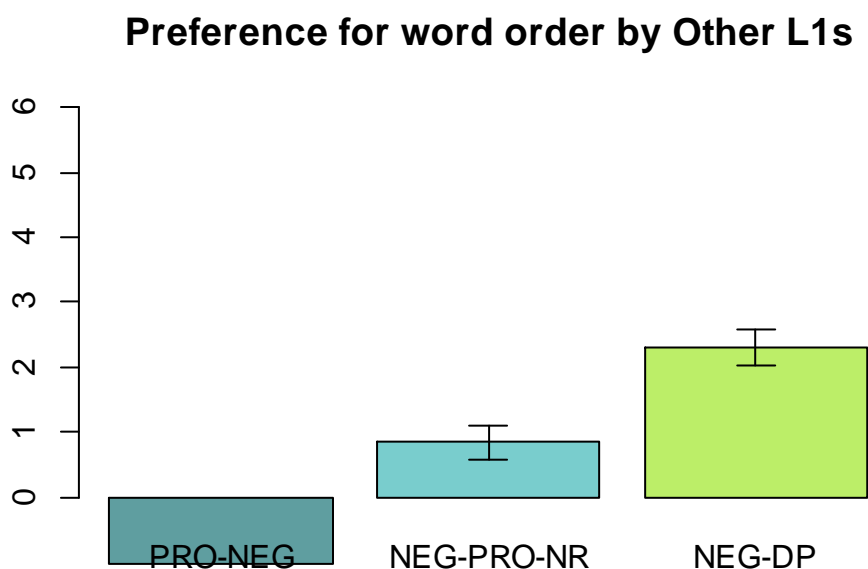
**Table 21** *Other L1s results*

Results from OS-survey Other languages n=25						
	Referential objects				Non-referential objects	
	pro-neg	neg-pro	DP-neg	neg-DP	pro-neg	neg-pro
<b>Mean</b>	<b>3,59</b>	<b>4,63</b>	<b>2,47</b>	<b>4,92</b>	<b>3,66</b>	<b>4,45</b>
<b>Median</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>3,5</b>	<b>5</b>
<b>Mode</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>

Finally, in Table 21 we have the scores from the 25 participants who have first languages that do not belong in any of the above groupings, or who have one language that does belong in the above groupings, but whose other first language does not.

The preferences of the participants who are not part of any of the above language groups are represented in Figure 17. Here all the preferences have been found to be statistically significant. The p-value is 0.008\*\* for non-shifted referential pronouns, 0.001\*\* for non-shifted non-referential pronouns and <0.001 for non-shifted DPs.

**Figure 17** *Other L1 learner preference for target- consistent word order over non-target-consistent word order. The bar representing sentences with referential pronouns on the minus-side of (below) the y-axis indicates that the participants with Other L1s prefer the non-target-consistent word order for these sentences (i.e. NEG-PRO). The bars representing the sentences with the non-referential pronouns and the DPs on the plus side of (above) the y-axis indicate that these participants prefer the target-consistent word order for these types of sentences (i.e. NEG-PRO-NR and NED-DP).*



From the tables we have seen so far, it seems like there is a tendency within each group to either have a higher acceptance for the shifted or non-shifted word order, regardless of whether the sentences in question have referential or non-referential pronouns. That is, if participants from one language group rate the non-shifted word order higher than the shifted one for sentences with referential pronouns, they more often than not also rate the sentences with non-shifted non-referential pronouns higher than sentences with the shifted word order. The non-shifted word order is most often preferred, with the exception of V2 Germanic L1s who have given a higher score to the shifted referential pronouns than to the non-shifted referential pronouns. The English, Slavic, Romance and Other L1s have all given lower scores to the shifted word order for both referential and non-referential pronouns, although to a varying degree. The exception to the preference for the non-shifted word order is always the shifted DPs, which consistently get the lowest scores. However, for the participants who are

more accepting of the shifted pronouns also rate the sentences with shifted DPs higher than those groups that give lower scores to shifted pronouns.

#### 8.4. *Statistical differences between language groups*

Below the language groups are compared to each other to find whether the L1s of the participants do play a significant role in how they judge the different sentence. Figure 18 represents the average scores given to shifted and non-shifted referential pronouns by the different language family groups. The native group's judgements of the NEG-PRO sentences are significantly different from the Romance, Slavic and Other group, but not from English and V2 Germanics. There is also a significant difference with a p-value of 0.03\* between the Slavic group, which has given this construction the highest score out of all the groups and the V2 Germanic group, which has given it the score closest to the Native group.

When it comes to the sentences with shifted referential pronouns, we can clearly see a downward tendency in average scores for each language group. The Native group has given these sentences the highest scores, followed by the V2 Germanics and then the Slavic L1s. The lowest score was given by the English and Romance groups. The Native group is significantly different from all the other language groups. Between the Native and V2 Germanic group the statistical difference equals to two asterisks ( $p = 0.001^{**}$ ), while the difference between natives and the rest of the groups is highly significant ( $p < 0.001^{***}$ ). The V2 Germanic group is highly different from the Romance, English and Other languages groups. The difference between V2 Germanic and Slavic L1s is not significant ( $p = 0.2$ ). The score given by the Slavic group is significantly different from both the Romance and English groups ( $p = 0.001$ ). This means that the V2 Germanic and Slavic groups have given the construction with the shifted referential pronouns a significantly higher score than the other language families.

**Figure 18** *Mean score given to sentences with shifted and non-shifted referential pronouns by different language families*

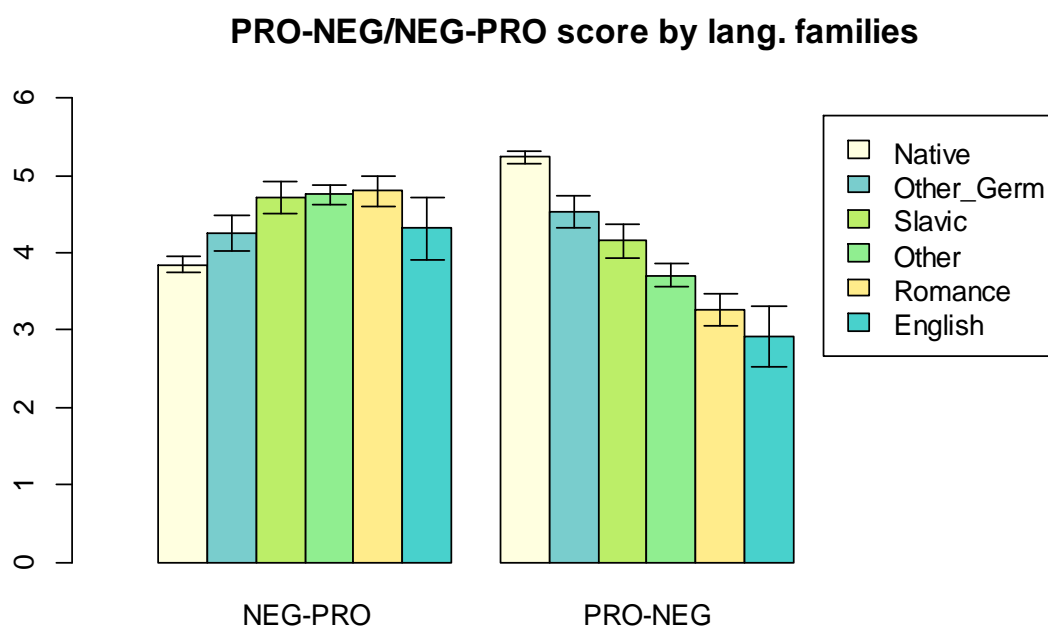
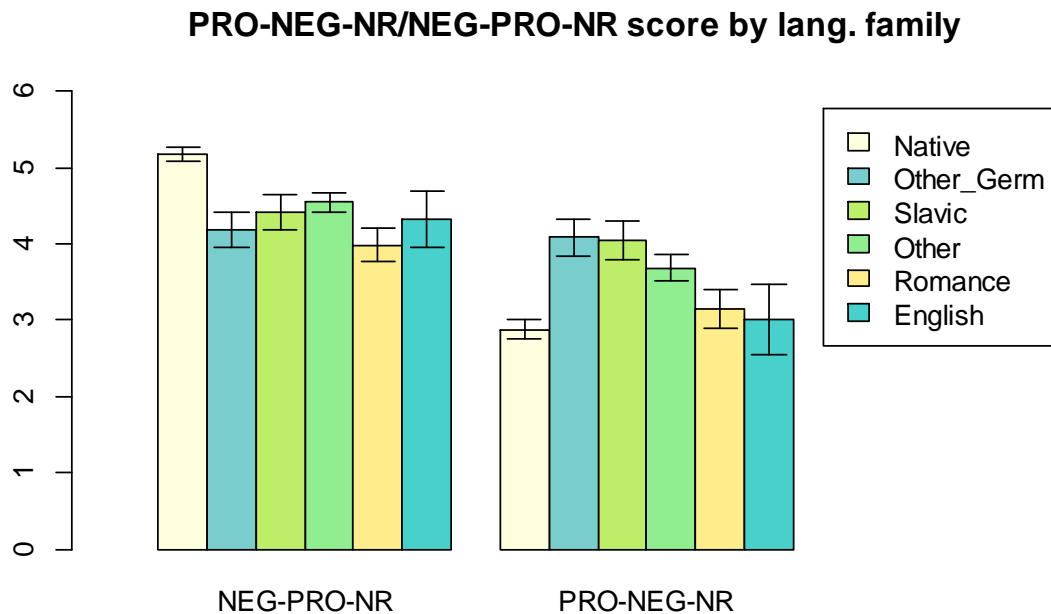


