



**UiT** The Arctic University of Norway

Department of Language and Culture

## **Crosslinguistic Influence in L3A**

An investigation of L3 English acquisition among North Sámi-Norwegian bilinguals

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## 1. Introduction

This thesis' main objective is to investigate third language acquisition of English among North Sámi-Norwegian simultaneous bilinguals. More specifically, the aim is to discover if North Sámi-Norwegian bilinguals acquire subject-verb agreement and verb placement in the same fashion as monolingual Norwegians (L1 Nor), or if they follow a different acquisitional path? While monolingual Norwegians acquiring L2 English have been studied, no studies to my knowledge have investigated English acquisition among North Sámi speakers. Therefore, this thesis provides a glimpse into a new domain that will undoubtedly need further investigation. Yet, I hope my findings will offer insight to language acquisition that can be beneficial to language learning in the future, especially among this population.

The research questions that guided my experiment are presented below.

RQ1: Do North Sámi-Norwegian bilinguals acquire English in the same fashion as monolingual Norwegian learners do?

RQ2: What is more important for CLI: overall typological proximity between languages, or structural similarity between individual properties tested?

RQ3: Does transfer happen wholesale or property-by-property?

To answer research question 1, it is first necessary to understand how monolingual Norwegians acquire subject-verb agreement and verb placement. Subject-verb agreement has been shown to be challenging for L1 Norwegian learners of L2 English even into adulthood (Jensen et al., 2020). This difficulty has been attributed to the lack of overt subject-verb agreement in Norwegian (Jensen et al., 2020, Garschol, 2019). Furthermore, because Norwegian is a V2 language, and English is not, verb placement has also provided difficulties for L1 Nor. This has been reported in previous studies, such as Westergaard (2003) where negative transfer of V2 word order from Norwegian was evidenced in the acquisition of topicalizations in L2 English. Additionally, Westergaard et al. (2017) also found negative influence from Norwegian in main clauses with habitual adverbs. Thus, revealing that both SV agreement and verb placement in English are difficult for L1 Nor learners until higher levels of proficiency. V2 transfer has been reported to persist up until middle school in Westergaard (2003), while SV agreement remains challenging even for high school students (Jensen et al., 2020). We can expect that out of the two linguistic phenomena, SV agreement would be more challenging for L1 Nor (Jensen et al., 2020). The main objective of the first

research question is to discover if North Sámi-Norwegian adolescents would also have similar difficulties with SV agreement and verb placement as their monolingual Norwegian peers.

Unlike Norwegian, North Sámi has overt subject-verb agreement and is not a V2 language. In fact, North Sámi has more in common with English, with regard to the linguistic phenomena investigated, than Norwegian. If we adopt the assumption that both languages influence acquisition of a third language, then the hypothesis of this thesis is that North Sámi-Norwegian bilinguals will have an easier time acquiring both subject-verb agreement and verb placement in English. Moreover, if the assumption is true, I predict that North Sámi-Norwegian bilinguals will not acquire these linguistic phenomena in the same fashion as monolingual Norwegians do.

To investigate the acquisition of subject-verb agreement and verb placement in L3 English, an Acceptability Judgement Task (AJT) was administered to 34 participants (15 North Sámi bilinguals and 19 monolingual Norwegians). In total, four conditions and one filler were investigated. Additionally, a vocabulary proficiency measurement task was administered to account for English proficiency and finally a Language and Social Background Questionnaire (LSBQ) to check for the linguistic background for all participants, and for language dominance in case of bilinguals.

To test subject-verb agreement, two conditions were employed, third person singular -s and third person plural. This is illustrated in (1) a-b below. As evidenced below, overt subject-verb agreement in English is realized in third person singular via the suffix -s on the finite verb. Norwegian however (see 1c-d) does not have overt SV agreement, while North Sámi (see 1e-f) does.

(1) *Subject-Verb Agreement*

- |                                       |             |
|---------------------------------------|-------------|
| a. Susan walks to school.             | [English]   |
| b. Tom and Mary walk to school.       | [English]   |
| c. Susan går til skolen               | [Norwegian] |
| <i>Susan walks 3.PRS.SG to school</i> |             |
| Susan walks to school.                |             |
| d. Tom og Mary går til skolen.        | [Norwegian] |
| <i>Tom and Mary walk to school</i>    |             |
| Tom and Mary walk to school.          |             |

- e. Susan vázzá skuvlii. [North Sámi]  
*Susan walk 3.PRS.SG school.to*  
 Susan walks to school.
- f. Tom ja Mary vázziba skuvlii. [North Sámi]  
*Tom and Mary walk 2.PRS.DUAL school.to*  
 Tom and Mary walk to school.

To test verb placement, two conditions were implemented. The conditions included main clauses with adverbs and non-subject initial declaratives. In English, adverbs in main clauses tend precede the finite verb (see 2a), while in Norwegian the adverb must come after the finite verb (see 2b). North Sámi however patterns like English with S-Adv-V word order.

(2) *Main clauses with adverbs*

- a. Chris **often** bikes to school. [English]
- b. Chris sykler **ofte** til skolen. [Norwegian]  
*Chris bikes often to school*  
 Chris often bikes to school.
- c. Chris **dávjá** sykkelastá skuvlii. [North Sámi]  
*Chris often bikes school.to*  
 Chris often bikes to school.

(Nickel and Sammallahti, 2011, p. 341)

The second word-order condition studied was non-subject initial declaratives, otherwise known as topicalized sentences (see 3). The three languages differ with regard to topicalizations. In English, SVO word order is retained in topicalizations (see 3a). In Norwegian the finite verb must move to second position to follow the V2 rule (see 3b). North Sámi, like English, retains SVO word order in topicalized sentences (see 3c).

(3) *Non-subject initial declaratives/topicalizations*

- a. Last night the cat slept on the couch. [English]
- b. I går kveld sov katten på sofaen. [Norwegian]  
*yesterday evening slept cat.the on couch.the*  
 Last night the cat slept on the couch.
- c. Mannan ija bussá ođii soffás. [North Sámi]  
*last night cat slept couch.on*



Last night the cat slept on the couch.

Research question 2 investigates if CLI in L3A is better explained by structural similarity between individual properties or overall typological proximity between languages. Both English and Norwegian belong to the same language family, making them typologically related. Some theories such as the Typological Primacy Model (Rothman, 2011; 2015; González Alonso and Rothman, 2017) argue that typological proximity is a better predictor of CLI, while other theories such as the Linguistic Proximity Model (Westergaard et al., 2017) and the Scalpel Model (Slabakova 2017) believe that the actual linguistic properties act as the main factor in determining the source of CLI. Consequently, research question 2 aims to uncover if CLI can come from a more typologically distant language (in this case North Sámi).

Research question 3 asks if transfer happens on a wholesale basis (from either the L1 or the L2) or if it takes place property-by-property. In light of this research question, the main purpose is to discover if the North Sámi bilinguals will transfer predominately from only one source or if there is influence from both North Sámi and Norwegian as they acquire English.

The main finding of the present study is that North Sámi-Norwegian bilinguals do not acquire English in the same fashion as monolingual Norwegians. While the North Sámi bilinguals are significantly better at detecting subject-verb agreement errors, monolingual Norwegians are significantly better at detecting verb placement violations. Thus, because discrepancy between the two groups was found, the null hypothesis was rejected. However, not all predictions were met. While it was predicted that the NS bilinguals would outperform the monolingual Norwegians on SV agreement, it was not predicted that they would have difficulty with verb placement. Furthermore, it was not predicted that the monolingual Norwegians would do well on verb placement. Therefore, an additional follow-up study was conducted among North Sámi-Norwegian bilingual adults to investigate the verb placement structures further. The results of the follow-up study revealed that the speakers strongly prefer V2 to non-V2 word order in North Sámi, which challenges the original assumption about English-like word order in North Sámi.

The thesis is set up as follows: chapter 2 discusses the linguistic background of Norwegian, North Sámi and English with regard to the linguistic phenomena investigated (subject-verb agreement and verb placement). Chapter 3 lays the framework of the fields of First Language Acquisition (FLA), Second Language Acquisition (SLA), and finally Third Language

Acquisition (L3A). Then the methodology, research questions, and predictions of the present study will be discussed in chapter 4. The results from the present study are presented in chapter 5 and are further discussed and analyzed in chapter 6. Finally, the present study will be summarized in chapter 7 in the conclusion.

## **2. Linguistic Background**

The present study is concerned with L3 English acquisition among Norwegian-North Sámi bilinguals. Therefore, the focus of this section is to present each of the languages, Norwegian, North Sámi, and English, and then compare the languages with each other.

Norwegian and English are both Germanic languages and thus typologically related. North Sámi, however, belongs to the Finno-Ugric language family, making it typologically distant from English. The rest of the chapter is dedicated to highlighting commonalities and differences between the languages in terms of the linguistic phenomena of concern, subject-verb agreement and verb placement/word order<sup>1</sup>. First, subject-verb agreement will be discussed in all of the three languages and then verb placement.

### **2.1 Subject-Verb Agreement**

Different languages express subject-verb agreement differently. In many languages, the finite verb agrees with the subject in various ways – number, person, tense, etc., yet other languages lack such agreement. The three languages in this study are all different with regard to subject-verb agreement. Thus, this subsection is dedicated to highlighting commonalities and differences between the languages. Third person singular and third person plural in the present tense will receive primary focus.

#### **2.1.1 Norwegian**

Whenever discussing Norwegian in this thesis, the main emphasis will be on Bokmål, seeing it is the standard variety. However, northern dialects will also be discussed as they pertain to the present study.

In both standard Bokmål Norwegian and northern dialects, verbs are marked for tense, but are not sensitive to number or person. Therefore, finite verbs inflect the same regardless of the

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<sup>1</sup> The terms ‘verb placement’ and ‘word order’ will be used interchangeably throughout this thesis. Both are concerned with the placement of the finite verb within a declarative.

subject and this is illustrated in table 1, via the inflection of the verb *å spise* (“to eat”) and *å kaste* (“to throw”). Northern Norwegian dialects treat finite verbs slightly differently. While some regions in the north, such as in Finnmark, tend to add the morpheme -r to finite verbs in the present tense like the standard, other regions such as Senja and Troms do not (Vangsnes and Iosad, n.d.)<sup>2</sup>. Table 1, under Northern Dialect, illustrates how the verb *å spise* (“to eat”) and *å kaste* (“to throw”) are inflected, or rather not inflected. Instead of adding an -r to the suffix, like in standard Bokmål, the ‘e’ is dropped from the infinitive form. Furthermore, the finite verb is inflected identically no matter the subject. However, not all verbs drop the -e particle in the northern dialects, in the present tense. In northern dialects, verbs fall under two different conjugation classes. Verbs that end in -et in the past tense (or in -a in the northern dialects), end in just -e in present tense. Furthermore, verbs that end in -te/-de in the past tense either remove the ‘e’ from the infinitive form, or just use the infinitive form (see table 1 below).

Table 1: *Present tense verb inflection in Norwegian of the verb å spise ‘to eat’*

		<b>Bokmål</b>	<b>Northern dialects</b>
Singular	1. jeg	spiser/kaster	spis/kaste
	2. du	spiser/kaster	spis/kaste
	3. han/hun/den/det	spiser/kaster	spis/kaste
Plural	1. vi	spiser/kaster	spis/kaste
	2. dere	spiser/kaster	spis/kaste
	3. de	spiser/kaster	spis/kaste

---

<sup>2</sup> <https://nordnorsk.uit.no/malmerker/presens-staande-r/>

As exemplified in Table 1, under Bokmål, the present tense inflection is marked by adding the morpheme -r to the infinitive and this is done regardless of the person and the number of the subject. This is further demonstrated in (4a and 4b) in actual examples.

(4)	<b>Bokmål</b>	<b>Northern dialect</b>
a.	Molly spiser pizza. <i>Molly eat.PRES pizza</i> Molly eats pizza.	Molly spis pizza. <i>Molly eat.PRES pizza</i> Molly eats pizza.
b.	Molly og Susie spiser pizza. <i>Molly and Susie eat.PRES pizza</i> Molly and Susie eat pizza.	Molly og Susie spis pizza. <i>Molly and Susie eat.PRES pizza</i> Molly and Susie eat pizza.

Regardless of the Norwegian variety or dialect one speaks, all finite verbs in the present tense conjugate the same, irrespective of the subject. Subject-verb agreement, as will be demonstrated in the following subsections, is different from the patterns found in North Sámi and in English.