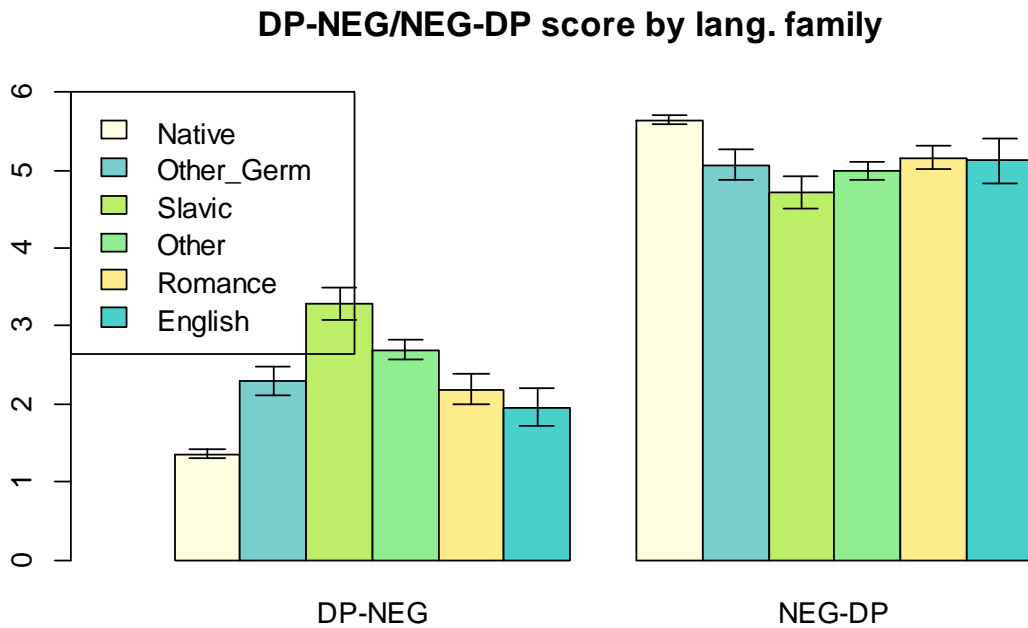
Figure 19 holds the scores given to the non-referential pronouns. The target consistent non-shifted word order has received a higher score than the shifted word order by most of the language groups. The highest score has been given by the native group and it is significantly different from all the other language groups ( $p < 0.001^{***}$  for V2 Germanic, Romance and Other,  $p = 0.01^*$  for English and  $p = 0.001^{**}$  for Slavic). It is interesting that the shifted word order has received the lowest score from the Native group and the highest scores from the V2 Germanic and Slavic groups. I will return to this point in the chapter 9. The difference between the native group and the V2 Germanic, Slavic and Other group is highly significant ( $p < 0.001$ ). As can be seen from the bar plot, the Romance and English group are very close to the natives in this case and the difference is not significant. The V2 Germanic, Slavic and Other groups are all significantly different from the Romance and the English group.

**Figure 19** Mean score given to sentences with shifted and non-shifted non-referential pronouns by different language families



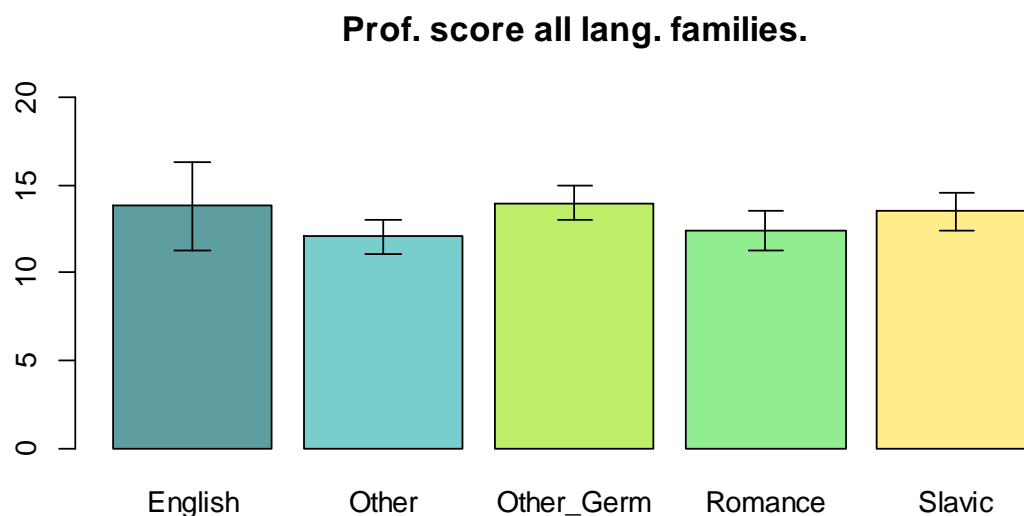
The shifted DPs have received quite a low score from all language groups, but once again, the score given by the Native group is even lower than the others. The difference in score from the Native group is highly significant from all the other groups ( $p < 0.001^{***}$ ) and slightly significant from the English group ( $0.04^*$ ). The Slavic group has given this construction the highest score out of all the groups and the score is highly significantly different from all groups and somewhat significantly different from the Other group ( $0.006^{**}$ ). The non-shifted word order has received high scores from all language groups. The difference is highly significant between the Native group and the V2 Germanic, Slavic and Other languages group, slightly significant between Native and English ( $p = 0.06$ ) and not quite significant between Native and Romance ( $p = 0.04^*$ ). The V2 Germanics are only significantly different from the Native group, but not from any of the other groups. There is also a significant difference between Romance and Slavic ( $p = 0.008^{**}$ )

**Figure 20** *Mean score given to sentences with shifted and non-shifted full DPs by different language families*



The above figures indicate that there are some statistically significant differences between the ratings of the language groups. Some of the language groups have given scores that were closer to the Native group than others. For example, the V2 Germanics have given the shifted referential pronouns the closest score to the Native group. To make sure that the results are not influenced by the fact that the participants of some groups have higher proficiency than those in other groups, I have plotted the total proficiency scores of all the language groups against each other in Figure 20. As we can see, the English and V2 Germanic groups have gotten slightly higher proficiency scores than the other groups. With a p-value of 0.9, there is essentially no difference between the proficiency scores of the English and V2 Germanic group. However, among the scores given to the shifted referential pronouns, the scores given by the V2 Germanic and English groups were the furthest apart. In other words, I cannot attribute the higher acceptance of shifted referential pronouns to a higher proficiency in Norwegian. In fact, the results show that none of the proficiency scores are significantly different from each other.

**Figure 21** *Proficiency score by language family group*



### 8.5. *Proficiency groups*

As mentioned, the OS survey included a proficiency test consisting of twenty single-choice questions. We have already seen that there is no significant difference between the proficiency scores of the language groups. Now I would like to check whether there seems to be a correlation between proficiency and preference for target-consistent word order. In order to do this, I need to check whether there is significant difference between the ratings of participants with different proficiency scores. For this reason, I have divided the participants into three proficiency groups depending on how many points they got from the test.

Participants with a score from one to ten have been placed in the Low proficiency group, those with a score of eleven to sixteen are in the Mid group and those with a seventeen to twenty score are in the High group. There are 21 participants in the Low group, 39 in the Mid group and 16 in the High group. The High group has the least amount of participants, partly due to the fact that many of the participants had score sixteen points on the proficiency test, which put them in the Mid group. The number of participants in the High group is, however, close to the number of participants who were enrolled in Level 3 Norwegian courses.

Unsurprisingly, this may be due to participants from Level 3 being more proficient in Norwegian than participants from the lower levels. The Native group holds all the 51 Norwegian L1s.



Starting with referential pronouns, we can see how the different proficiency groups have rated the two different word orders. The Native group has given a lower score to the non-shifted referential pronouns than any other group. The difference between the Native group and the Low and Mid groups is highly significant ( $p < 0.001^{***}$ ). The difference between Native and High is also significant, but to a lesser degree ( $p = 0.03^*$ ). There is no significant difference between any of the other proficiency groups. The closest we come to a significant difference is between the Mid and High group, which has a p-value of 0.06.

When it comes to the shifted word order for referential pronouns, the score given by the Native group is much higher than the other groups. The difference between the Native and all of the other groups is highly significant, while the rest of the groups have no significant difference between them. In other words, I could not find a significant correlation between proficiency group and acceptance of sentences with shifted referential pronouns. Although from Figure 22, we can see that the High group is closer in height to the Native group than the lower proficiency groups are.

**Figure 22** *Average score given to sentences with shifted and non-shifted referential pronouns by different proficiency groups*