### 2.1.2 North Sámi

North Sámi is an official language of the indigenous people of Norway, Sweden, Finland, and the Kola Peninsula in Russia (Knutsen Duolljá and Gaski, 2021). There are in total eight different Sámi languages spoken across the mentioned countries, but the largest variety spoken is North Sámi, which is spoken by 90% of the Sámi population (Knutsen Duolljá and Gaski, 2021). Notably, a vast majority of North Sámi speakers, if not all, are simultaneous bilinguals<sup>3</sup>. That said, only Norwegian-North Sámi bilinguals will be discussed in this thesis.

North Sámi is a morphologically rich language, and this of course is evidenced in its verb morphology. Finite verbs in North Sámi are inflected according to person, number, tense, mood, and aspect (Nickel and Sammallahti, 2011, p. 44). As demonstrated in table 2, the verb *borrat* (“to eat”) is inflected in the present tense and according to the personal pronoun.

Table 2: *Verb inflection of verb borrat “to eat” in North Sámi in present tense*

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<sup>3</sup> Thus, speaking North Sámi and the majority language of the country.

Singular	1. mun	boran
	2. don	borat
	3. son	borrá
Dual	1. moai	borre
	2. doai	borraba
	3. soai	borrabeahtti
Plural	1. mii	borrat
	2. dii	borrabehtet
	3. sii	borret

As evidenced above in table 2, the verb *borrat* (“to eat”) inflects nine different ways and this is evidenced in the suffix. No two inflections are the same. The inflections witnessed above are only for the present tense. There are nine different inflections to signify past tense, as well as moods like conditional, imperative and potential (Nickel and Sammallahit, 2011, p. 44).

Below are examples of verb inflection in both third person singular (5) and third person plural (6).

**(5) Third person singular**

Molly *borrá* pizza.

*Molly* 3.PRS.SG eat 3.PRS.SG. PRES.IND *pizza*

Molly eats pizza.

**(6) Third person plural**

Molly ja Susie *borraba* pizza.

*Molly and Susie* 3.PRS.PL eat 3.PRS.PL. PRES.IND *pizza*

Molly and Susie eat pizza.

### 2.1.3 English

Whenever discussing English in this thesis, I refer to American English and not British English, or any other English varieties<sup>4</sup>.

With regard to verbal inflection, English is more similar to Norwegian than North Sámi as English does not have an elaborate inflectional system. However, verbs in the present tense do inflect for third person singular, ending with an -s. Only third person singular receives a different suffix than the other subjects. Below (table 3) is an example of the verb *to eat* being inflected according to its' subject.

Table 3: *English Verb inflection in the present tense*

Singular	1. I	eat
	2. you	eat
	3. he/she/it	eats
Plural	1. we	eat
	2. you (all)	eat
	3. they	eat

As evidenced in table 3, the verb 'to eat' only inflects differently when the subject is in third person singular (he, she, it). This is accomplished by adding the morpheme -s to the verb 'eat'<sup>5</sup> (see 7). In third person plural (see 8 below) the morpheme -s is dropped.

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<sup>4</sup> While there are many similarities between English varieties, there are at times differences. American English is chosen for this thesis as this is my mother tongue.

<sup>5</sup> Some verbs ending in -o, -ch, -sh, -tch, -x, -ss will add the morpheme -es in third person singular, but these were not considered in my experiment. Examples are found below.

Mark watches television at night.

Sally kisses her son goodnight.

(7) **Third person singular**

Molly eats pizza.

(8) **Third person plural**

Molly and Susie eat pizza.

## **2.2 Verb Placement**

Verb placement is another area where a lot of variation among languages is found. While Norwegian, North Sámi, and English are all SVO languages, they differ with respect to the underlying verb placement patterns. In the present investigation, I focus on verb placement with respect to adverbs, verb placement in non-subject initial declaratives and verb placement in *wh*-questions.

In this subsection, I will outline how verb placement works with these three structures in the three languages in my study. The structures will be presented first in Norwegian, then North Sámi and finally in English.

### **2.2.1 Norwegian**

Norwegian is an SVO language as mentioned, but it is also a verb second (V2) language which means that the finite verb/auxiliary must always presume second position in main clauses. Norwegian is an SVO language. However, Norwegian is also a V2 language, which means that the verb must presume second position. V2 is also illustrated in (9) below. ‘Ranja,’ the subject, takes initial position while ‘spiser’ presumes second position and the object ‘middag’ comes after the verb. More on V2 word order will be discussed in the following subsections.

(9) Ranja spiser middag ute.

*Ranja eats dinner outside*

Ranja eats dinner outside.

#### **2.2.1.1 Main Clauses with Adverbials**

Adverbs of frequency/habitual adverbs such as, *ofte* (“often”), *sjelden* (“rarely”), *av og til* (“sometimes”), *aldri* (“never”), *alltid* (“always”), etc. denote how frequent an action occurs or does not occur. In Norwegian, when habitual adverbs are added to a declarative, the V2 rule must still be followed. Thus, the finite verb must move to second position and appear above

adverbs. As exemplified in (10) the finite verb *går* (“walks”) presumes second position. However, (11) is ungrammatical because the adverb presumes second position and thus appears above the finite verb.

(10) **S-V-Adv**

Markus går ofte til skolen.

*Markus walks often to school*

Markus often walks to school.

(11) **Ungrammatical**

\*Markus ofte går til skolen.

**2.2.1.2 Non-subject initial declaratives/Topicalizations**

Non-subject initial declaratives (otherwise known as topicalizations) are declaratives that do not start with a subject. Sentences that start with adverbials are instances of non-subject initial declaratives.

Non-subject initial declaratives must follow the V2 rule. As evidenced in (12) below, the auxiliary *skal* (“will”) moves to second position, undergoing subject-verb inversion with the subject *bestemor* (“grandma”). Example (13) is another example of a topicalization starting with an adverb, but this time a finite verb is used instead of an auxiliary. As illustrated, the finite verb *går* moves across the subject to second position.

(12) *Non-subject initial declarative with an auxiliary*

På fredag skal bestemor reise hjem.

*on Friday will grandma travel home.*

On Friday grandma is going to travel back home.

(13) *Non-subject initial declarative with a finite verb*

Ofte går Markus til skolen.

*often goes Markus to school*

Often, Markus goes to school.



### 2.2.1.3 *Wh*-Questions

*Wh*-questions are questions that are initiated with the following words: who, what, when, where, why or how. Sentence structure of *wh*-questions can vary across languages and this will be evidenced in the languages of concern in this thesis.

In Bokmål Norwegian, questions that start with *hvem* (“who”), *hva* (“what”), *når* (“when”), *hvor* (“where”), *hvorfor* (“why”), and *hvordan* (“how”) must follow the V2 rule. To ensure that the V2 rule is followed, the subject and auxiliary/finite verb in the *wh*-question phrase must undergo inversion. (14) and (15) below illustrates inversion between a finite auxiliary and the subject to ensure V2 is followed.

(14) *Wh- auxiliary-subject inversion*

Hva skal han gjøre etterpå?

*what will he do afterwards*

What will he do afterwards?

(15) *Wh- finite verb-subject inversion*

Når spiser du middag?

*when eat you dinner*

When do you eat dinner?

While the above information is true about *wh*-questions in standard Bokmål and Nynorsk, northern dialects follow slightly different rules for *wh*-questions. As was demonstrated earlier, *wh*-questions in standard Bokmål must follow V2 word order. However, in the northern Norwegian dialect, *wh*-phrases that consist of just the mono-syllabic words such as *kor* (“where”), *ka* (“what”), and *kem* (“who”), can follow either V2 word order or non-V2 word order<sup>6</sup>. As illustrated in (17), the finite verb does not presume second position and thus V2 word order is not displayed. Therefore, in non-V2 word order, the subject and auxiliary do not undergo inversion. Whether one utilizes V2 or non-V2 word order in *wh*-questions depends on the region.

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<sup>6</sup> Note however, that *Wh*-expressions that are whole phrases i.e. *Hva slags bok...* (*Which kind of book*), typically require V2.

(16) Kor bor du? [V2 word order]

*where live you*

Where do you live?

(17) Kor du bor? [Non-V2 word order]

*where you live*

Where do you live?

### 2.2.2 North Sámi

Just like Norwegian, North Sámi (NS) is also an SVO language. However, NS is not a V2 language. The default word order in neutral<sup>7</sup> declaratives is that of SVO word order (see 18 below) and majority of sentences fall under the SVO category. However, word order in NS is flexible, thus various constituents can appear at different positions in a declarative. Yet, where a constituent is placed is not random. That said, word order is subject to change depending on what constituent is being emphasized (Svonni, 2015, p. 154). For example (19) illustrates that SOV word order is also acceptable, since the object is marked<sup>8</sup> in the declarative, it therefore appears before the finite verb. Both examples presented below demonstrate that NS is quite flexible with regard to verb movement.

(18) *S-V-O word order*

Ánne osttii mielkki.

*Ánne buy milk*

Ánne bought milk.

(19) *S-O-V*

Mun su deiven buvddas.

*I s/he met store.at*

I met him at the store.

---

<sup>7</sup> "Neutral" here refers to simple declaratives that do not emphasize any lexical item (Nickel & Sammallahti, 2011, p. 341).

<sup>8</sup> "Markedness" refers to the "commonality of linguistic features" (Gass et al., 2013, p. 527). Unmarked forms are those that are frequently used across languages and unmarked forms are those that are less frequent (Gass et al., 2013, p.527).

### 2.2.2.1 Main Clauses with Adverbials

In North Sámi, the default or neutral placement of declaratives with habitual adverbs is S-Adv-V, as illustrated in (20) (Nickel and Sammallahti, 2011, p. 341). Unlike Norwegian, the word order in North Sámi does not change when an adverbial appears in a declarative and which is because North Sámi is not a V2 language. Therefore, SVO word order still remains if an adverb also appears in a declarative.

(20) *S-Adv-V*

Lemet **dávjá** vázzá skuvlii.

*Lemet often walks school.to*

Lemet often walks to school.

### 2.2.2.2 Non-subject initial declaratives/Topicalizations

Given that North Sámi is not a V2 language, there is no inversion in non-subject initial clauses, as illustrated in (21) and (22). Example (21) displays a non-subject initial declarative with an auxiliary *áiggut* (“want/will”). Unlike Norwegian, the auxiliary in North Sámi does not move to second position. Furthermore, the same word order is observed when a finite verb is utilized in a non-subject initial declarative, like in (22). Thus, verb placement in North Sámi is not affected by other constituents within a declarative.

(21) *Non-subject initial declarative with an auxiliary*

Bearjadaga mii áiggut oastit ođđa dálu

*friday.on we will buy new house*

On Friday we are going to buy a new house.

(22) *Non-subject initial declarative with a finite verb/adverb initial*

Dávjá Lemet vázzá skuvlii.

*often Lemet walks school.to*

Often, Lemet walks to school.

### 2.2.2.3 Wh-Questions

Given that North Sámi is not a V2 language, there is no inversion in *wh*-questions. Rather, SVO word order is retained in *wh*-questions. This is illustrated with a finite auxiliary in (23) and a finite main verb in (24).

(23) *Wh-question with an auxiliary*

Maid dat boares olmmai **sáhttit** dahkat?  
*what the old man can do*  
What can the old man do?

(24) *Wh-question with a finite verb*

Gosa Májjá **vázzá**?  
*where.to Májjá walks 3.PRS.SG. PRES.*  
Where is Májjá walking to?

### 2.2.3 English

Similar to both Norwegian and North Sámi, English is also an SVO language and this is illustrated in (25). However, English is also a “residual V2” language (Westergaard et al., 2017)<sup>9</sup> and in the following subsections I will illustrate how this affects word order in various contexts.

(25) *S-V-O*

Nathan walks the dog in the park.

#### 2.2.3.1 Main Clauses with Adverbials

In English, verb placement in declaratives with adverbs is S-Adv-V. Thus, the adverb must appear before the finite verb like in North Sámi. (26) is an example of S-Adv-V in English. (27) however, illustrates a main clause with both an adverbial *often* and a finite auxiliary *can*. While finite main verbs do not appear before adverbs, finite auxiliaries do. Thus, (27) is an example of residual V2 found in English.

(26) *S-Adv-V*

Mark often walks to school.

(27) *Main clause with adverbial and finite auxiliary*

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<sup>9</sup> English is part of the Germanic language family and like in many Germanic languages, V2 word order is common. In old English, the presence of V2 was more frequent, but over time it has disappeared (Westergaard et al., 2017, p. 671).

Mark can often forget to take out the trash.

### 2.2.3.2 Topicalization/Non-subject initial declaratives

Residual V2 does not affect non-subject initial clauses. Therefore, English follows SVO word order in topicalizations, regardless of whether the finite verb is a main verb or an auxiliary.

An example of a non-subject initial declarative in English is displayed in (28) below. All topicalized sentences in English follow SVO word order, regardless if the verb is an auxiliary or a finite verb.

(28) *Non-subject initial declaratives with an auxiliary*

Tomorrow the government will release new guidelines.

(29) *Non-subject initial declaratives with a finite verb*

Often Mark walks to school.

### 2.2.3.3 Subject-auxiliary inversion in *Wh*-questions

As previously mentioned, English follows strict SVO sentence structure, however an exception to this rule is the case of *wh*-questions. In *wh*-questions, the subject and auxiliary must undergo inversion, just like in Norwegian. Inversion is due to a “residual V2 property” found in English (Westegaard et al., 2017). Thus, the only active V2 rule present in today’s English is found in *wh*-questions (Westegaard et al., 2017, p. 671). Note that the verb and the subject must always undergo inversion. Therefore, if an auxiliary is included it must presume second position, like in (30). However, *wh*-questions lacking an auxiliary such as (31) must include *do*-support. Furthermore, the *do* support must presume second position and it must agree with the number and tense features of the subject. This is one significant difference between English and the other two languages of concern. Finally, (32) is ungrammatical because the verb does not move to second position.

(30) *Wh-question subject-auxiliary inversion with an auxiliary*

When will the plane arrive?

(31) *Wh-question subject-auxiliary inversion with a modal*

When does the game start?

(32) *Ungrammatical*

\*When the plane will arrive?

### **2.3 Summary**

In this chapter, Norwegian, North Sámi, and English were discussed with regard to how they treat subject-verb agreement and verb placement. As demonstrated, Norwegian lacks subject-verb agreement. In North Sámi and English, however, the finite verb must agree accordingly with the subject. Notably though, subject-verb agreement is much more complicated in North Sámi than in English. In North Sámi the subject and verb must always agree, whereas in English there is only agreement for third person singular in the present tense.

When it comes to verb placement, all languages are SVO languages. Yet, as pointed out, Norwegian follows strict V2 word order, and this affects all three structures investigated. North Sámi is not a V2 language however and therefore retains SVO word order in the structures of concern. Finally, English is a residual V2 language which requires that the finite auxiliary moves to second position (S-Aux-Adv-O) and subject-auxiliary inversion in *wh*-questions. Yet, there is no subject-auxiliary inversion in non-subject initial clauses, instead SVO word order is retained.

### **3. Theoretical Background**

Third language acquisition (L3A) will receive utmost attention in this thesis however, if third language acquisition is to be fully appreciated it is first necessary to discuss the fields of First (FLA) and Second Language (SLA) Acquisition. The theories that guided first and second language acquisition inspire present day hypotheses and discussion in L3A. Therefore, both FLA and SLA lay an important foundation to L3A.

In this section, I first discuss First Language Acquisition and Second Language Acquisition. I then define and discuss terminology such as, Universal Grammar, Interlanguage, transfer, and Cross-Linguistic Influence (CLI). Finally, the field of Third Language Acquisition (L3A) will be introduced and relevant L3 theories will be presented.

#### **3.1 First Language Acquisition**

It is necessary to understand how one's native language (L1) is acquired before one can compare the L1 with subsequent L2 and L3 languages. That said, the primary focus of FLA was to study how children acquire their native language in such a speedy fashion, with ease, and uniformly. In the 1950s, linguists and psychologists alike were intrigued that despite children's numerous errors through language development, they unequivocally manage to

become native-like. The question that then begged to be answered was how; how do children become native-like? Many theories were proposed in attempt to answer the question of how. Behaviorism first suggested that language was acquired like any other habit, through practice, imitation, and reinforcement. Therefore, it was believed that children acquired language by imitating their parents and receiving corrections from them. However, researchers like first and foremost Noam Chomsky (1957) criticized this notion stating, that the input children receive is not rich enough to account for the elaborate language abilities they develop in their first language. Additionally, Chomsky argued, input quality and quantity vary greatly from child to child and yet, all acquire their mother tongue successfully and uniformly. Therefore, Chomsky believed that input alone cannot account for children's language acquisition. This argument was referred to as the Poverty of the Stimulus argument.

Later in the 1960s, Chomsky put forth a theory of Universal Grammar to account for how first language is acquired. According to the Universal Grammar (UG) proposal, the faculty of language is innate in all humans and despite differences among grammars, all languages ultimately subscribe to one universal "core" grammar (Gass et al., 2013, p. 161). Furthermore, all natural languages have linguistic elements corresponding to verbs, nouns, personal pronouns, etc. but the way in which various linguistic properties and features are expressed in any given language may vary. This dichotomy is what Chomsky referred to as principles and parameters within UG. The principles of UG are the shared linguistic properties of all languages and the parameters are set according to how the linguistic properties function in a specific language.

Universal Grammar was proposed with first language acquisition in mind. It accounted for the fact that despite variation in the input, children go through the same developmental stages, and all acquire their L1 (first language) with speed and ease. Yet, how does UG fit in the realm of second language acquisition? Is first language acquisition the same process as SLA or are there fundamental differences between the two? These questions will be addressed in the next section.

### **3.2 Second Language Acquisition**

Second Language Acquisition (SLA), as the name suggests, is a field dedicated to studying how a second language is acquired and specifically in comparison to L1 acquisition.

Questions that intrigued researchers and moved the field forward included: why do L1 learners achieve ultimate attainment in their native language, but the same is not guaranteed

to L2 learners? Do L2 learners also have access to UG? Does one's L1 influence subsequent second language acquisition? All these questions will be dissected in the subsections that follow.

### **3.2.1 Interlanguage**

Selinker (1972), argued that second language acquisition is different from first language acquisition and this he argued is evidenced in language output. To support his argument, Selinker stated that L1 learners always achieve ultimate attainment in their native language, but the same is rarely granted to L2 learners. According to Selinker, “the set of utterances for *most*” second language learners is not identical to the utterances “which would have been produced by a native speaker of the TL<sup>10</sup>” (1972, p. 214). What Selinker is referring to here is the errors that second language learners make in the target language (TL). For instance, L1 French learners of L2 English tend to erroneously transfer the French uvular /r/ into English (Selinker, 1972, p. 214). Thus, there is a discrepancy between L1 output and L2 output (in the TL). Crucially, however, the difference in output is not random, but rather systematically influenced by the mother tongue (Selinker et. al, 1975, p.140). Thus, Selinker believed that there must be another language system in place and this he referred to as Interlanguage (IL). According to Selinker, the IL is a language system that is built up of elements from both the native language and the TL. Therefore, potential errors that an L2 learner makes will be a result of the individual's IL.

### **3.2.2 Natural Sequence in Child Second Language Acquisition**

Dulay and Burt (1972, 1974) have dedicated much of their research to studying the errors that children make in L2 acquisition. The main objective of studying such errors was to discover if there is a developmental pattern that L2 learners follow when acquiring a TL. Dulay and Burt's (1974b) research was inspired by Roger Brown's (1973) research on the order of acquisition among L1 learners. Brown's findings<sup>11</sup> included a generalization that L1 children follow a universal order of acquisition when acquiring morphemes. Thus, the primary goal of Dulay and Burt's (1974b) study was to discover if L2 learners also follow a similar order of

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<sup>10</sup> The language being learned.

<sup>11</sup> For example, Brown (1973) discovered that children first acquire more salient and frequent morphemes such as progressive -ing and simple past tense -ed before they acquire more difficult morphemes such as third person singular -s and third person plural.



acquisition and whether they commit errors due to interference from the mother tongue. Dulay and Burt conducted a study that investigated 55 Chinese native speakers and 60 Spanish native speakers acquiring L2 English. The objective was to study the errors of each respective L1 group with regard to nouns, subject-verb agreement, articles, copulas, and prepositions. Moreover, the errors made by the L1 Chinese speakers were compared to those made by the L1 Spanish speakers. Dulay and Burt discovered that despite the different L1 background, both L1 Chinese and Spanish L1 speakers acquired the linguistic phenomena in a similar fashion. Additionally, the results revealed that the order of acquisition by L2 learners of English, mirrors that of L1 speakers of English. Therefore, Dulay and Burt's novel findings revealed that the order of acquisition in L2 learning is largely uniform for speakers with different L1s.

### **3.2.3 Access to UG**

As was mentioned earlier, Universal Grammar was proposed to account for the process of L1 acquisition. As demonstrated, UG explained how children ended up successfully acquiring their native language, with speed, ease, and uniformly. UG, though, has also been considered as an explanatorily powerful theory in SLA. A question that many researchers (like e.g., Clahsen and Muysken 1986 and White 1989) aimed to answer was: do L2 learners still have access to UG? No access, partial access, or full access to UG were the main approaches researchers have taken over the past decades.

Those in support of Access to UG relied on the same arguments used for L1 acquisition: L2 input alone is not enough to account for ultimate attainment. Thus, something else (hence, UG) must assist the language learner in acquiring complex linguistic knowledge in the second language. However, some researchers such as e.g., Clahsen & Muysken (1986) were not convinced there was access to UG in L2 acquisition. They agreed that UG was available in L1 acquisition but argued there was no access to it in L2 acquisition. Instead, they asserted that there were fundamental differences between how an L1 was acquired and how an L2 was acquired. This conclusion was made after they discovered variance in word order between child L1 learners of German and adult L2 learners of German. Clahsen and Muysken (1986) discovered that while L1 German speakers were able to successfully learn verb movement, L2 learners of German found this challenging. Moreover, L1 German children showed a pattern in their productions consistent with a verb final/V2 language while L2 adult learners of German initially assumed that the word order in German is like in English, namely SVO.

According to the Full Transfer/Full Access (FT/FA) model put forth by Schwartz and Sprouse (1996), second language acquisition transpires with full access to UG as well as full transfer of the L1 grammar<sup>12</sup>. Thus, for Schwartz and Sprouse, L2 acquisition is distinct from L1 acquisition because the starting points for each of them are very different. When acquiring one's mother-tongue, a language learner starts essentially from scratch (with no prior linguistic knowledge), however, when acquiring a second language, a learner brings with her/him knowledge of his/her L1. Consequently, Schwartz and Sprouse argue that the L1 grammar does not lay dormant, but instead they believe the entire L1 grammar transfers into the L2. They state, "...all the principles and parameter values as instantiated in the L1 grammar immediately carry over as the initial state of a new grammatical system on first exposure to input from the target language (TL)" (Schwartz and Sprouse, 1996, p. 41). Moreover, in the event a learner is unable to find similar grammatical representations within their L1, this will then "... force subsequent restructurings, drawing from options of UG ..." (Schwartz and Sprouse, 1996, p. 40). This is what Schwartz and Sprouse refer to as 'Full Access' (to UG). In other words, when a language learner fails to find a similar grammatical property in their L1, then he/she will search the options of UG to reset the parameters.

### **3.3 Third Language Acquisition**

The field of Third Language Acquisition (L3A) is still relatively young. However, L3A has much in common with SLA. For instance, much of L3A research is concerned with the same linguistic issues of transfer and cross-linguistic influence<sup>13</sup> which are also of importance to the field of SLA (Westergaard et al., 2017, 667). However, the biggest difference between the two fields is that in the case of SLA, there is only one potential source of transfer (L1) to consider, whereas an L3 learner has two potential sources of influence (both L1 and L2). Thus, the overarching area of inquiry of L3A pertains to investigating the influence of one's L1 and L2 on the acquisition of a third<sup>14</sup> language. Do both languages (L1 and L2) influence

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<sup>12</sup> However, Schwartz and Sprouse (1996) state that transfer excludes, "the phonetic matrices of lexical/morphological items" (p. 41).

<sup>13</sup> Although some researchers distinguish between 'transfer' and 'cross-linguistic influence,' this thesis will use these terms interchangeably.

<sup>14</sup> The 'third' language can be meant in the literal sense, that one first acquires her/his L1, then an L2, and after some time acquires a third. However, L3A also encompasses simultaneous bilinguals who have two first languages and then acquire a third.

L3A or is one of the languages “the sole source of CLI” (Westergaard et al., 2017, p. 667)? Furthermore, how do all three the languages interact and influence each other? Can an L3 for instance influence an already acquired L1 or L2?

There are various theories in the field of L3A and only a few will be highlighted in the sections that follow. However, the Typological Primacy Model and the Linguistic Proximity Model will receive utmost attention as these will be discussed further in light of the current study.

### **3.3.1 L1/L2 Status Factor**

As was already mentioned in the introduction, both a learner’s L1 and L2 have the potential to influence the acquisition of the L3. The questions that then beg to be answered are, do both languages contribute to cross-linguistic influence in L3A or, does just one, the L1 or the L2, assume a privileged role?