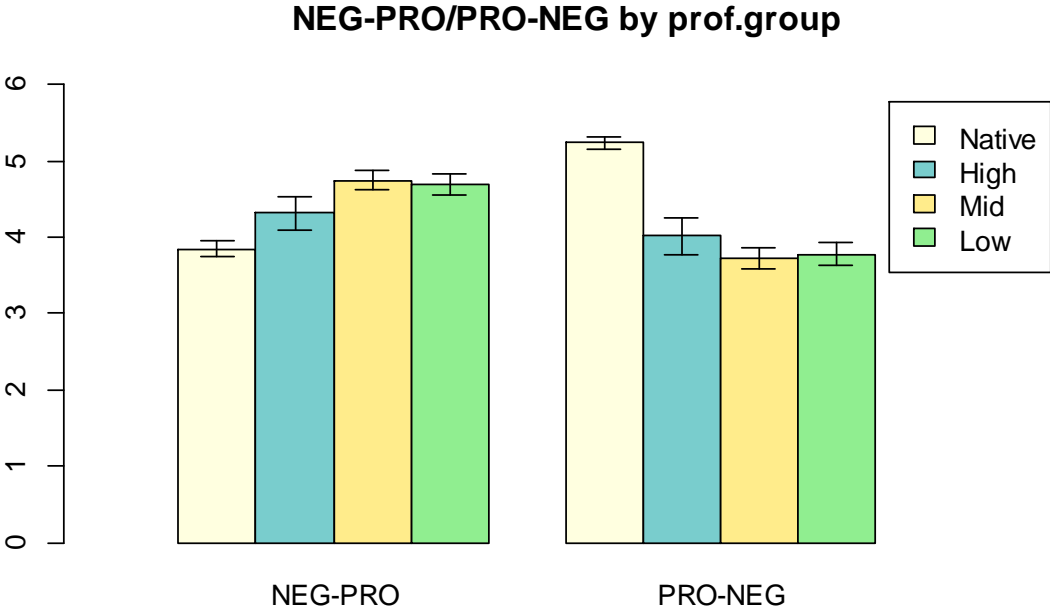
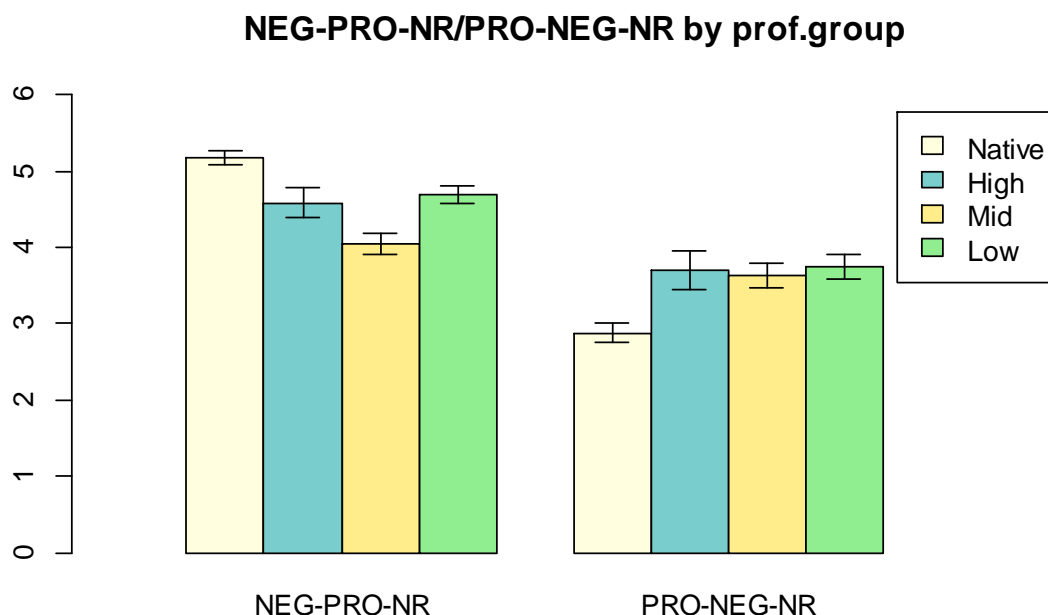


Figure 23 shows how different proficiency groups have accepted different word orders with non-referential pronouns. Here the score for the non-shifted word order given by the Native group is somewhat higher than the one given by the rest of the groups. The Mid group is the one that has given this construction the lowest score. This might be an indication that the participants have started to understand that pronouns can shift in Norwegian, but do not yet know the difference between referential and non-referential pronouns. At the same time, this is the same group that gave the highest score to non-shifted referential pronouns (cf. Figure 22). The difference between Native and Mid is highly significant ( $p < 0.001$ ), while the difference between Native and the other groups is also significant, although less so ( $p = 0.009$  for Low and  $p = 0.004$  for High). Between themselves, the Ln groups have also rated differently. There is a significant difference between High and Mid groups ( $p = 0.01^*$ ) and also between Low and Mid ( $p < 0.001^{***}$ ).

The difference between the score given to the shifted non-referential pronouns by the Native group and all of the other groups is highly significant. Overall, the Norwegian L1s have rated these types of sentences much lower than the Ln participants have. There is no significant difference between any of the other groups.

**Figure 23** *Average score given to sentences with shifted and non-shifted non-referential pronouns by different proficiency groups*

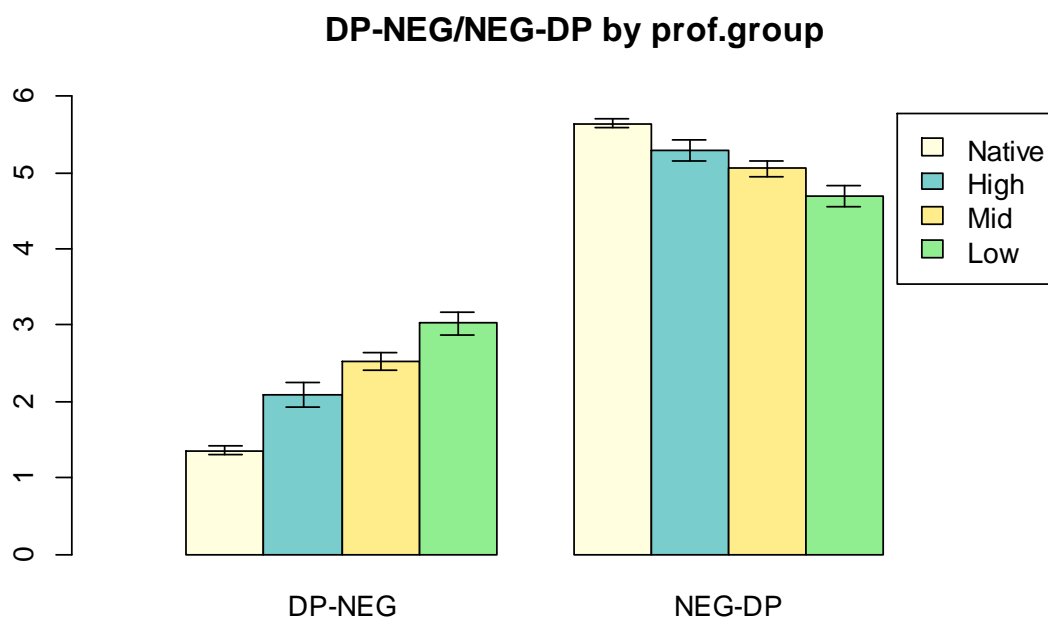


When it comes to the sentences with full DPs the correlation with proficiency can be seen more clearly (Figure 24). The acceptance for the shifted DPs becomes progressively lower with higher proficiency score and is at its lowest in the Native group. The opposite is true for the non-shifted DPs.

However, the ratings of the Lns for the shifted DPs are never as low as the ratings of the Native group. Once again, the score given by the Native groups is highly different from the other groups ( $p < 0.001^{***}$ ). The Low proficiency group is significantly different from both the Mid ( $p = 0.002^{**}$ ) and the High ( $p < 0.001^{***}$ ) group. The Mid and High groups are also somewhat significantly different from each other, with the p-value of 0.02\*.

The score given by the Native group is also significantly different from the other groups. The difference between Native and the two lowest proficiency groups is highly significant, while the difference between Native and High is less significant ( $p = 0.02^*$ ). The Low group is significantly different from the Mid ( $p = 0.01^*$ ) and the High group ( $p = 0.001^{**}$ ). The groups Mid and High do not have a significant difference between them ( $p = 0.1$ )

**Figure 24** Average score given to sentences with shifted and non-shifted DPs by different proficiency groups



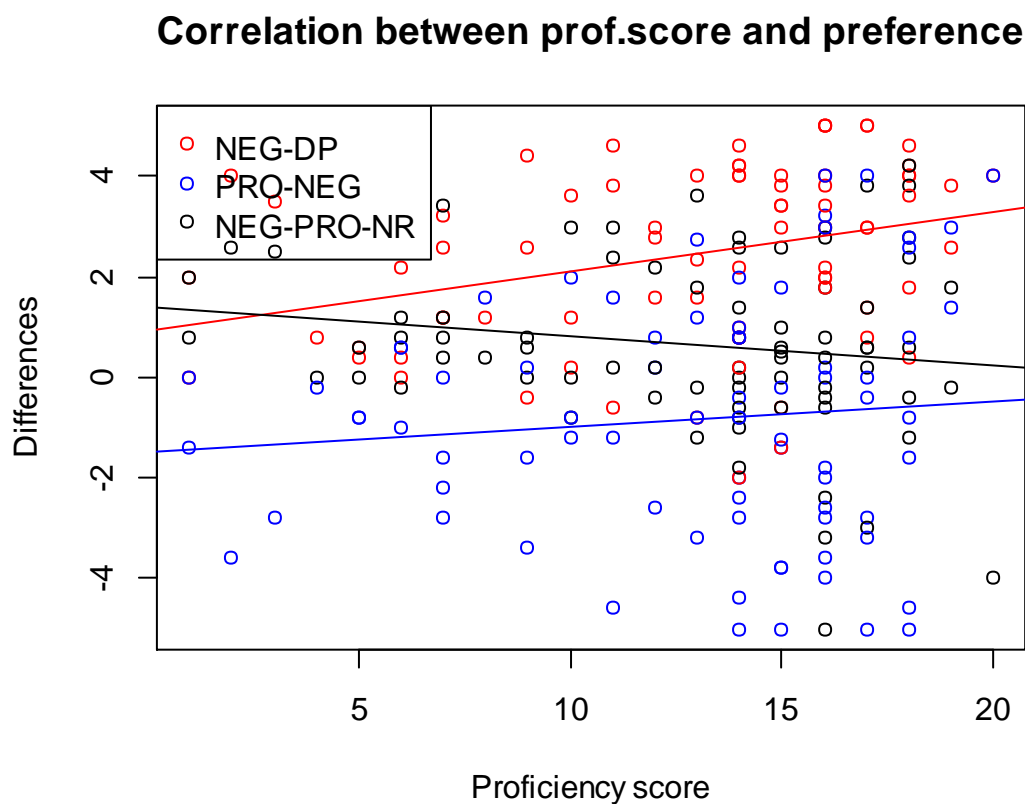
The lines in the scatter plot in Figure 25 show how preference for the target consistent word order develops in relation to proficiency score. The red line represents preference for DPs in the non-shifted position. As we can see, the preference for this word order rises with higher proficiency. A p-value of 0.01\* tells us that the correlation between proficiency score and preference for the target consistent word order is significant. This is also in line with what we saw when looking at the differences between the proficiency groups, in that the acceptance for the non-shifted word order clearly grew with each proficiency group. In other words, we can say that higher proficiency score does influence choice of the target-consistent NEG-DP word order.

The black line represents the preference for the non-shifted non-referential pronouns. The line is moving downward, which indicates that the preference for the target consistent word order decreases with higher proficiency. This in turn indicates that the preference for shifted non-referential pronouns goes up. However, in this case there is no significant correlation between preference and proficiency score ( $p = 0.2$ ).