Some theories advocate that order of acquisition is a decisive factor and that the L1 (in one model) or the L2 (in another model) hold a privileged status in L3A. For instance, Bardel and Falk (2007) argue that a learner’s L2<sup>15</sup> acts as a primary source of transfer in L3A, because the acquisitional process of L2 and L3 acquisition are relatively the same (both happen after the first language is already acquired). Furthermore, because both the L2 and the L3 are acquired as additional foreign languages, they therefore share a “higher degree of cognitive similarity” (Bardel and Falk, 2007, p. 1). However, other studies such as for example Hermas (2014) have discovered that the L1 can influence L3 acquisition. Hermas (2014) found accounts of both facilitative and non-facilitative<sup>16</sup> transfer in the acquisition of L3 English among L1 Arabic L2 French adults. The participants in my study are simultaneous bilinguals, which make the arguments about the order of acquisition irrelevant for the purposes of our

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<sup>15</sup> Bardel and Falk (2007) refer to a “true” L2, learned after the acquisition of one’s L1, as having the most cognitive similarities with an L3 (p. 59).

<sup>16</sup> There are numerous ways in which one can refer to transfer. Transfer can either be facilitative (otherwise called positive) or non-facilitative (otherwise called negative). Facilitative/positive transfer is when the source of transfer is said to assist the acquisition of another language in a positive manner. Non-facilitative/negative transfer is when the source of transfer interferes with the acquisition of another language.

study. The idea that L1 or L2 hold a privileged status in L3 acquisition will not be further explored in this thesis.

### **3.3.2 Transfer**

When it comes to the various L3A theories, there are often two general approaches in which transfer is regarded. Typically, any L3A model can be categorized as either supporting wholesale or piecemeal transfer. Wholesale transfer, as the name implies, espouses that transfer and crosslinguistic influence occur ‘wholesale’, which entails that a language learner transfers “...a substantial part...or even all of the abstract properties of one of the previously acquired grammars as a block” (Schwartz and Sprouse, 2020, p. 2). Piecemeal transfer, however, assumes that L3 learners will have access to both the L1 grammar and the L2-interlanguage grammar (Schwartz and Sprouse, 2020, p. 3). Thus, the L3 learner can “selectively transfer or recruit specific properties from either of these grammars over the course of L3 development” (Schwartz and Sprouse, 2020, p. 3). The subsequent L3 models will also be discussed within the realms of wholesale and piecemeal transfer.

### **3.3.3 Cumulative Enhancement model**

The Cumulative Enhancement Model (CEM), by Flynn, Foley, and Vinnitskaya (2004), asserts that language learning is a cumulative process in which all previous learned languages can “potentially influence the development of...” another language (p. 5). Furthermore, the model argues that any previously learned languages, L1, L2, L3, etc., can “enhance” the subsequent acquisition of another language wherever it is deemed “appropriate” (Flynn, Foley, and Vinnitskaya, 2004, p. 5). Only facilitative transfer can then occur in later language acquisition (Schwartz and Sprouse, 2020, p. 3). Therefore, if a language learner comes across property X in the target language, he or she will scan his or her previously acquired languages L1 or L2 (or L3, ... etc.) and see if they can find an equivalent. In the event they find an equivalent, this will then positively influence the acquisition of that property. Most importantly, that is to say that there will be no interference or “non-facilitative” transfer from the language(s) that do not share an equivalent (Schwartz and Sprouse, 2020, p. 3).

### **3.3.4 Typological Primacy Model**

The Typological Primacy Model (Rothman 2011, 2015; González Alonso and Rothman, 2017) has many working parts to it, however its’ primary focus is to study which source (L1 or L2) a learner will transfer from early on in L3A. Crucially, the Typological Primacy Model (TPM) argues for wholesale transfer, of either the L1 or L2, from the language that has the

“highest degree of typological (structural) proximity” with the L3, or at least assumed to be so (by the learner). Structural proximity between the respective languages will be determined via a subconscious comparison of lexicon, phonology, morphology, and syntax (in this specific order). Consequently, the TPM asserts that the source of transfer is not random but rather dependent on which language is determined by the parser to be structurally most similar to the L3. For González Alonso and Rothman, it is important to highlight that transfer happens upon immediate exposure to the L3 and thus transpires during the initial stages of acquisition. The notion of ‘initial stages’ is somewhat elusive, yet González Alonso and Rothman hesitate to define more precisely what this means. Whether it is calculated in terms of “hours, days, or weeks”, the start and end of the initial stage is subject to change from case to case (González Alonso and Rothman, 2017, p. 687). However, despite the TPM’s focus on early exposure, González Alonso and Rothman argue that the TPM can also provide a glimpse into the “trajectories of L3A” (2017, p. 687). Moreover, Cabrielli Amaro et al. (2015) point to previous studies that have found a connection between the source of transfer at the initial stages lasting well into later stages of L3 development. Yet, Cabrielli Amaro et al. ultimately state that more research on L3 development at various stages is necessary before any conclusions can be drawn. Therefore, the TPM focuses primarily on the initial stages, but leaves room for potential influence at later stages.

The study by Cabrielli Amaro et al. (2015) is one of many that provides support for the TPM. Their study investigates the acquisition of L3 Brazilian-Portuguese (BP), at the initial stages, among two mirror image groups. Group 1 included participants who had L1 English/L2 (advanced) Spanish and Group 2 had the inverse, L1 Spanish/L2 (advanced) English. The main structure examined was subject-to-subject (StoS) raising over an intervening dative experiencer (RExp) in a complement clause, as evidenced in (33) below. English and BP both allow for StoS RExp. In Spanish however the experiencer must be doubled along with a dative clitic and thus does not allow for RExp (as illustrated in (34)). Regardless, Spanish is still closer typologically to BP than English. Thus, the TPM predicts that (wholesale) transfer from Spanish will be present at early stages of L3 BP acquisition. In other words, both groups will transfer from Spanish regardless of it being acquired as an L1 or an L2.

- (33) A Pedro                    le                    parece que María es bella.  
*to Pedro.EXP                    3P.SG.CLEXP seems that María. is beautiful*  
 “It seems to Pedro that María is beautiful.”

(34) \*A Pedro Ø parece que María es bella.

*to Pedro.EXP seems that María is beautiful*

“It seems to Pedro that María is beautiful.”

(both examples are from Cabrielli Amaro et al., 2015, p. 30)

A Grammatical Judgement Task (GJT) was administered to all participants. The GJT had a total of 49 sentences that the participants ranked as grammatical or ungrammatical via a Likert scale (1-5). Three conditions were tested in the GJT, for the two of which all languages behaved similarly, but on one condition, the raising of an experiencer in a complement clause, there was a difference between the languages. Both English and BP allow for the raising of an experiencer in an embedded clause while Spanish does not. Thus, if sentences with R(aised)Exp in a complement clause are accepted it is likely to be due to transfer from English. On the contrary, if the raising of an experiencer in an embedded clause is rejected this is likely to be due to transfer from Spanish. The results revealed that both groups (L1 English/L2 Spanish/L3 BP and L1 Spanish/L2 English/L3 BP) consistently rejected the raising of an experiencer in the TP, despite the fact that this is grammatical in BP. The authors interpret these results as an indication that Spanish was selected as the source of transfer, despite that English in this case would have been more beneficial to transfer from. Therefore, Cabrielli Amaro et al. (2015)’s study found that the participants transferred from the language that was typologically closest to TL (Spanish) and providing support for the TPM.

However, other studies such as e.g., Jin (2009) and Hermas (2014) have discovered that languages that are typologically distant from the target language can also influence L3 acquisition. Jin (2009) investigated the acquisition of overt/null objects in L3 Norwegian by L1 Chinese/L2 (advanced) English speakers. Chinese allows object dropping whereas Norwegian and English typically do not. Examples in (35) illustrate object dropping first in Chinese, then English, and finally in Norwegian. Notice that (35)a is grammatical in Chinese whereas (35)b-c are ungrammatical. English is not only typologically closer to the TL, but also shares similarities on the property of investigation. Despite the similarity between English and Norwegian, the results of the study show that the L1 Chinese/L2 English speakers tend to accept ungrammatical object dropping in L3 Norwegian. Thus, revealing influence from the typologically more distant language, L1 Chinese, on L3 Norwegian.

(35)

(a) ni kan wan zhe ben shu, jizhu yao huan e gei wo  
*you read finish this CL book, remember must return to me*

(b) When you finish reading this book, please remember to give \*(it) back to me.

(c) Når du er ferdig med å lese boken, husk å gi \*(den) tilbake til meg.  
*when you are ready with to read book-the, remember to give back to me*

(Jin, 2009, p. 145)

A finding pointing in the same direction is reported in Hermas (2014) who expected to find L2 French influence on L3 English, but instead observed influence from L1 Arabic – a language typologically more distant from English than French.

### **3.3.5 Linguistic Proximity Model**

The Linguistic Proximity Model (LPM) put forth by Westergaard et al. (2017), takes a different approach to CLI in L3A in comparison to the previously mentioned theories. The LPM argues that similarities between individual linguistic properties are better predictors of CLI in L3A than overall language typology. The authors argue that all previously learned languages (and not just one) have the potential to influence the acquisition of a third language. That said, L3 learners may experience both facilitative and non-facilitative influence from the L1 and the L2. Facilitative influence will result when the L1 or L2 overlap structurally with the L3. Furthermore, non-facilitative influence will occur when learners incorrectly judge the L3 input and assume that the L3 shares a property with one of the previously acquired languages.

The LPM is a piecemeal transfer model and thus promotes for incremental language acquisition versus it happening in “one fell swoop” like other typology-based models (i.e. the TPM; Westergaard et al., 2017, p. 669). According to Westergaard et al., incremental language acquisition transpires on a property-by-property basis, meaning that the learner takes a wait-and-see approach as they acquire the TL. Instead of transferring one complete grammar, the language learner acquires a property by consulting both previously acquired grammars. The LPM is reminiscent of the CEM, but there is a significant difference between the two models. While the CEM espouses that CLI can only be facilitative, the LPM allows for both facilitative and non-facilitative influence from either of the previously acquired languages.

To test the LPM, Westergaard et al. (2017) created an experiment examining the acquisition of L3 English among Norwegian-Russian adolescent bilinguals. The main objective of the study was to discover which was a better predictor of CLI, overall typological similarity or structural similarities between the actual linguistic properties. 110 secondary school students from 6<sup>th</sup> – 7<sup>th</sup> grade (ages 11-13) participated. Participant groups were Norwegian-Russian bilingual adolescents, L1 Norwegians, and L1 Russians. Both the bilinguals and the L1 Norwegians were recruited in Norway, while the L1 Russians were recruited in Russia. A grammaticality judgement task (GJT) was administered to test verb movement in English. The structures tested included subject-auxiliary inversion in *wh*-questions and word order in declaratives with adverbs. In both English and Norwegian, the subject and auxiliary must undergo inversion in *wh*-questions, thus are structurally similar in this regard. On the other hand, in both Russian and English the finite verb appears after the habitual adverb in declaratives whereas in Norwegian the finite verb must appear before the adverb. Thus, with regard to declaratives with adverbs, Russian and English are structurally similar while Norwegian is different. With regard to typology, Norwegian and English are Germanic languages and are typologically quite similar. Russian, however, is a Slavic language and therefore typologically more distant from English than Norwegian. If typology overrides structural similarity, it is predicted that Norwegian-Russian bilinguals would be equal to Norwegian monolinguals and would only transfer from Norwegian. If, however, structural similarity is more important for CLI, it is expected that the Norwegian-Russian bilinguals will outperform the Norwegian monolinguals on structures where Russian gives them a boost (adverb placement in declaratives).

The results of the experiment are presented in Figure 1. As exemplified below, both the L1 Russians and Russian-Norwegian bilinguals significantly outperformed L1 Norwegians on the condition where Russian was facilitative (adverb placement in declaratives). The Norwegian-Russian bilinguals, however, scored below the L1 Russians, revealing that non-facilitative influence from Norwegian also is present. Finally, the L1 Norwegians score lowest on this property showing transfer of Norwegian V2 into English. On *wh*-questions (presented as “Aux-S” in Figure 1 below), both the L1 Norwegians and the Norwegian-Russian bilinguals scored high. The L1 Russians however scored the lowest on this property, as predicted due to structural difference between Russian and English. However, the L1 Russians still scored relatively high, with a score of 72%, and the differences between the groups in this condition did not reach significance.



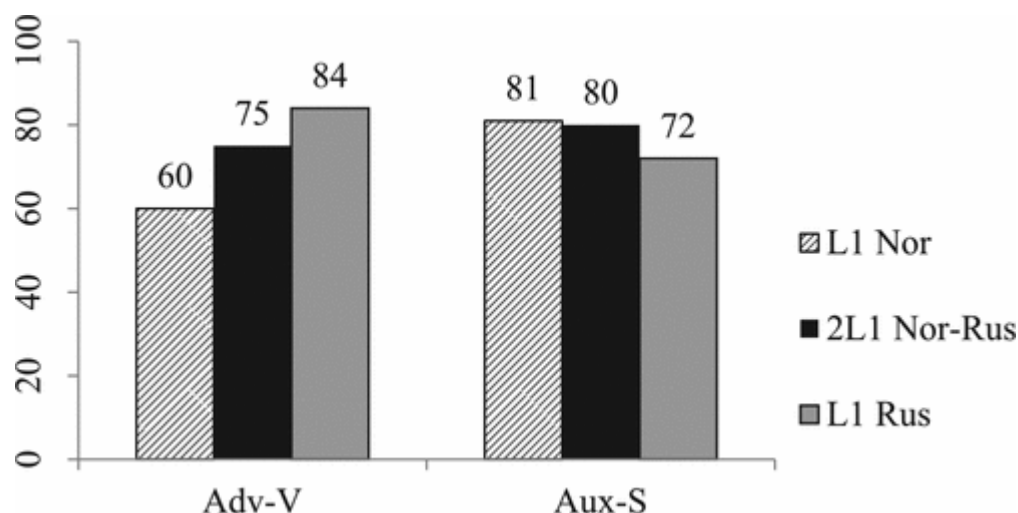


Figure 1: Percentage of correct responses in two conditions: Adv-V and Aux-S. (Westergaard et al., 2017, p. 674).

In terms of ungrammatical items, see Figure 2 right panel, the Norwegian-Russian bilinguals scored significantly better on declaratives with adverbs than the monolingual Norwegians. The bilinguals correctly rejected declaratives with the finite verb before the adverb 84% of the time. L1 Norwegians, however, correctly detected these violations only 65% of the time.

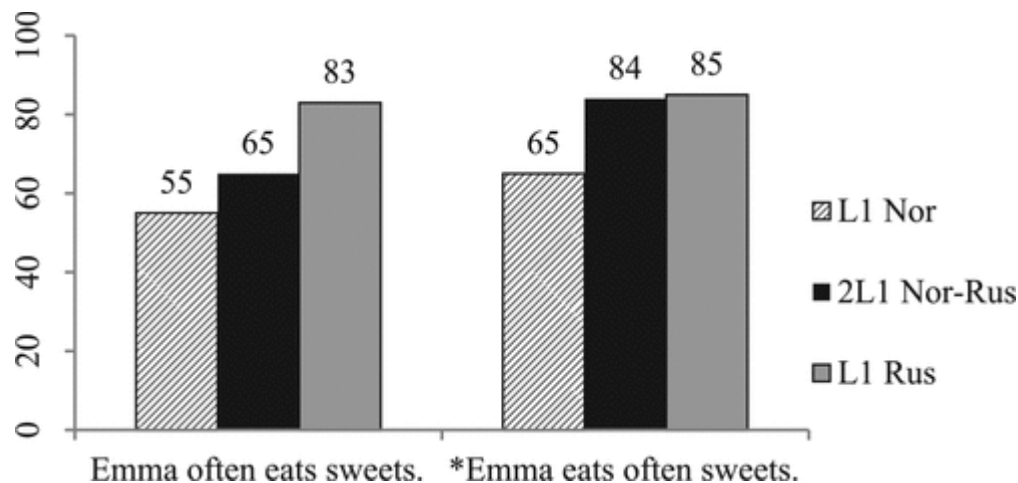


Figure 2: Percentage of correct responses in grammatical (Adv-V) and ungrammatical (V-Adv) sentences. (Westergaard et al., 2017).

As presented in the results, despite Russian belonging to a different language group and being typologically more distant from English than Norwegian, Norwegian-Russian bilinguals experienced facilitative influence from Russian in L3 English. Furthermore, the facilitative influence appears to be driven by the structural similarity between Russian and English, with

regard to declaratives with adverbs. Finally, despite overall typological closeness between Norwegian and English, bilinguals did not always transfer from Norwegian – as evident from their results on the adverb condition, where they outperform the monolingual Norwegian participants. Therefore, it appears that structural similarity between individual linguistic properties may be a better predictor of CLI than overall typological proximity. Thus, the results are better aligned with the LPM, which predicts CLI from both previously acquired languages versus the TPM which predicts CLI primarily from the typologically more similar language.

### **3.4 Previous Research on L1 Norwegian learners of L2 English**

This section is dedicated to highlighting previous research on L1 Norwegians acquiring L2 English. More specifically, the following studies focus on the acquisition of subject-verb agreement and verb placement.

#### **3.4.1 Westergaard (2003)**

Westergaard (2003) investigated the acquisition of word order in L2 English among adolescent L1 Norwegians, aged 7-12 (grades 2-7). The primary area of investigation was to discover if L1 Norwegians transfer V2 as they acquire word order (SVO) in L2 English. According to Westergaard, SVO is a deceptively ‘simple’ word order and considered by some to be the only “underlying” word order of UG (2003, p. 82). Consequently, some may hypothesize that SVO is then easy to acquire. However, Westergaard highlights that English word order is ambiguous at times and is potentially confusing to the L2 learner. Out of the two languages, English and Norwegian, the latter is most consistent with its word order. In other words, Norwegian to a default must always follow V2 word order, regardless of if the declarative is subject initial (exemplified in (36)) or non-subject initial (37). English, however, is an SVO language yet, it is also a residual V2. Meaning, there are some instances where V2 word order is necessary in English. For instance, when an auxiliary is employed (see (37) d) and in *wh*-questions (38), V2 word order is observed in English. The variability in English word order can then be confusing to the L2 learner. Ultimately, it will require that the L2 learner receive enough sufficient input to be able to decipher the contexts in which V2 is necessary and those in which it is ungrammatical. Therefore, in her study, Westergaard (2003) investigated if the alleged ‘easy’ SVO word order is indeed easy for L1 Norwegians or do they find it challenging.

(36) *Non-subject initial declaratives (V2)*

I går **spilte** Peter piano hele dagen.  
*yesterday played Peter piano all day*  
'Yesterday Peter played the piano all day.'

(37) *Subject initial declarative with adverb (SVO/V2)*

- a. Peter **spiller** alltid piano.
- b. Peter plays always piano
- c. 'Peter always plays the piano.'
- d. Peter has always played the piano.

(38) *Wh-question*

- a. Hva spilte Peter i går?
- b. *what played Peter yesterday*
- c. 'What did Peter play yesterday?'

[all examples from Westergaard, 2003, p. 78]

The conditions Westergaard investigated were those that would show a discrepancy between English and Norwegian. Non-subject initial declaratives, declaratives with adverbs, and *wh*-questions were examined. The younger participants in Westergaard's study (2<sup>nd</sup>-4<sup>th</sup> graders)<sup>17</sup> were given an oral test where the main objective was to assess linguistic material. The oral test was split into three different parts:

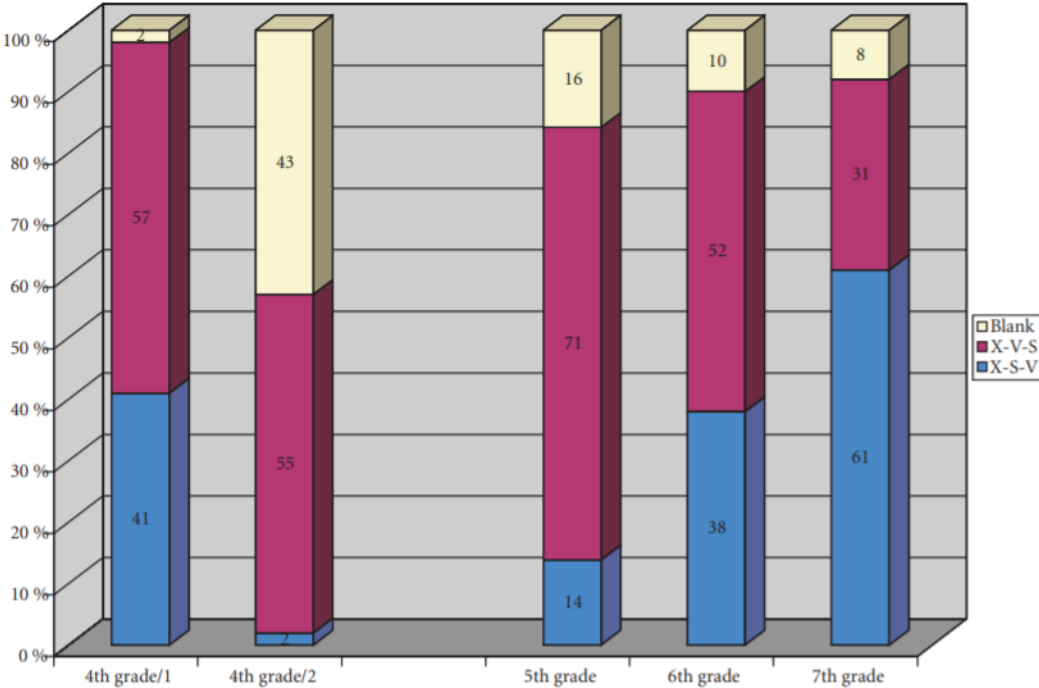
1. assess sentence pairs (e.g. 'Every day John plays football'/'Every day plays John football')
2. grammaticality judgment task
3. elicited production

The older participants in the study (5<sup>th</sup>-7<sup>th</sup> graders) were given the same tasks, but instead of an oral test, they received a written version. In both groups, the same linguistic material was assessed.

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<sup>17</sup>2<sup>nd</sup> and 3<sup>rd</sup> graders were excluded due to low proficiency in English.

The results revealed that Norwegians overwhelmingly transfer V2 word order into English. Figure 3 displays the results on topicalizations (X-S-V), and are displayed according to which structure the participant preferred. As one can see, 5<sup>th</sup> graders strongly prefer (71%) V2 (X-V-S) word order, while 52% of 6<sup>th</sup> graders do. However, 7<sup>th</sup> graders do significantly better and correctly accept X-S-V 61% and only 31% prefer V2 word order. Notice that 4<sup>th</sup> graders, on the far left, are perform higher than both 5<sup>th</sup> and 6<sup>th</sup> graders on this structure (accepting X-S-V 41% of the time). However, Westergaard notes that these results are from the oral tasks given to the 4<sup>th</sup> graders. This is juxtaposed with the older grades which received written tasks and thus the results are not comparable<sup>18</sup>. Considering 5<sup>th</sup>-6<sup>th</sup> graders alone, it is evident that V2 word order is preferred, but by the time they reach 7<sup>th</sup> grade the participants prefer X-S-V over V2. Therefore, the findings reveal that the younger participants are most susceptible to transfer Norwegian V2 into English, but eventually Norwegians acquire the S-V-O word order in English.



<sup>18</sup> The other 4<sup>th</sup> grade column seen in Figure 3 discloses the results from a written test administered. As is evidenced, the 4<sup>th</sup> graders did much worse than on the oral test.

Figure 3: Performance of 4<sup>th</sup>-7<sup>th</sup> graders on topicalizations from elicited production/translation task (Westergaard, 2003, p. 86)

Figure 4 showcases the results on verb movement across adverbials. 4<sup>th</sup> graders will not be discussed for the same reasons mentioned above, in relation to Figure 3. The results in Figure 4 reveal that 5<sup>th</sup> graders erroneously accept V2 word order 60% of the time and only 8% correctly accept S-Adv-V word order. 6<sup>th</sup> graders do slightly better by correctly accepting the adverb before the finite verb 17% of the time, but still 56% of the participants preferred ungrammatical S-V-A revealing negative influence from Norwegian. However, it appears that once again a drastic shift from 6<sup>th</sup> grade to 7<sup>th</sup> grade occurs on this structure. The 7<sup>th</sup> graders correctly accept S-Adv-V by 58% and prefer V2 only 33% of the time.