Finally, the blue line represents preference for the shifted referential pronouns. It shows some increase in preference for the target-consistent PRO-NEG word order with higher proficiency

score, but with the p-value of 0.3, the correlation is not statistically significant. The figure also shows that the black and the blue line are moving closer together as proficiency gets higher. This means that the preference for the shifted word order for both types of pronouns increases. Perhaps, this is an indication that the learners become more aware that pronouns can shift across negation, without yet being able to distinguish between different types of pronouns.

**Figure 25** *Scatter plot of correlation between proficiency score and preference for target consistent word order*



To summarize, in this chapter I have applied statistical analysis to the results from the OS survey. The main focus was on the mean scores given to the different groups of sentences (PRO-NEG, NEG-PRO, PRO-NEG-NR, NEG-PRO-NR, DP-NEG and NEG-DP). The scores were first put into tables to get an overview over the scores given by the control group and the Ln group. There were several notable differences between the L1 and Ln scores. While the L1 group, had given the shifted word order for referential pronouns a higher score than to the non-shifted word order, the opposite was true for the Lns. The Lns also preferred the non-shifted word order for the non-referential pronouns, but in this case, their preferred word

order was target-consistent. The scores for both types of non-shifted pronouns were very similar, indicating that the Lns made no distinction between the different types of pronouns.

In order to get a more nuanced picture of the results, I divided the participants into groups based on their proficiency score and their language family. By doing this, I discovered that there were some differences in mean score given by different language groups. One important find was that the participants with V2 Germanic and Slavic L1s had a higher preference for shifted pronouns than the other language groups did. When comparing proficiency scores, I did not find any significant differences between language groups.

Further analysis showed that the judgements of the Lns came closer to the Norwegian L1 judgements with higher proficiency with regard to referential pronouns and full DPs. At the same time, the Ln judgements seemed to drift further away from the L1 judgements with regard to the non-referential pronouns.

In the next chapter I discuss what these findings can tell us about adult acquisition of OS, as well as about Ln acquisition in general.

## 9. Discussion

The overall data (c.f. Table 13) support the prediction that the Ln participants prefer the non-shifted word order to the shifted one, as all of the non-shifted alternatives have received a higher score. Statistical analysis in R showed that their preference for the non-shifted word order over the shifted word order was significant for all three types of sentences (c.f. Figure 5). Unlike the Lns, the L1 control group preferred the shifted word order for the referential pronouns, giving the construction a score of 5.24. However, the score given to the non-shifted referential pronouns was not particularly low either (3.85). Nevertheless, the statistical analysis showed that the preference for the shifted word order was significantly higher than preference for the non-shifted one. The difference in scores given by the L1s as opposed to the Lns was statistically significant for all types of sentences.

My second prediction was that the Ln learners would become more accepting of the shifted word order for pronouns as they became more proficient in Norwegian. To check if this was the case, I divided the participants into three proficiency groups based on the score they had gotten on the proficiency test in the survey.

For the sentences with referential pronouns, I found that the scores given by the Native group were significantly different from the scores given by the different Ln proficiency groups (c.f. Figure 22). From the figure, we can see that the main scores given to the non-shifted referential pronouns become lower as proficiency goes up. In other words, their preference is moving in the right direction, as the non-shifted word order is in this case the non-target-consistent word order. The difference between the Native group and the two lowest proficiency groups is highly significant ( $p < 0.001^{***}$ ), while the difference between the Native and High group is less significant ( $p = 0.03^*$ ). This is a considerable drop in significance, meaning that the scores given by the High group are much closer to the Native group than the Low and Mid groups are.

The scores given to the sentences with shifted referential pronouns are the ones that I was hoping would tell me the most about whether proficiency influences acceptance of shifted pronouns. Unfortunately, I did not find much in the way of statistical significance when I compared the different proficiency groups to each other. The only significant difference was between the Native group and all the Ln proficiency groups. The difference was highly significant for all groups ( $p = 0.001^{***}$ ), regardless of proficiency score. There was also no significant correlation between proficiency and preference for the target-consistent word

order, as we saw in Figure 25. At the same time, we do see a slight increase in preference for the shifted referential pronouns in the High proficiency group compared to the other two groups. In addition, the regression line, indicating preference for the sifted word order with higher proficiency in Figure 25, is sloping slightly upward. Although, I did not find statistical significance in this case, I suspect that a correlation between proficiency and acceptance of shifted pronouns may be found in a group of Lns who have spent more time in Norway than the participants in this study. Appendix 2 shows how long each of the participants had been learning Norwegian. The amount of time ranges from two months to five years, but only four of the participants had been learning Norwegian for more than two years. As mentioned, Norwegian L1 children use more than seven years to fully acquire the shifted word order. In addition, OS is infrequent in the input. Based on these factors, it seems reasonable that the Ln learners would require more time to acquire OS.

While the preference for the non-shifted referential pronouns seems to go down with higher proficiency, there is no clearly defined tendency in preference for shifted referential pronouns. The Lns as a group showed a preference for sentences with non-shifted pronouns, regardless of whether the pronouns were referential or non-referential. They gave the non-shifted referential pronouns the score 4.63 and the non-shifted non-referential pronouns the score 6.34 (c.f. Table 13). In other words, they gave a higher score to the non-target-consistent option than to the target-consistent one. There was no significant difference between the scores the Lns gave to the sentences with referential and the sentences with non-referential pronouns. From Figure 23 we can see that the Mid proficiency group has given the sentences with non-shifted non-referential pronouns a lower score than the two other Ln proficiency groups. The difference is significant between the Mid and High group ( $p = 0.01^*$ ) and highly significant between the Mid and Low group ( $p < 0.001^{***}$ ). In other words, the High group rated the non-shifted non-referential pronouns higher than the Mid group did, but the highest score was given by the group with the lowest proficiency score. One interpretation of these results is that the drop in mean score between the Low and the Mid group may be due to the participants who have gotten a score on the proficiency test that put them in the Mid group becoming aware that pronouns can move across negation. The fact that the mean score for the non-shifted non-referential pronouns rises again when we get to the High group, may indicate that the participants at this stage have started to recognize that not all types of pronouns shift. However, this interpretation would not explain why the Mid group has given an even lower score to the shifted non-referential pronouns. In addition, the Mid group non-target-



consistently gave a higher score than the other proficiency groups to the non-shifted referential pronouns and the lowest score to the shifted referential pronouns. Overall, with the exception of the score given to the non-shifted non-referential pronouns, the Mid group has rated very similarly to the Low group. In all other cases it is the ratings of the High group that stand out most and are closest to the Native group's scores. For these reasons, it would not be logical to conclude that the Mid group has given the non-shifted non-referential pronouns a low score because they are learning that some pronouns shift. Instead, a more plausible explanation could be that both the Low and Mid group are not yet proficient enough to know that certain types of pronouns can shift while others cannot.

We see more proximity between the Native and High group than between Native and the other two groups. This indicates that only the participants who scored the highest on the proficiency score are starting to get more familiar with the word orders that are preferred in Norwegian. Unfortunately, the High group had the least number of participants, which reflected the number of students that were enrolled in Level 3 Norwegian courses. Once again, this is an indication that more participants with even higher proficiency need to be tested in order to see when shifting is acquired.

Based on these findings, the answer to my second research question has to be that the participants did not accept the shifted word order more if they became more proficient in Norwegian. Although we did see some indication that the scores moved closer to the scores of the natives if the participants had higher proficiency, there was no statistical significance found to support that this tendency is not simply due to chance.

For the sentences with full DP-objects, I found that the mean scores given to the sentences with shifted DPs got consistently lower as the proficiency score got higher (c.f. Figure 24). At the same time, the mean score for the sentences with non-shifted DPs rose with higher proficiency score. This means that the scores of the learners in this case moved closer to the Native group's scores if they had higher proficiency. The difference in scores between the proficiency groups may also be due to the participants with higher proficiency being more sure of their judgements and what they think is an acceptable Norwegian sentence. The participants with lower proficiency, on the other hand, may have given scores closer to the middle. This can also be seen in figures showing scores given by the different proficiency groups (c.f. Figures 22,23 and 24). One exception to this can be seen in Figure 22, where the Native group has given a score close to the middle to sentences with non-shifted referential pronouns. Based on the scores, the Lns seem to have assumed that these sentences are

acceptable, while the L1s have split opinions on the matter. The bars representing the scores for the separate word orders are further apart in height for the higher proficiency groups, and closer in height for the lower proficiency groups. Even though the participants with higher proficiency scores gave scores that were closer to the Native group, there was a significant difference between the score given by the Native group and the scores given by all of the different proficiency groups. Nevertheless, it does seem like proficiency score is a deciding factor in acquiring the correct word order for DPs. This is further supported by the fact that there is a significant correlation between proficiency score and preference for the target consistent word order (c.f. Figure 25).

These findings bring us to my third prediction, which was that the participants would be able to distinguish between full DPs and pronouns. The prediction seems to be valid in that the scores given to the different word orders with full DPs were more clearly defined than the scores given to sentences containing pronouns. All of the different language family groups preferred the target consistent word order with the non-shifted DPs significantly more than the non-target consistent word order. Although the Lns preferred the non-shifted word order for the sentences with pronouns as well, they also gave a score to sentences with shifted pronouns that was close to the middle. In other words, they had more acceptance for shifted pronouns than they did for shifted DPs. This claim is supported by the fact that the scores given to the sentences with shifted pronouns were significantly higher ( $p < 0.001^{***}$ ) than the scores given to the sentences with shifted DPs (c.f. Figure 6). These findings indicate that the learners are more familiar with sentences that contain DP-objects. The fact that they give such low scores to shifted DPs and such high scores to non-shifted DPs indicates that they have heard or seen sentences with DPs enough to be certain of the preferred word order. As mentioned, this may be due to objects most often appearing as DPs in the input.

The fourth research question was about whether the Ln learners would make a distinction between referential and non-referential pronouns. My prediction was that they would most likely not be able to do this yet, due to the low frequency of pronominal objects and the even lower frequency of referential pronouns in the language. This was also related to the first prediction, which was that the participants would prefer the non-shifted word order due to the lack of shifted objects in the input. As we saw, even the participants who have given a higher score to sentences with shifted pronouns did not differentiate between referential and non-referential pronouns. That is, if they preferred the shifted word order for one type of pronouns, they preferred the shifted word order for the other type as well (c.f. Table 14).

Because the scores given to both types of pronouns were so equal, this shows that the Lns who prefer the shifted word order do not make any distinction between the referential and non-referential pronouns. The V2 Germanic group did rate the sentences with shifted referential pronouns somewhat higher than the sentences with the shifted non-referential pronouns. Nevertheless, the statistical analysis showed that the mean scores given to the sentences with shifted referential pronouns were not significantly different from those given to the sentences with shifted non-referential pronouns c.f. Figure 12).

Perhaps the most interesting findings were the ones related to the language backgrounds of the participants. I divided the participants into language groups based on their L1s in order to see whether there would be any interesting differences between the groups. I was hoping to answer the final research question, which was about whether or not certain phenomena, such as Scrambling in someone's previously acquired languages can contribute to a higher acceptance of shifted pronouns. Unfortunately, I did not have enough data to determine whether additional languages (besides the L1) had any impact, but I did see some differences in L1 groups, which at least may shed more light on the influence from a person's first language.

The acceptability judgements seem to be somewhat affected by the L1 of the participants. When considering the group consisting of eleven German L1s, I found that they had a preference for shifted referential pronouns that was significantly higher than their preference for non-shifted referential pronouns ( $p = 0.006^{**}$ ). However, when I added three Dutch participants to the group, the score given to shifted referential pronouns became lower, and the group no longer showed a significant preference for this word order (c.f. Figure 11). Nevertheless, the score given to shifted referential pronouns by the V2 Germanic group was still significantly higher than the score this word order received from the rest of the Lns ( $p < 0.001^{***}$ ). The V2 German group also gave a significantly higher score to the shifted non-referential pronouns than the rest of the Lns ( $p = 0.03^*$ ). These findings indicate that there is some correlation between Scrambling in the L1 and acceptance for shifted pronouns. The preference for shifted DPs does not seem to be affected by the group's preference for shifted pronouns. Their preference for the non-shifted DPs is highly significantly different from their preference for shifted DPs ( $p < 0.001^{***}$ ).

Because the V2 Germanic languages are typologically closer to Norwegian than most of the other L1s, the higher acceptance for the shifted pronouns may have been due to higher proficiency within the group. However, when comparing the average proficiency scores of the

different language family groups, I did not find any significant differences (c.f. Figure 21). The two groups that looked like they had slightly lower scores than the rest were Romance and Other languages group. English, V2 Germanic and Slavic had almost equally high average proficiency scores. At the same time, the English L1s had given the lowest score to sentences with shifted referential pronouns out of all other language groups, while the V2 Germanics were the ones who gave these sentences the highest score. These findings point to there not being a correlation between higher proficiency score and preference for shifted pronouns, which also supports the previously discussed findings.

If Scrambling in the L1 plays a role for whether the learners prefer the shifted word order or not, then the same could hold for L1s with free word order. Free word order is a property that exists in many Slavic languages. I had data from twelve participants who had one of four different Slavic languages with this L1 property (cf. Table 7). Unlike the V2 Germanic group, the Slavic group did not show a preference for sentences with shifted referential pronouns that was significantly higher than the preferences of the other Lns ( $p = 0.1$ ). They did however, have a significantly higher preference for shifted non-referential pronouns ( $p = 0.02^*$ ). Interestingly, the area in which the Slavic L1s are most different from the rest of the participants is in their preference for sentences with shifted DPs. The Slavic group has a significantly higher preference for sentences with shifted DPs ( $p < 0.001^{***}$ ) than the other Lns. This could be a side effect from having free word order in one's own L1. The Slavic L1s may be transferring the property of free word order to Norwegian and for that reason assuming that more word orders are possible. In fact, the Slavic group has given relatively high scores to all word orders (c.f. Figure 14).

At the same time, the difference between the V2 Germanic and the Slavic group may be grounded in typological distance. The V2 Germanic languages are typologically much closer to Norwegian than the Slavic languages are. The Slavic L1s could be giving most sentences a high score because it is generally more difficult for them to acquire the language. At the same time, there was no significant difference between the proficiency score of the Slavic L1s and the rest of the groups. As mentioned earlier, the non-occurrence of a certain phenomenon in the input does not imply that a learner may deduct that the phenomenon cannot occur in the target language (Hopp 2005). The Slavic learners may be familiar with the kinds of constructions that were part of the proficiency test, but have more difficulty with acquiring constructions that are less frequent in the input they receive. In fact, this is most likely the case considering the proficiency test I used was designed by teachers of Norwegian as a

foreign languages at the university. This means that the questions in the proficiency test likely reflect what the L<sub>n</sub> learners are taught in Norwegian class.

Even though English, like German and Dutch, is a Germanic language, the English participants did not rate the sentences with shifted pronouns in the same way. In fact, the scores given by the English and V2 Germanic L1 speakers to sentences with shifted pronouns were the furthest apart out of all the language groups. In addition to being typologically closer to Norwegian than English is. German also allows for a freer word order. This does seem to be a contributing factor to why the two language groups are so different. English, which is a strictly subject-verb-object language, does not allow for objects to move in declarative sentences. This is reflected by the scores given to the different constructions by the English L1 participants. They have given a significantly lower score than the rest of the L<sub>n</sub>s to sentences with referential pronouns as well as those with non-referential pronouns ( $p = 0.01^*$  and  $p = 0.03^*$  respectively).

The findings in this thesis seem to support the prediction that influence from the L1 can have deciding impact on the judgements of the participants. However, this does not disprove the L2 status factor in any way. For one, the studies that focus on L2 status usually deal with production tasks, while I have focused on acceptance. More research with special focus on L<sub>n</sub> acquisition needs to be done to see the whole picture. For my own part, I did not have sufficient data to say anything conclusive about the role of the additional languages. However, the participants did provide up to four additional languages that they had knowledge of. Either way, the English L1 participants did not know many additional languages that were typologically closer to Norwegian. One of the English participants had basic knowledge of German, but this did not seem to encourage higher acceptance of shifted pronouns. All of the Slavic L1s reported having advanced knowledge of English, but influence from English was not apparent in the scores given by the Slavic group. In fact, Figures 18 and 19 show that the scores given by the Slavic group are closer to the V2 Germanic L1s than they are to the English L1s. This points to word order restrictions from the L1 playing a bigger role than influence from additional languages. In the Romance group, all participants but one reported having advanced knowledge of English and three of the participants had some knowledge of German. It is hard to say whether knowledge of German had any influence on the scores of the Romance group, but no major effect can be seen.

The findings show that the V2 Germanic and Slavic groups gave the most similar scores to each other to the different sentences with pronouns, while the English L1s are closer in score

to the Romance group. This is an indication that a freer word order in one's L1 may be the most important factor when it comes to acquisition of Object Shift. At the same time, more research needs to be done on learners with even higher proficiency in Norwegian in order to determine whether this construction is ever fully acquired.

The method I have used for this study has both advantages and disadvantages. By using an electronic survey, I have been able to collect a lot of data from many different participants. One challenge has been that the participants have many different language backgrounds, which means that the language groups have been relatively small. In addition, there is no way of knowing how the different participants interpret the Likert Scale, unless I assume that they have followed the description of the scale exactly as it was presented in the introduction to the survey. Nevertheless, I hope that the mean scores are a good representation of the overall tendencies of the different L<sub>n</sub> learners. In fact, this does seem to be the case considering that I have found many statistically significant results that seem to be connected to how I divide the participants into groups. Because there is no specially developed test for determining a person's proficiency in Norwegian, I have used questions from a test designed for a similar purpose by teachers of Norwegian as a foreign language. Consequently, I have no guarantee that this test gives a good representation of the proficiency of the different participants. However, there seem to be some indications that the proficiency score of the participants has an effect on their judgements. Even so, the difference is clearer between different language groups.

## 10. Conclusion

To summarize, the thesis has considered how L<sub>n</sub> learners of Norwegian acquire the phenomenon of Object Shift (OS) in Norwegian. To be able to shed some light on this issue, I produced a survey that would test whether different L<sub>n</sub> learners of Norwegian would accept sentences where an object has shifted. There were three types of sentences in the survey:

1. Sentences with pronouns that refer back to a specific noun (PRO-NEG, NEG-PRO)
2. Sentences with pronouns that refer back to an entire clause (PRO-NEG-NR, NEG-PRO-NR)
3. Sentences with full DPs (DP-NEG, NEG-DP)

While the target consistent alternative for the first type of sentence was the shifted word order, the two other types of sentences were target consistent with the non-shifted word order. Studies of child acquisition have shown that children have a preference for the non-shifted word order when they first start talking and that it takes a long time for them to fully acquire OS (more than 7 years). My prediction was that the L<sub>n</sub>s would start out with a preference for the non-shifted word order, although possibly for different reasons than the children who acquired Norwegian as an L1. The children have been found to prefer the non-shifted word order despite it being the least frequent one, which has lead researchers to conclude that their preference was based on economy and complexity. However, when it comes to the adult L<sub>n</sub> learners, their preference for the non-shifted word order may be due to the fact that objects in Norwegian most often appear in this position. In addition, findings have shown that L1 speakers of Norwegian sometimes accept sentences where the referential pronouns has not shifted, which indicates that OS may not be obligatory. In other words, the learners do not receive sufficient input to deduct that certain types of pronouns can shift in Norwegian.

The data have shown that the learners have solid knowledge of placement of full DPs, and that this knowledge becomes stronger with higher proficiency. I suggest that this is due to objects most frequently being produced as DPs in the non-shifted position. It is also due to the fact that most languages make a distinction between pronouns and full DPs, allowing for the lighter segments to appear higher up in the structure. The learners struggle more with the placement of pronouns. Most of them prefer the non-shifted word order for sentences with referential pronouns, although the shifted word order is largely preferred by the Norwegian L1s.