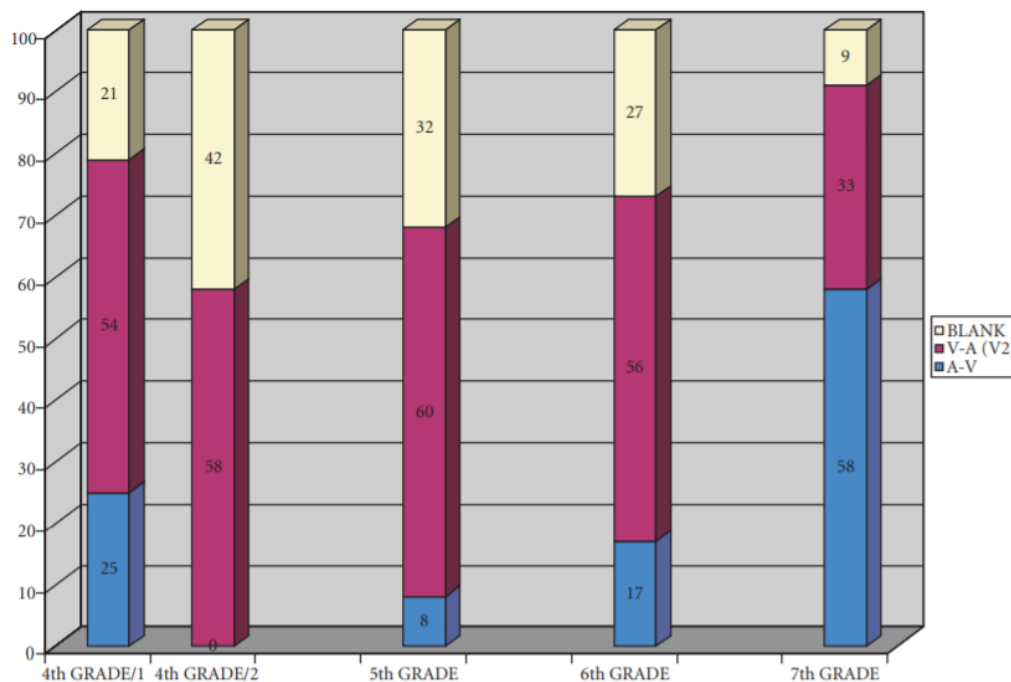


Figure 4: Performance on verb movement across adverbials (Westergaard, 2003, p. 98)

Figure 5 displays the results on *wh*-questions with an auxiliary. The results show that all grades correctly accept V2 word order majority of the time. 5th-7th graders perform at ceiling and 4th graders correctly accept V2 71% of the time.

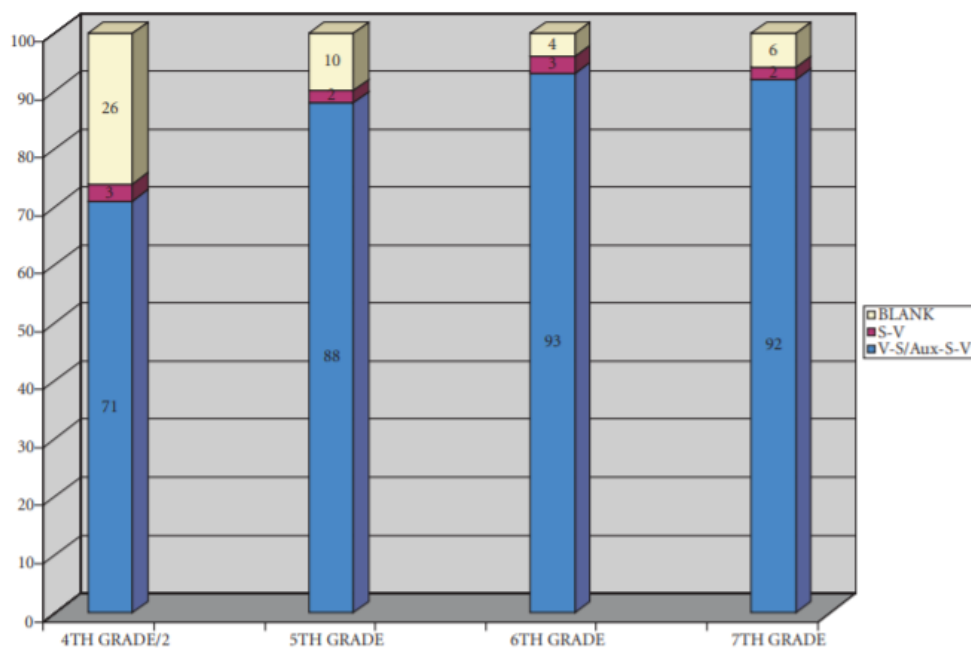


Figure 5: Results on *Wh*-questions with an auxiliary (Westergaard, 2003, p. 87)

As was evidenced in Figure 3 and 4, it is clear that topicalizations and main declaratives with adverbs provide challenges for L1 Norwegians in L2 English. The results showed that the participants erroneously preferred V2 word order in these structures and this is a result of negative influence from Norwegian. However, Norwegian's V2 word order facilitated the acquisition of *Wh*-questions with auxiliaries. As was mentioned in the introduction of this section, English SVO word order is considered by some to be a basic word order and thus potentially easy for L1 Norwegians to acquire. Yet, as the results from topicalizations and declaratives with adverbs disclosed, SVO word order is still somewhat challenging.

### 3.4.2 Jensen et al. (2020)

Jensen et al. (2020) investigated the acquisition of subject-verb agreement and word order (non-subject initial declaratives) among L1 Norwegians acquiring L2 English. The goal of the study was to test The Bottleneck Hypothesis (Slabakova, 2008), which espouses that functional morphology (versus word order) is the most difficult aspect of second language acquisition. This is made on the premises that functional morphology is the domain with greatest variance among languages.

For Jensen et al. (2020), the difficulty of the respective linguistic phenomena also has to do with the learnability and frequency of input cues. As Jensen et al. (2020) state, "...it is easier for learners to add new features for which the L2 input provides positive evidence than to

subtract or unlearn L1 features from the L2 grammar” (p. 8). In other words, it is much easier for a language learner to learn/add a new feature in the L2 if it is not present in the L1 and if the learner is exposed to enough positive input. Conversely, when a language learner must unlearn a feature (present in their L1) in the L2 this will be more difficult. Therefore, with regard to SV agreement and word order, the latter is possibly more challenging for L1 Norwegian learners of L2 English to acquire. This conclusion comes after a cross-linguistic comparison between English and Norwegian grammars. While English has overt subject-verb agreement (expressed in third person singular), Norwegian does not. Thus, Norwegians have to learn/add the new feature of third person singular -s as they acquire L2 English, and this will be accomplished through frequent evidence in the input. However, when it comes to word order, Norwegian is a strict V2 language whereas English is not<sup>19</sup>. Therefore, Norwegians must unlearn V2 word order when they acquire structures like non-subject initial declaratives in English. However, unlearning V2 is may be more difficult because it requires negative evidence.

In terms of frequency, third person singular -s is more frequent in English than non-subject initial declaratives (Jensen, 2020, p. 9). After looking through the Corpus of Contemporary American English, third person singular -s was evidenced 6,198,523 times out of a total 520 million words (Jensen, 2020, p. 9). Thus, third person singular was present in 37.5% of all relevant contexts (Jensen, 2020, p. 9). This contrasts with non-subject initial declaratives (XSV) which account for 6.8%<sup>20</sup> of all declaratives of children’s speech in English (Jensen, 2020, p. 9). Thus, SV agreement is much more frequent in English in comparison to non-subject initial declaratives. Furthermore, there is a direct contrast with Norwegian which estimates to have non-subject initial declaratives 30% of the time (Jensen, 2020, p. 9). Therefore, if only input would play a role, it will potentially take more time for the L1 Norwegian to acquire non-subject initial declaratives in English than third person singular -s. This is because, there needs to be enough evidence in the input to see that English is not a V2 language like Norwegian.

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<sup>19</sup> Indeed, English is a residual V2 language, but the structures of concern in this study concentrate only on SVO structures.

<sup>20</sup> Jensen et al. (2020) point to previous research of Charles Yang who investigated Pearl Sprouse Corpus which provides child direct speech samples to CHILDES (p. 9).

To test the Bottleneck Hypothesis, Jensen et al. (2020), administered an Acceptability Judgement Task to 60 L1 Norwegian students (ages 11-12 years and 15-18 years). The AJT task tested both functional morphology and word order. The main objective was to discover which, functional morphology or word order, is more difficult to acquire. To test functional morphology, the study included third person singular -s and third person plural. Furthermore, both local agreement and long-distance agreement of each was tested (see (39-42) below). To test word order, non-subject initial declaratives with both finite and auxiliary verbs were investigated (see (43-44) below).

(39) *Long-distance agreement with singular subjects*

- a. \* The teacher with black shoes walk to work every day.
- b. The teacher with black shoes walks to work every day.

(40) *Local agreement with singular subjects*

- a. \* The brown dog play with the yellow football.
- b. The brown dog plays with the yellow football.

(41) *Long-distance agreement with plural subjects*

- a. \* The kids with the red bike plays in the garden.
- b. The kids with the red bike play in the garden.

(42) *Local agreement with plural subjects*

- a. \* The teachers gives their students a lot of homework.
- b. The teachers give their students a lot of homework

(43) *Non-subject-initial declaratives with lexical verbs*

- a. \* Yesterday went the teacher to the shop.
- b. Yesterday the teacher went to the shop.

(44) *Non-subject-initial declaratives with auxiliary verbs*

- a. \* Every day should the students bring their books to school.
- b. Every day the students should bring their books to school



In alignment with the Bottleneck Hypothesis, the results from Jensen et al. (2020)'s AJT revealed that SV agreement was more challenging than verb placement (in non-subject initial declaratives). These results reveal that despite the fact that SV agreement is more frequent in English, and explicitly taught at school, it is still more difficult to acquire for L1 Norwegians. The authors interpret this finding as evidence, that unlearning the V2 word order is less problematic than learning the rules of SV agreement in English L2 acquisition. Figure 6 below shows the composite results of the AJT according to proficiency level (displayed on the x-axis). The orange line represents the development of conditions investigating SV agreement while the blue line tracks the development of verb movement.

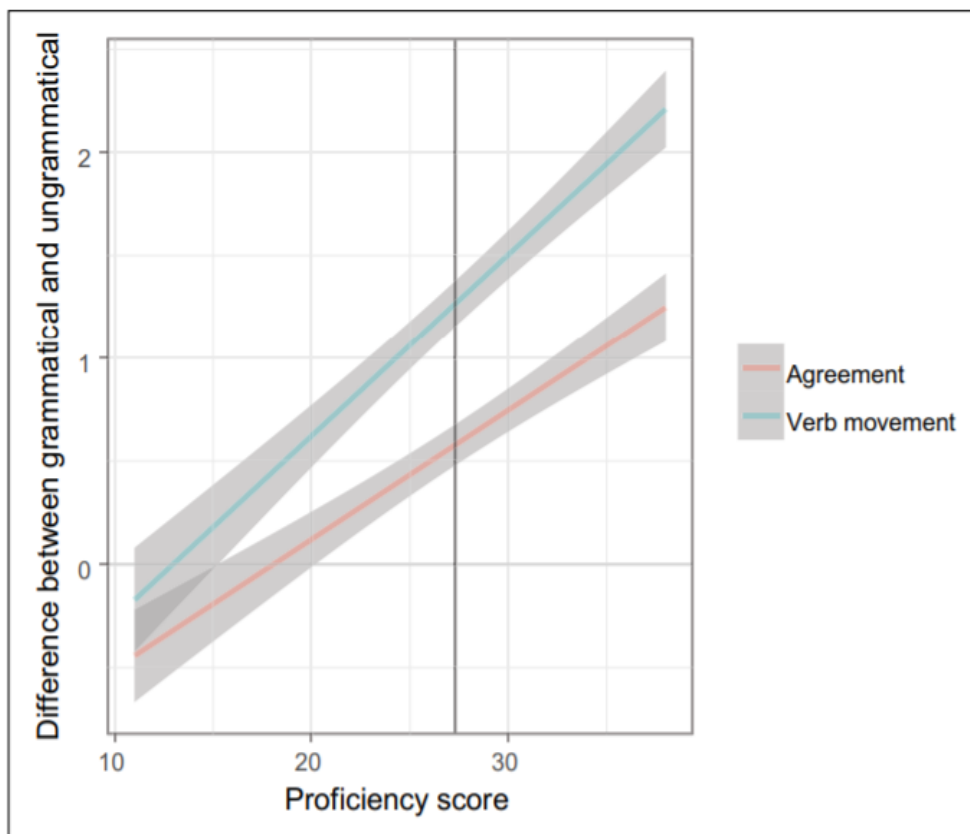


Figure 6: Results of Jensen et al. (2020) AJT (p. 17)

#### 4. Current study

The present study investigates cross-linguistic influence in L3 acquisition among North Sámi-Norwegian simultaneous bilinguals in comparison to Norwegian monolingual controls. The linguistic phenomena of investigation include subject-verb agreement and verb placement.

Previous studies have already looked at the acquisition of both subject-verb agreement and verb placement in L2 English, but these studies focused only on monolingual Norwegians. Unlike monolingual Norwegians, who have only one potential source of transfer, North Sámi bilinguals have two potential sources of transfer, North Sámi and Norwegian. Thus, this study investigates if North Sámi-Norwegian speakers are influenced by just one grammar or both. No L3 English studies have been conducted on simultaneous North Sámi-Norwegian bilinguals. Therefore, this study provides a unique contribution to the field of L3 acquisition, and more specifically to the acquisition of an additional language by (heritage<sup>21</sup>) bilingual adolescents.

The main overarching inquiry of this study is to determine if North Sámi bilinguals acquire English (as an L3) in the same fashion as monolingual Norwegian learners do (as an L2). In other words, will North Sámi-Norwegian bilinguals be influenced only by Norwegian, or will they also be influenced by North Sámi? More specifically, will the presence of subject-verb agreement and non-V2 word order in North Sámi be facilitative for the acquisition of these properties in English?

#### **4.1 Methodology**

This section will discuss my research questions, hypothesis, and predictions. I will also introduce the method of choice The Acceptability Judgement Task. I will then discuss the experimental procedure, how the AJT task was conducted and present the participant sample. I will also discuss three additional tasks administered to the participants: the Language Social Background Questionnaire (LSBQ), a vocabulary measurement task, and a North Sámi Acceptability Judgement Task collected with the bilingual participants.

#### **4.2 Research Questions**

The following research questions guided the experiment:

**RQ1:** Do North Sámi-Norwegian bilinguals acquire English in the same fashion as monolingual Norwegian learners do?

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<sup>21</sup> A heritage language is a language that is acquired at home or “is otherwise readily available to young children” that “is not a dominant language of the larger (national) society” (Rothman, 2009, p. 156). Therefore, a heritage bilingual is someone who simultaneously acquires their heritage language and the dominant language at the same time.

**RQ2:** What is more important for CLI: overall typological proximity between languages, or structural similarity between individual properties tested?

**RQ3:** Does transfer happen wholesale or property-by-property?

The first research question investigates if simultaneous North Sámi-Norwegian bilinguals acquire subject-verb agreement and verb placement like monolingual Norwegians do or will CLI from North Sámi also be present? The second research question is posed to discover if CLI can come from a typologically distant language, in this case North Sámi. Finally, research question three investigates if CLI happens wholesale or if it occurs in a piecemeal fashion.

### **4.3 Hypothesis**

My research hypothesis is that simultaneous North Sámi-Norwegian bilinguals will have an easier time acquiring subject-verb agreement and verb placement in comparison to their monolingual Norwegian counterparts. If there is no discrepancy between the two groups, the null hypothesis (that there are no differences between the groups) will not be rejected.

### **4.4 Predictions**

#### **Prediction 1a:**

I predict that North Sámi-Norwegian bilinguals do not follow the same acquisitional path as monolingual Norwegians when acquiring English. This prediction is based on the assumption that all languages have the potential to influence L3 acquisition.

#### **Prediction 1b:**

Furthermore, I predict that North Sámi-Norwegian bilinguals will outperform the monolingual Norwegians on subject-verb agreement and verb placement due to facilitative influence from North Sámi.

#### **Prediction 2:**

I expect that the structural similarity between individual properties is a better predictor of CLI than overall typological similarity.

#### **Prediction 3:**

CLI will happen on a property-by-property basis, not wholesale.

Prediction 1a is based off previous studies mentioned in Chapter 3, that found that all/both languages can influence L3 acquisition. For example, Westergaard et al. (2017)'s study discovered that Norwegian-Russian adolescent bilinguals experienced influence from both Norwegian and Russian when acquiring S-Adv-V and topicalizations in English. Therefore, I predict that North Sámi-Norwegian bilinguals will not follow the same acquisitional path as monolingual Norwegians due to the fact that they also have North Sámi (NS) to consult. Furthermore, as evidenced in both Westergaard's (2003) study and Jensen's (2020) study monolingual Norwegians struggle with both subject-verb agreement and verb placement in English. Norwegian lacks overt subject-verb agreement and is a strict V2 language and thus monolingual Norwegians need time to acquire third person singular -s in the present tense in English and to learn that English is a residual V2 language. NS however has complex subject-verb agreement on the one hand, and patterns like English with regard to main clauses with adverbs and topicalizations on the other hand. It is thus expected that since NS has overt subject-verb agreement and has more in common with English (versus Norwegian) with regard to verb placement, I predict in 1b that the North Sámi-Norwegian bilinguals will do better on both linguistic phenomena.

Despite that NS is typologically more distant from English than Norwegian, NS has more in common with English with regard to the actual linguistic properties investigated. Therefore, in prediction 2 I predict that the actual linguistic properties are better predictors of CLI in L3 versus typological proximity. As was discovered in Jin (2009), the linguistic property of investigation (overt vs null objects) was a better predictor of CLI among L1 Chinese/L2 English acquiring L3 Norwegian. As presented in Chapter 3, there was non-facilitative transfer from Chinese in L3 Norwegian. Even though English is typologically closer to Norwegian than Chinese, CLI from Chinese on the acquisition of objects in Norwegian was observed. I too predict that structural similarity between the actual properties tested will be a better predictor of CLI versus language typology. This prediction also connects with prediction (3) which states that transfer will happen on a property-by-property basis versus wholesale.

#### **4.5 Participants**

In total, 34 participants took part in the experiment. Of those, 15 were bilingual North Sámi (NS) speakers aged between 11 and 13 (grades 6-7). 19 participants were monolingual

Norwegian (L1 Nor) speakers aged between 11-13 (grades 6-7). Three participants were excluded from the L1 Nor group. One participant submitted the answers in an erroneous fashion and later dropped out of the experiment. Two other participants were excluded because they were German and English speakers and fluent in both languages. Since German also expresses subject-verb agreement, and because one of the test conditions is indeed regarding concord, this individual was removed. The native English speaker was also excluded because the very language of investigation is English and therefore may give the participant an advantage.

All participants were recruited in Norway, from three different schools. All schools were contacted through email and were provided a consent letter approved by the NSD (Norges Senter for Forskningsdata) (see Appendix C). Since all participants were under the age of 16, a consent form signed by the parents was procured (*Personverntjenester*, n.d.). The project was also registered and approved by NSD<sup>22</sup>. All participants started receiving English lessons at school at the age of six and received the same amount of instruction. However, the biggest difference between the groups, in regard to schooling, was the language of instruction. All Norwegian participants were enrolled in a Norwegian school and their native language was used to teach the curriculum. However, the North Sámi-Norwegian participants attended a North Sámi school, where the language of instruction was predominately North Sámi. Yet, the North Sámi input the bilinguals received varied greatly. Some individuals came from homes with one Norwegian speaking parent and one North Sámi speaking parent. Others had two North Sámi speaking parents while some only received North Sámi input at daycare and at school, but not at home.

All participants created an individualized code that was then written on each of the answering sheets. Including a code ensured that each student remained anonymous and yet provided an easy way to find participant's data later if need be. The coding system was approved by NSD.

#### **4.6 Experiment**

The experiment was comprised of three main components, an Acceptability Judgement Task, a vocabulary proficiency task, and a Language and Social Background Questionnaire (LSBQ). An additional Acceptability Judgement Task was administered to the North Sámi-

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<sup>22</sup> Project's reference number: 489226

Norwegian group to ensure these participants understood the grammatical rules of the respective structures (subject-verb agreement and verb placement) in NS. No additional AJT was given to the monolingual Norwegian participants. The following subsections will discuss each task in detail.

#### **4.7 Acceptability Judgement Task (English)**

To test the hypothesis and research questions, an Acceptability Judgement Task (AJT) was administered in English. According to Dabrowska (2010), the purpose behind an Acceptability Judgement Task, is to ask an individual to judge sentences based on how ‘acceptable’ the sentences are. These results are then compared with native speakers’ assessment of the same sentences.

For the AJT, the students were asked to judge the sentences as either “good” or “bad”. The sentences judged as “good” were then regarded as ‘acceptable’ sentences and all other sentences judged as “bad” were deemed ‘unacceptable’ sentences. Thus, there were only two options for the participant to choose from. Giving a binary option was done consciously to avoid unnecessary interpretation issues when analyzing the results. Numerous studies have utilized AJTs and instead of giving a binary (good/bad) option, the participant is asked to rank their answers on a Likert scale (i.e. on a scale from 1-5). Providing a Likert scale gives the participant the option to rank his/her answers with the allowance for more variance (Jensen, 2016, p. 50). Providing the researcher with finer distinctions that potentially would be missed in a predetermined binary answering option (Dabrowska, 2010). At the same time, many studies have questioned the reliability of Likert scale AJTs vs binary choice studies (see Mackey and Gass, 2012 for an overview). The debated aspects of Likert scales include a) issues with odd-numbered scales where the middle point may be interpreted as the ‘I don’t know’ option by the participants, b) differences in psychological perception of the distances between different points on the scale (is 1-2 distance the same as 2-3 etc.) and c) longer reaction times which may trigger more explicit reasoning about the acceptability/grammaticality of the sentence. I aimed to have shorter testing times and wanted to elicit participants’ first reactions to the stimuli. This is why I decided to go for a binary choice AJT.

The AJT had a total of 30 sentences (see Appendix B). The sentences were presented one at a time on a PowerPoint slideshow. The sentences were also read out loud<sup>23</sup> two times. It was not possible to revisit the sentences later. Each sentence either tested subject-verb agreement (third person singular, third person plural) or verb placement (main clauses with adverbs, non-subject initial declaratives, and *wh*-questions). For every condition, there were 6 grammatical sentences and 6 ungrammatical sentences (see 45 and 46 below). Grammatical and ungrammatical pairings were separated so that no participant judged both sentences.

(45) Tommy never eats broccoli.

\*Vivian eats never broccoli.

(46) Next Sunday the game will be outside.

\*Next Sunday will the game be outside.

All sentences testing third person singular and third person plural were subject initial declaratives. This decision was made consciously to avoid any possible interference from the mismatch between English and the other languages with regard to non-subject initial declaratives. Additionally, only finite verbs were included in the sentences testing subject-verb agreement. No auxiliaries were used to avoid possible confusion. Also, each finite verb testing was used only once. Finally, only the -s morpheme was tested for third person singular; no verbs ending with an -es, -ies (i.e. carries, kisses) were investigated. Animate referents were used as subjects. Below are examples of sentences pairs testing third person singular and plural.

(47) **Third person singular**

a. Anna listens to music.

b. \*Anna listen to music.

(48) **Third person plural**

a. The horses run fast.

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<sup>23</sup> Since I am a native English speaker, I was the one who read the sentences out loud.

- b. \*The horses runs fast.

Non-subject initial declaratives/topicalizations included adverbials that referred to events that took place in the past, as well as events that would eventually happen in the future. Example (49) is a topicalization referring to the future and (50) is an example of an event that happened in the past. Constructing the examples in both past and future tense was not a conscious decision while creating the experiment, rather a post-experiment realization. There is a potential issue with the topicalizations in past and future tense. The biggest difference between the two is that topicalizations in the future tense require an auxiliary while topicalizations in the past tense do not.

(49) *Non-subject initial declarative (adverbial referring to future events)*

- a. Tomorrow Vicki will go swimming.  
b. \*Tomorrow will Vicki go swimming.

(50) *Non-subject initial declarative (adverbial referring to past events)*

- a. Yesterday the boys ate pizza.  
b. Yesterday ate the boys pizza.

Stimuli targeting word order in declaratives with adverbs were constructed in the present tense. The following habitual adverbs were included: *often, rarely, sometimes, never, and always*. All grammatical sentences have S-Adv-V word order (as exemplified in 51), while ungrammatical sentences involved adverbs immediately following finite verbs (as in 52).

(51) *S-Adv-V*

Bill often rides the bus.

(52) *S-V-Adv*

\*Bill rides often the bus.

*Wh*-questions expressing subject-auxiliary inversion were used as fillers in the AJT. There were 6 filler sentences, 3 grammatical and 3 ungrammatical. As was mentioned in the introduction, previous studies have shown that L1 Norwegians acquire subject-auxiliary



inversion in *wh*-questions already by the 5<sup>th</sup> grade. The early acquisition has been attributed to an overlap between English and Norwegian regarding the subject-auxiliary inversion. Since all North Sámi participants also have knowledge of Norwegian, I anticipated that they would also perform with high accuracy. However, as was stated in section 3.2.3, North Sámi does not employ subject-auxiliary inversion in *wh*-questions. Therefore, just as a precaution there were grammatical and ungrammatical sentence pairings for the fillers. Including both grammatical and ungrammatical pairings ensured whether or not the participants had successfully acquired the property. 53a and 53b illustrate the pairings below.