I have found that the participants do not show a higher preference for the shifted word order when they have higher proficiency.

Interestingly, certain language groups show a higher preference for the shifted word order than the rest. The participants were divided into groups: V2 Germanic, Romance, Slavic, English and Other languages, in order to see whether their L1 may be influencing how they rate the different types of sentences. Both the V2 Germanic and Slavic groups have shown a higher preference for shifted referential pronouns than other Lns, but only the V2 Germanics preferred the shifted word order to the non-shifted one. I suggest that this is due to a freer word order in the respective L1s of these participants. However, these same participants have also given a higher score to the sentences with shifted non-referential pronouns than the rest of the Lns, indicating that they have not understood in which contexts OS occurs. This is not surprising, as OS rarely occurs in the input. Without sufficient knowledge of the structures in the survey, the participants may have looked to their own L1s to decide which word orders seemed more acceptable. The lack of relevant input has also most likely influenced some learners to believe that other types of objects can appear in a higher position. For the V2 Germanic L1s this applies to non-referential pronouns. For the Slavic group this seems to apply to non-referential pronouns as well as full DPs. Based on the findings, I suggest that the L1 may be playing an important role in acquisition of OS. Amount of proficiency did not turn out to contribute to a higher acceptance for shifted pronouns in this case. I predict that participants with higher proficiency are needed in order to see a real progress in this area.



## References

- Anderssen, Merete, and Marit Westergaard. "Frequency and economy in the acquisition of variable word order." *Lingua* 120.11 (2010): 2569-2588.
- Anderssen, M., Bentzen, K., Rodina, Y., & Westergaard, M. (2010). The Acquisition of Apparent Optionality: Word Order in Subject and Object shift Constructions in Norwegian. In M. Anderssen, K. Bentzen, & M. Westergaard (Eds.), *Variation in the input: Studies on the acquisition of word order*. Dordrecht: Springer.
- Anderssen, Merete, and Kristine Bentzen. "Norwegian Object Shift as IP-internal topicalization." *Nordlyd* 39.1 (2012): 1-23.
- Andréasson, Maia. "Not all objects are born alike: Accessibility as a key to pronominal object shift in Swedish and Danish." *Proceedings of LFG08, CSLI Publications, Editors: Miriam Butt, Tracy Holloway King. LFG08, University of Sydney, Australia, July 4, 2008–July 6, 2008* (2008): 26-45.
- Andréasson, Maia. "Pronominal object shift—not just a matter of shifting or not." *Working Papers in Scandinavian Syntax* 84 (2009): 1-20.
- Andréasson, Maia, Miriam Butt, and Tracy Holloway King. "Object shift or object placement in general." *Proceedings of the LFG10 Conference*. 2010.
- Bailyn, John F. "Does Russian scrambling exist." *Word order and scrambling* (2003): 156-176.
- Bardel, Camilla, and Ylva Falk. "The role of the second language in third language acquisition: The case of Germanic syntax." *Second Language Research* 23.4 (2007): 459-484.
- Bentzen, Kristine, Merete Anderssen, and Christian Waldmann. "Object shift in spoken Mainland Scandinavian: A corpus study of Danish, Norwegian, and Swedish." *Nordic Journal of Linguistics* 36.02 (2013): 115-151.
- Bentzen, Kristine. "Object Shift." *Nordic Atlas of Language Structures (NALS)* (2014).

- Cenoz, Jasone. "The effect of linguistic distance, L2 status and age on cross-linguistic influence in third language acquisition." *Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives* 111.45 (2001): 8-20.
- Chomsky, Noam. "A Note on Non-control PRO." *Journal of Linguistic Research* 1.4 (1981): 1-11.
- De Angelis, Gessica. *Third or additional language acquisition*. Vol. 24. Multilingual Matters, 2007.
- De Bot, Kees. "The multilingual lexicon: Modelling selection and control." *International Journal of Multilingualism* 1.1 (2004): 17-32.
- Douglas Bates, Martin Maechler, Ben Bolker, Steve Walker (2015). Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software*, 67(1), 1-48.  
doi:10.18637/jss.v067.i01.
- Falk, Ylva, and Camilla Bardel. "Object pronouns in German L3 syntax: Evidence for the L2 status factor." *Second Language Research* 27.1 (2011): 59-82.
- Firbas, Jan. "Some thoughts on the function of word-order in Old English and Modern English." *Sborník prací filosofické fakulty brněnské university* (1957): 5-72.
- Gundel, Jeanette K. "'Shared knowledge' and topicality." *Journal of pragmatics* 9.1 (1985): 83-107.
- Hadley Wickham (2016). tidy: Easily Tidy Data with `spread()` and `gather()` Functions. R package version 0.4.0. <https://CRAN.R-project.org/package=tidy>
- Halliday, Michael AK. "Notes on transitivity and theme in English: Part 2." *Journal of linguistics* 3.02 (1967): 199-244.
- Hammarberg, Bjorn. "Roles of L1 and L2 in L3 production and acquisition." *Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives* 31 (2001): 21.
- Holmberg, Anders. 1986. Word order and syntactic features in the Scandinavian languages and English. Doctoral Dissertation, University of Stockholm.
- Holmberg, Anders. "Remarks on Holmberg's generalization." *Studia linguistica* 53.1 (1999): 1-39.

- Hopp, Holger. "Constraining second language word order optionality: Scrambling in advanced English-German and Japanese-German interlanguage." *Second Language Research* 21.1 (2005): 34-71.
- Hudson Kam, Carla L., and Elissa L. Newport. "Regularizing unpredictable variation: The roles of adult and child learners in language formation and change." *Language Learning and Development* 1.2 (2005): 151-195.
- Josefsson, Gunlög. "The true nature of Holmberg's Generalization revisited—once again." *Working papers in Scandinavian syntax* 67 (2001): 85-102.
- Josefsson, Gunlög. "Four myths about Object Shift in Swedish—and the Truth...." *Grammatik i fokus: festschrift till Christer Platzack den 18 november 2003= Grammar in focus: festschrift for Christer Platzack 18 November 2003. Vol. II* (2003).
- Josefsson, Gunlög. "Object shift and optionality. An intricate interplay between syntax, prosody and information structure." *Working Papers in Scandinavian Syntax* 86 (2010).
- Kam, Carla L. Hudson, and Elissa L. Newport. "Getting it right by getting it wrong: When learners change languages." *Cognitive psychology* 59.1 (2009): 30-66.
- Kellerman, Eric. "Now you see it, now you don't." *Language transfer in language learning* 54.12 (1983): 112-134.
- Leung, Yan-kit Ingrid. "L2 vs. L3 initial state: A comparative study of the acquisition of French DPs by Vietnamese monolinguals and Cantonese-English bilinguals." *Bilingualism: Language and Cognition* 8.01 (2005): 39-61.
- Levshina, Natalia. *How to do linguistics with R: Data exploration and statistical analysis*. John Benjamins Publishing Company, 2015.
- Lindqvist, Christina. "The use of the L1 and the L2 in French L3: examining cross-linguistic lexemes in multilingual learners' oral production." *International Journal of Multilingualism* 6.3 (2009): 281-297.
- Mikkelsen, Line. "On prosody and focus in Object Shift." *Syntax* 14.3 (2011): 230-264.

- Ullman, Michael T. "The neural basis of lexicon and grammar in first and second language: The declarative/procedural model." *Bilingualism: Language and cognition* 4.02 (2001): 105-122.
- Papp, Szilvia. "Stable and developmental optionality in native and non-native Hungarian grammars." *Second Language Research* 16.2 (2000): 173-200.
- R Core Team (2015). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.
- Rizzi, Luigi. "Negation, wh-movement and the null subject parameter." *Issues in Italian syntax* 117 (1982): 184.
- Rothman, Jason, and Jennifer Cabrelli Amaro. "What variables condition syntactic transfer? A look at the L3 initial state." *Second Language Research* 26.2 (2010): 189-218.
- Rothman, Jason. "L3 syntactic transfer selectivity and typological determinacy: The typological primacy model." *Second Language Research* 27.1 (2011): 107-127.
- Rothman, Jason. "Cognitive economy, non-redundancy and typological primacy in L3 acquisition." *Romance Languages and Linguistic Theory 2011: Selected papers from 'Going Romance' Utrecht 2011 5* (2013): 217.
- Rothman, Jason. "Linguistic and cognitive motivations for the Typological Primacy Model (TPM) of third language (L3) transfer: Timing of acquisition and proficiency considered." *Bilingualism: language and cognition* 18.02 (2015): 179-190.
- Thráinsson, Höskuldur. "6 Object Shift and Scrambling." *The handbook of contemporary syntactic theory* (2001): 148.
- Vikner, Sten. "Scandinavian object shift and West Germanic scrambling." *Studies on scrambling* (1994): 487-517.
- Vikner, Sten. "Object Shift." *The Blackwell Companion to Syntax* (2006): 392-436.
- Westergaard, Marit R., and Øystein A. Vangsnes. "Wh-questions, V2, and the left periphery of three Norwegian dialect types." *Journal of Comparative Germanic Linguistics* 8.1-2 (2005): 117-158.
- Westergaard, Marit R. "Verb movement and subject placement in the acquisition of word order." Guijarro-Fuentes, P., MP Larrañaga and (2008).

Westergaard, Marit. 2010. '[Cue-based Acquisition and Information Structure Drift in Diachronic Language Development](#).' In Gisella Ferraresi & Rosemarie Lühr (eds.), *Diachronic Studies on Information Structure: Language Acquisition and Change* [Language, Context and Cognition], Berlin: de Gruyter.

Westergaard, Marit. "Subject positions and information structure: The effect of frequency on acquisition and change." *Studia Linguistica* 65.3 (2011): 299-332.

Westergaard, Marit, and Merete Anderssen. "Word order variation in Norwegian possessive constructions." *Germanic Heritage Languages in North America: Acquisition, attrition and change* 18 (2015): 21.

Westergaard, Marit, Natalia Mitrofanova, Roksolana Mykhaylyk & Yulia Rodina. 2016. 'Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model.' *International Journal of Bilingualism*. DOI: 10.1177/1367006916648859.

Williams, Sarah, and Bjorn Hammarberg. "Language switches in L3 production: Implications for a polyglot speaking model." *Applied linguistics* 19.3 (1998): 295-333.

## Appendix 1: Object Shift survey from SurveyGizmo

### Norwegian language survey 1

---

#### Consent page

The current study is a joint research project carried out by researchers at UiT and NTNU. The results will be published in a masters thesis at UiT and two scholarly articles in international journals.

You will be taking an electronic survey that mostly involves checking of boxes to rate different sentences. You will also be asked to fill in some information about yourself: name, age, sex, first language, and other languages you speak. We also ask you to provide your e-mail address so that we know where to send the second survey. Towards the end of the study, you will get some multiple-choice questions.

All data will be anonymized in the publications. All personal data will be handled confidentially and be stored on a password protected server. The plan is to end the project December 1<sup>st</sup>, 2017: All data will be anonymized by this date, by deleting any and all directly and indirectly identifying personal data.

It is voluntary to participate in the study, and you may at any time withdraw your consent without giving any reason. If you withdraw, all information about you will be deleted.

The study is reported to the Privacy Ombudsman for Research, the Norwegian Social Science Data Services.

By clicking 'Next' you acknowledge that you have received information about the study and agree to participate.

---

## Introduction

In the following survey you will be presented with several different Norwegian sentences.

We would like you to judge on a scale from 1 to 6 how acceptable you think each sentence sounds, where 1 means that you think the sentence sounds completely unacceptable and 6 means that you think it sounds completely acceptable.



1= completely unacceptable, 2=almost completely unacceptable, 3=somewhat unacceptable, 4=somewhat acceptable, 5= almost completely acceptable, 6= completely acceptable

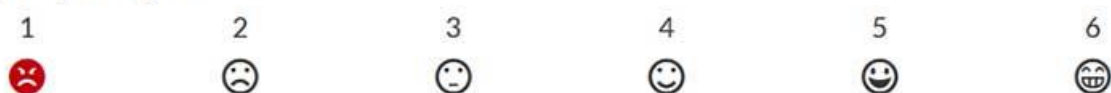
For example: When the sentence is completely acceptable, like example 1 below, you click the number 6 smiley.

1. Per og Mari spiser middag.



When the sentence is completely unacceptable, like example 2, you click the number one smiley.

2. Middag Per spiser og Mari.



If it is less clear how acceptable or unacceptable the sentence is, you can use one of the smileys between 1 and 6. If you don't understand the sentence or have no opinion on how acceptable it is you can skip the sentence by clicking 'Next'.

A lot of the sentences are similar to each other and there are no right or wrong answers. We are only interested in knowing what YOU think sounds acceptable or unacceptable.

Some of the sentences are preceded by a context sentence. The context sentence is written in *italic*. These sentences are only there for context and you do not need to rate their acceptability. Only rate the acceptability of the sentences that are not in italic.

Example: *Det gule skjørtet var på salg.* Mona kjøpte ikke det den dagen.

do not rate

rate

---

Rate how acceptable you think the following sentences are:

**1) Det gule skjørtet var på salg. Mona kjøpte ikke det den dagen.**

1    2    3    4    5    6

**2) Syntes Jon at filmen i går var god? Nei, han syntes det ikke, sa han.**

1    2    3    4    5    6

**3) Hilde fortalte at Trine ikke jobbet hele natta i går.**

1    2    3    4    5    6

**4) Maria vil at de skal flytte. Magnus vil det ikke akkurat nå.**

1    2    3    4    5    6

**5) Siri fortalte at Per hadde ikke luftet hunden i går.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**6) Ellen vil se naturlig ut. Hun bruker ikke sminke i det hele tatt.**

1    2    3    4    5    6

**7) Bilen er veldig skitten. Magnus vasket ikke den i går.**



1    2    3    4    5    6

**8) Daniel fortalte at bussen kom ikke til rett tid i går.**

1    2    3    4    5    6

**9) Magnus vil slanke seg. Han spiste godteri ikke denne helgen.**

1    2    3    4    5    6

**10) Hilde fortalte at Tor ikke hadde jobbet hele natta i går.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**11) Er ballongen fortsatt oppblåst? Nei, den er det ikke lengre.**

1    2    3    4    5    6

**12) Du er ikke så glad i sport, er du vel? Nei, jeg er ikke det, skjønner du.**

1    2    3    4    5    6

**13) Av og til drar bussen for tidlig. Magnus rakk den ikke i morges.**

1    2    3    4    5    6

**14) Kjell fortalte at Petter ikke lagde kylling til middag i går.**

1    2    3    4    5    6

**15) Katrine fortalte at Per luftet ikke hunden i går kveld.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**16) Av og til drar bussen for tidlig. Magnus rakk ikke den i morges.**

1    2    3    4    5    6

**17) En ny restaurant har åpnet i byen. Pål liker ikke maten der.**

1    2    3    4    5    6

**18) Kjell fortalte at Petter lagde ikke kylling til middag i går.**

1    2    3    4    5    6

**19) Syntes Jon at filmen i går var god? Nei, han syntes ikke det, sa han.**

1    2    3    4    5    6

**20) Else fortalte at Bente kom ikke på jobb på tirsdag.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**21) Magnus vil slanke seg. Han spiste ikke godteri denne helgen.**

1    2    3    4    5    6

**22) Hilde fortalte at Tor hadde ikke jobbet hele natta i går.**

1    2    3    4    5    6

**23) Linda var på festen på fredag. Daniel så ikke henne der.**

1    2    3    4    5    6

**24) Det var salg på kjøpesenteret. Mona kjøpte klær ikke der den dagen.**

1    2    3    4    5    6

**25) Familien har fått en datamaskin. Tor bruker ikke den på kveldstid.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**26) Linda var på festen på fredag. Daniel så henne ikke der.**

1    2    3    4    5    6

**27) Kjell fortalte at bussen hadde ikke kommet til rett tid i går.**

1    2    3    4    5    6

**28) Det var fest hos Trine forrige lørdag. Daniel så ikke Linda der.**

1    2    3    4    5    6

**29) Daniel fortalte at bussen ikke kom til rett tid i går.**

1    2    3    4    5    6

**30) Du er ikke så glad i sport, er du vel? Nei, jeg er det ikke, skjønner du.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**31) Katrine fortalte at Per ikke luftet hunden i går kveld.**

1    2    3    4    5    6

**32) Else fortalte at Bente hadde ikke kommet på jobb på tirsdag.**

1    2    3    4    5    6

**33) Bilen er veldig skitten. Magnus vasket den ikke i går.**

1    2    3    4    5    6

**34) En ny restaurant har åpnet i byen. Pål liker maten ikke der.**

1    2    3    4    5    6

**35) Daniel fortalte at Kjell ikke hadde spist kylling i går.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**36) Maria vil at de skal flytte. Magnus vil ikke det akkurat nå.**

1    2    3    4    5    6

**37) Det var fest hos Trine forrige lørdag. Daniel så Linda ikke der.**

1    2    3    4    5    6

**38) Daniel fortalte at Kjell hadde ikke spist kylling i går.**

1    2    3    4    5    6

**39) Else fortalte at Bente ikke kom på jobb på tirsdag.**

1    2    3    4    5    6

**40) Kjell fortalte at bussen ikke hadde kommet til rett tid i går.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**41) Familien har fått en datamaskin. Tor bruker den ikke på kveldstid.**

1    2    3    4    5    6

**42) Det var salg på kjøpesenteret. Mona kjøpte ikke klær der den dagen.**

1    2    3    4    5    6

**43) Hilde fortalte at Trine jobbet ikke hele natta i går.**

1    2    3    4    5    6

**44) Har hun spist middag i dag? Nei, jeg tror ikke det, dessverre.**

1    2    3    4    5    6

**45) Else fortalte at Bente ikke hadde kommet på jobb på tirsdag.**

1    2    3    4    5    6

---

Rate how acceptable you think the following sentences are:

**46) Er ballongen fortsatt oppblåst? Nei, den er ikke det lengre.**

1    2    3    4    5    6

**47) Ellen vil se naturlig ut. Hun bruker sminke ikke i det hele tatt.**

1    2    3    4    5    6

**48) Har hun spist middag i dag? Nei, jeg tror det ikke, dessverre.**

1    2    3    4    5    6

**49) Det gule skjørtet var på salg. Mona kjøpte det ikke den dagen.**

1    2    3    4    5    6

**50) Siri fortalte at Per ikke hadde luftet hunden i går.**

1    2    3    4    5    6

---

For the questions or statements below, please choose the best option to complete the sentence or conversation.

**51) Drømmer du ... å bli advokat?**

- av
- om
- at
- som

**52) Jeg tror ... blir regn.**

- at
- det
- kanskje
- litt

**53) Vi kan være ute ... det snør.**

- derfor
- kanskje
- selv om
- også

**54) Hva heter kona ...**

- si?
- hans?
- til ham?
- til hans?

**55) Du er mye flinkere ... meg.**

- enn
- som

- da
- den

**56) Har du ... og handlet?**

- vært
- kjøpt
- lyst
- betalt

**57) Kan du ... meg med selskap?**

- bli med
- holde
- komme
- blande

**58) Da han kom, ... for å spise.**

- etterpå
- vi dro
- ville han
- dro vi

**59) Skal du på ferie i sommer?**

- Ja, for et par uker siden.
- Nei, jeg må skynde meg.
- Ja, jeg skal ødelegge det.
- Jeg har dessverre ikke råd til det.

**60) Han sa at han ... likte maten**

- har



- ikke
- fordi
- hvorfor

---

For the questions or statements below, please choose the best option to complete the sentence or conversation.

**61) Vi hadde ... hyggelig i Spania.**

- tid
- ganske
- det
- oss

**62) Hun ... kastet ut.**

- har
- snart
- ble
- ville

**63) Jeg er ... klimaet nå.**

- vant til
- søkt på
- i stand til
- forsøkt

**64) Jeg er ... hjemme.**

- mens
- midt i
- som regel

de eneste

**65) Hun likte den ... bilen.**

hennes

sin

nye

ny

**66) Jeg tror bussen ... komme for sent.**

blir

har

skal

vil

**67) Han elsket ... sjarmerende latter.**

hennes

dette

disse

seg

**68) Hun prøvde ... ham.**

å skylde

å forsvinne

å unngå

å spandere

**69) Hvorfor vil han skille seg?**

Han elsker ikke kona si lenger.

Han elsker ikke kona hans lenger.

- Han elsker ikke hans kone lenger.
- Han elsker ikke kona deres lenger.

**70) Jeg er så ... dette været.**

- opptatt med
- spennende
- liker godt
- lei av

---

Some background information about yourself

71) Name (First and Last)

---

72) E-mail address

---

73) Age

---

**74) Sex**

- Male
- Female

**75) First languages. Here you have the option to write two languages if you were bilingual from birth.**

Language 1: \_\_\_\_\_

Language 2: \_\_\_\_\_

**76) Other languages you speak**

Language 1: \_\_\_\_\_

Language 2: \_\_\_\_\_

Language 3: \_\_\_\_\_

Language 4: \_\_\_\_\_

Rate how proficient you are in the other languages you speak below:

**77) Language 1 proficiency**

Basic       Intermediate       Advanced

**78) Language 2 proficiency**

Basic       Intermediate       Advanced

**79) Language 3 proficiency**

Basic       Intermediate       Advanced

**80) Language 4 proficiency**

Basic       Intermediate       Advanced

81) For how long have you been learning Norwegian?

\_\_\_\_\_

82) Where are you studying or have you been studying Norwegian?

\_\_\_\_\_

**83) Which Norwegian Language Course have you been part of this semester?** (If you are not continuing with Norwegian courses this semester, you can write the level you were part of the previous semester.)

- Level 1
- Level 2
- Level 3
- Level 4

## Appendix 2: List off all Ln participants

Lang. Course	Age	Sex	First languages		Other languages (2nd, 3rd, 4th language)								Time learning Norw.	
			First lang #1	First lang #2	Lang #1	Prof.	Lang #2	Prof.	Lang #3	Prof.	Lang #4	Prof.		
Lvl. 1	37	M	English											4 mos.
Lvl. 2	23	F	German		English	Adv.	Spanish	Basic						1.5 yr.
Lvl. 1	19	M	Euskara	Spanish	English	Adv.	French	Basic						3 mos.
Lvl. 1	20	F	Galician	Spanish	English	Int.	Portuguese	Basic						3 mos.
Lvl. 1	23	F	Russian	Spanish	English	Int.								3 mos.
Lvl. 2	24	F	French		English	Adv.	Spanish	Basic	Norwegian	Int.	Shimaore	Basic		8 mos.
Lvl. 1	26	F	Dutch		English	Adv.								3 mos.
Lvl. 1	26	M	English											1 sem.
Lvl. 1	30	F	Dutch		English	Adv.	German	Basic	French	Basic				3 mos.
Lvl. 1	19	F	Russian		English	Adv.	German	Int.						4 mos.
Lvl. 1	28	M	Nepali	English										4 mos.
Lvl. 2	29	F	English	Hungarian	Chinese	Int.	Spanish	Int.						2 yrs.
Lvl. 1	28	M	German		English	Adv.	French	Basic						6 mos.
Lvl. 1	24	F	French	English	Spanish	Basic								1 sem.
Lvl. 1	31	M	Russian	Ukrainian	English	Adv.	Greek	Int.						3 mos.
Lvl. 2	27	F	English	French	Polish	Adv.		Adv.		Int.				1 yr.
Lvl. 2	20	F	Italian		English	Adv.	French	Basic	Swedish	Int.	Norwegian	Int.		5 mos.
Lvl. 1	27	F	Russian		English	Int.	Norwegian	Basic						1 yr.
Lvl. 1	26	F	Italian		English	Adv.								6 mos.
Lvl. 2	23	F	Polish		English	Adv.	German	Basic	Norwegian	Int.				4 yrs.
Lvl. 1	N/A	F	Arabic		English	Adv.								2 yrs.
Lvl. 2	43	F	Sakha	Russian	Engelsk	Int.	Swedish	Adv.	Norwegian	Int.				N/A
Lvl. 2	35	M	English		Igala	Int.								2 yrs.
Lvl. 2	33	M	Portuguese		English	Adv.	Spanish	Adv.	German	Basic				1.5 yr.
Lvl. 3	22	M	German		English	Adv.	Latin	Adv.	Russian	Basic	French	Basic		1 yr.
Lvl. 2	29	F	Nepali		English	Adv.	Hindi	Int.	Norwegian	Basic				1.5 yr.
Lvl. 2	28	M	Albanian		English	Adv.	Italian	Adv.	French	Basic				10 mos.
Lvl. 2	26	M	Farsi	English	Turkish	Basic	German	Basic						7 mos.
Lvl. 3	26	F	German		Englisch	Adv.	Norwegian	Adv.	Swedish	Int.	Finnisch	Basic		1 yr.

Lvl. 2	28	M	Polish		English	Adv.							1 yr.
Lvl. 3	31	F	Swiss German	German	English	Adv.	French	Adv.	Italian	Int.	Chinese	Basic	1.5 yr.
Lvl. 2	30	F	Spanish		English	Int.							2 yrs.
Lvl. 2	35	M	Italian	English									1 yr.
Lvl. 2	37	F	Portuguese	English	French	Int.	Spanish	Basic					1 yr.
Lvl. 3	24	M	Spanish		English	Adv.							1 yr.
Lvl. 2	26	M	German		English	Adv.	French	Int.	Norwegian	Int.			1.5 yr.
Lvl. 2	26	F	Lithuanian	English	Russian	Adv.	Norwegian	Int.					N/A
Lvl. 3	32	M	Spanish	Catalan	English	Adv.	Norwegian	Int.					1,5 yr.
Lvl. 2	23	F	Russian		English	Adv.	French	Int.	Norwegian	Basic			10 mos.
Lvl. 3	33	F	Farsi		English	Adv.	German	Int.	Arabic	Int.			1,5 yr.
Lvl. 3	35	M	Spanish		English	Adv.	French	Adv.	Norwegian	Int.			1.5 yr.
Lvl. 3	29	F	Persian	English	Persian	Adv.	English	Adv.	Norwegian	Basic	French	Basic	
N/A	46	F	Dutch	English	German								
Lvl. 3	30	F	Spanish		English	Adv.	Italian	Adv.					3 yrs.
Lvl. 3	20	F	Hungarian		English	Adv.	Norwegian	Int.	Spanish	Basic			2.5 yrs.
Lvl. 3	31	F	Turkish		English	Adv.							5 yrs.
Lvl. 2	23	F	German		French	Basic							1 yr.
Lvl. 2	32	F	Dutch		English	Adv.	Spanish	Int.	French	Basic	German	Basic	7 mos.
Lvl. 2	27	F	Persian		English	Adv.	Norwegian	Int.					1 yr.
Lvl. 1	23	M	German		English	Adv.	French	Int.	Spanish	Basic			4 mos.
Lvl. 3	29	F	Japanese		English	Adv.	Norwegian	Int.	Spanish	Basic			2 yrs.
Lvl. 2	23	M	Spanish		English	Adv.	Norwegian	Int.					1 yr.
Lvl. 2	36	F	Finish		English	Adv.	Swedish	Basic					4 mos.
Lvl. 3	34	M	Portuguese		English	Adv.	Spanish	Int.	German	Basic			2 yrs.
Lvl. 3	28	F	Urdu		English	Adv.	Arabic	Basic					1.5 yr.
Lvl. 2	24	F	Chinese		English	Adv.	Spanish	Basic					1 yr.
Lvl. 1	51	M	German		English	Adv.	Kurmanci/ Behdini (Kurdish)	Adv.	Estonian	Int.			9 mos.
Lvl. 1	30	M	Serbo-Croatian		English	Adv.	Russian	Int.	Other south Slavic languages	Adv.			10 mos.
Lvl. 1	30	M	German		English	Adv.	French	Basic					4 mos.
Lvl. 1	24	F	Georgian	Polish	English	Adv.	Russian	Adv.					1 sem.
Lvl. 1	29	M	Italian		English	Adv.	Norwegian	Basic	Spanish	Int.	French	Basic	1 sem.
Lvl. 3	27	M	English		Norwegian	Int.	German	Basic					18 mos.

Lvl. 1	29	M	Polish		English	Adv.	Russian	Adv.	Ukrainian	Adv.	German	Int.	3 mos.
Lvl. 3	33	F	Chinese	English	Norwegian	Int.	Swedish	Int.					2 yrs.
Lvl. 1	25	F	German	English	French	Int.							5 mos.
Lvl. 2	35	M	Chinese	English									1.5 yr.
Lvl. 2	23	M	Polish		English	Adv.	Norwegian	Int.	German	Int.			7 mos.
Lvl. 3	41	M	Nepali		English	Adv.	Hindi	Int.	Arabic	Basic			2 yrs.
Lvl. 3	40	F	Thai		Norwegian	Int.	English	Basic					1 yr.
Lvl. 1	22	F	Hungarian		French	Adv.	English	Adv.	Spanish	Int.	Polish	Basic	2 mos.
Lvl. 2	23	F	Russian		English	Adv.							4 mos.
Lvl. 1	45	F	French		German	Int.	Russian	Int.					
Lvl. 2	23	F	German		English	Adv.	French	Int.	Spanish	Int.	Dan/Norw	Int.	5 mos.
Lvl. 3	20	F	Polish		English	Adv.	French	Adv.	Italian	Int.			1.5 yr.
Lvl. 1	36	F	English	Arabic	French	Basic	Japanese	Basic					4 mos.
Lvl. 2	N/A	F	English		Mandarin	Int.	French	Int.	Hakka	Basic	Cantonese	Basic	16 mos.