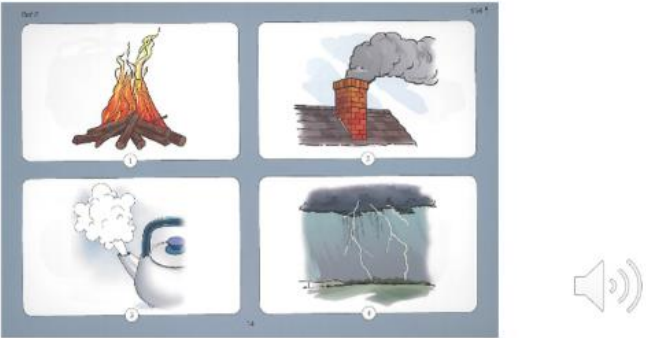
(53) *Wh-question/subject-auxiliary inversion*

- a. What time will the train leave?
- b. \*What time the train will leave?

**4.8 Vocabulary proficiency Task**

After the AJT, a vocabulary proficiency task was administered via PowerPoint slideshow. The purpose of the vocabulary measurement task was to account for any outliers in terms of English vocabulary proficiency. A total of 21 items were shown. Students heard and viewed one lexical item at a time, and each item was produced out loud two times. Each item was accompanied by four numbered pictures (see Figure 7). The students were then asked to match the lexical item with its corresponding picture. It was not allowed to revisit the words after seeing/hearing them. An example of this task is illustrated below.

Eksempel: Fire



	Word	Pictures			
Ex. 1.	<b>Fire</b>	①	2	3	4

### *Figure 7: Vocabulary Proficiency Task*

The vocabulary measurement task I used was a shortened version of the British Picture Vocabulary Scale (*British picture vocabulary scale*, 2017) which is originally designed to assess receptive vocabulary of native English children and adolescents from 3 to 16 years (*British picture vocabulary scale*, 2017). However, vocabulary measurements like the BPVS have also been proved fruitful for investigations of non-native English acquisition. In this experiment, the BPVS functioned as a measurement of the students' English proficiency. Some advantages of using the BPVS are that it is easy to use and appeals to different types of learners, including those who struggle with reading. The original BPVS requires that each participant is tested individually, yet because the task is very straight forward the participants in my experiment were tested in groups. There were four groups in total. The North Sámi school had two groups, one group for 6<sup>th</sup> graders and one for 7<sup>th</sup> graders. Another group of 6<sup>th</sup> graders was tested at one of the Norwegian schools, while the 7<sup>th</sup> graders were tested at a different Norwegian school.

#### **4.9 Language and Social Background Questionnaire**

Immediately following the AJT, the participants were asked to complete a Language and Social Background Questionnaire (LSBQ). The Language and Social Background Questionnaire, retrieved from Anderson et al. (2017), was distributed to all participants to account for their linguistic and social background. The original LSBQ is made up of 22 questions yet only 10 questions were included in the current study. I consciously omitted certain questions due to their irrelevance or because they asked for sensitive personal information (i.e. physical health) deemed unnecessary for my study. I was also cognizant of the students' ages and therefore wanted to keep the questionnaire as simple as possible. The questionnaire was translated into Norwegian (see Appendix C). The questions that were presented highlighted the participants' language knowledge, fluency, as well as languages used both in and outside the home. Anderson et al. (2017) created a coding system to help interpret the results, however because I did not include all the items, I opted to manually go through the questionnaires.

Linguists often use the LSBQ to measure the bilingualism of an individual (Anderson et al., 2017), and one of the core purposes of the questionnaire for this experiment was to determine a participant's dominant language. According to Anderson et al., the LSBQ is composed of questions geared to understanding how, when, and with whom a bilingual speaker uses a

language at any given time, both currently and during past life stages (i.e. language used at daycare). While analyzing the North Sámi-Norwegian LSBQ responses, the primary focus was to determine which language the participant was most dominant in, North Sámi or Norwegian. For the monolingual Norwegian participants, the LSBQ was administered to ensure that Norwegian was indeed the dominant language, and that no knowledge of other language is involved that can influence the results.

The first question of the LSBQ (see Figure 8 below) asked participants to write/rank all of the languages he/she knew according to fluency. The first language written equated the most fluent, second language was the next fluent, and etc. Additionally, the participants were asked to specify where they learned the language(s).

1. Write **all** the languages you know. If you know many, start with the language you are most fluent in. If you are most fluent in Norwegian, then you write Norwegian first.

Languages	Where did you learn the language? Put an X next to <b>all</b> that apply.
1. _____	Home At school Society Other
2. _____	Home At school Society Other
3. _____	Home At school Society Other
4. _____	Home At school Society Other
5. _____	Home At school Society Other

Figure 8: Question 1 from the LSBQ used in the current study.

Questions 2 asked which language(s) the participant heard most while he/she was at daycare and school. Questions 3 (see Figure 9) pertained to which language the participant used most often with family members, friends, and neighbors.

1. Place an X under the language used most often when speaking with...  
 (if you use many, write your answers with numbers. **1** means most of the time, **2** sometimes, and **3** means every now and again).

	North Sámi	Norwegian	English	Other language(s) (write which languages)
mom				
dad				
sisters/brothers				
friends				
grandparents				
Relatives (cousins, aunts, uncles)				

Figure 9: Question 3 from the LSBQ used in the current study.

Questions 4 and 5 focused primarily on the situations/contexts in which a language was used. For instance, what language was used most often while at home, shopping, reading, watching TV, etc.

The final section of the LSBQ (Questions 6-10) asked the students to self-rate their proficiency in all of the languages they knew. They were asked to assess their skills on a scale from 0 (no ability) to 10 (native-like fluency) in speaking, understanding, reading, and writing in each of the respective languages. These results were assessed in combination with those on the first page, where they were asked to rank the order of language fluency of all their languages. A translated version is presented in Figure 10 below.

6. Rate your English proficiency in the following activities on a scale from 0-10. Write an X on the scale to mark on the scale.

	No skills		Very good
Speaking	0-----	5-----	10-----
Understanding	0-----	5-----	10-----
Reading	0-----	5-----	10-----
Writing	0-----	5-----	10-----

Figure 10: Question 6 from LSBQ asking participants to self-rate their English proficiency

#### 4.7.1 Acceptability Judgement Task (North Sámi)

The North Sámi (NS) AJT was administered only to the North Sámi-Norwegian bilinguals. The objective of the AJT was to ensure that the participants understood subject-verb agreement and verb placement in NS. The NS AJT investigated the same linguistic phenomena as the English AJT. The only difference was that the sentences were constructed and displayed in NS. There were 24 sentences in total and each sentence was prerecorded by a native NS speaker. The participants heard each sentence two times. For each condition tested, there were two grammatical and two ungrammatical sentences. An example/test sentence given to the participants can be seen in Figure 11.

### Practice

Example 1: Mun liikon háleštít.

	Buorre 😊	Heittot 😞
1.	X	



Figure 11: English translations: Example 1: I like to talk. Buorre = Good, Heittot = Bad

Unlike the English AJT, where a sentence was clearly grammatical or ungrammatical, the NS AJT's coding system was a little more flexible. As it was already discussed in section 2.2.2, NS word order is quite flexible. Therefore, there are numerous ways to produce a grammatical sentence. Sentences focusing on word order in the NS AJT, were not regarded as grammatical/ungrammatical, but rather were coded as either marked or unmarked (see examples 55 and 56 below). If a sentence was an unmarked sentence, and the participant then judged the sentence as 'bad', this was considered incorrect. Despite the sentence's markedness, marked sentences are still acceptable. Subject-verb agreement however was assessed strictly as either grammatical or ungrammatical, as there are strict rules on how a verb must agree with its subject.

All sentences testing subject-verb agreement were constructed in the present tense and with personal pronominal subjects. An example of a S-V agreement grammatical/ungrammatical

pairing is illustrated in (54) below. All grammatical and ungrammatical sentence pairings were separated so that the participants would not judge both sentences.

(54) *Subject-verb agreement*

- a. Káre manná guossái.

*Káre 3.PRS.SG go 3.PRS.SG visit.to*

Káre goes visiting.

- b. \*Káre mánnát guossái.

*Káre 3.PRS.SG. go 2.PRS.SG visit.to*

Káre goes visiting.

Main clauses with adverbs were all constructed in the present tense. All unmarked sentences were S-Adv-V while all marked sentences were S-V-Adv final. Only habitual adverbs were utilized and included *dávjá* (“often”), *harve* (“rarely”), *muhtomin* (“sometimes”), *ii goassege* (“never”), *álo* (“always”).

(55) *Unmarked – S-Adv-V*

Kránnjá **álo** vázzá nu jođánit.

*the neighbor always walks so fast*

The neighbor always walks so fast.

(56) *Marked S-V-Adv (final)*

Kránnjá vázzá nu jođánit **álo**.

*the neighbor walks so fast always.*

The neighbor walks fast, always.

Non-subject initial declaratives were constructed in past, present and future tense<sup>24</sup>.

Unmarked sentences were XSVO (57) while all marked sentences were in V2 (XVSO) (see 58).

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<sup>24</sup> While creating the NS AJT, I did not think to have all the sentences in the same tense. Just like with the English AJT, this was a post-experiment realization.

(57) *Unmarked - XSVO*

Boahtte vuossárga poasta boahtá deike.

*next Monday mail comes here.*

Next Monday the mail will arrive here.

(58) *Marked-XVSO*

Boahtte vuossárga boahtá poasta deike.

*next Monday comes mail here.*

\*Next Monday arrives the mail here.

*Wh*-questions were all in the present tense with finite verbs. All unmarked questions were *Wh*-question-S-V (59) and all marked questions (60) followed V2 word order.

(59) *Wh-questions*

**Unmarked word order**

Gosa Silje vázzá?

*where.to Silje walks*

Where is Silje walking to?

(60) **Marked word order**

Gosa vázzá Silje?

*where.to walks Silje*

\*Where walks Silje?

**4.6.1 Procedure**

Data collection for both groups, North Sámi-Norwegian bilinguals and monolingual Norwegians, took place at three different schools, during normal school hours. Instructions on how to do each of the tasks, as well as examples, were presented both in the written form on a PowerPoint slide show and orally (in both North Sámi and Norwegian). Participants were supplied with answering sheets and submitted their answers in writing.

Data collection for the North-Sámi-Norwegian bilinguals was done in two days, while monolingual Norwegian data was collected in one day. Monolingual Norwegians completed

all three tasks (English AJT, Vocabulary Measurement Task, and LSBQ) in an hour. However, because there was an additional task for the bilinguals (NS AJT), I decided to split data collection into two parts. The English AJT and the vocabulary task were administered on day 1. Together the two tasks took approximately 30-45 minutes. The second part took place four days after the English AJT and Vocabulary proficiency measurement task. Allowing a few days in between the English AJT and the North Sámi AJT ensured that the participants were not primed to answer in a certain manner. It was crucial participants were not primed because both the English AJT and the North Sámi AJT tested the same properties.

## 5. Results

Participants' answers from the English AJT, vocabulary proficiency measurement task, and North Sámi AJT were entered into Excel spreadsheets and then analyzed in R. An excel spreadsheet was also created for the LSBQ, but each participant's entries were evaluated manually to determine which language(s) the participant was most dominant in. As was stated in section 4, my research hypothesis predicted that bilingual North Sámi speakers would have an easier time acquiring subject-verb agreement and word order in comparison to their monolingual Norwegian counterparts. Therefore, the purpose of this chapter is to first discover if there is a difference between the North Sámi and Norwegian groups on the conditions, and then see if the difference is statistically significant. However, it will not be possible to reject the null hypothesis if there are no differences between the groups. To test if there are statistical differences between the groups, a binomial generalized linear mixed-effect logistic regression analysis was implemented in R<sup>25</sup>.

The vocabulary proficiency measurement task was rather short and thus was only used to account for outliers. The scores from the participants are presented in Table 4 below. The overall mean score for the North Sámi group was 77%, while the mean score for the Norwegian group was 81%. This difference was not statistically significant. Therefore, while

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<sup>25</sup> The generalized linear mixed effects models in this thesis were fit using the lme4 package (Bates, Maechler, Bolker, & Walker, 2015) of the software R version 4.0.3 (2020-10-10). Post-hoc pairwise comparisons were run using the R package emmeans (Lenth, Singman, Love, Buerkner, & Herve, 2020).



the bilinguals had a slightly lower average score<sup>26</sup>, the two groups are comparable. As evidenced in the table, no participants received 100% correct. The highest score was 90% and the lowest score was 57%. Three participants received 57% (participant 1,3, and 30), two of which were North Sámi bilinguals and one monolingual Norwegian. My cut-off line was 60%, but I decided to include all participants because they were close to 60% and because my participant sample was not very large and it was important to include as many participants as possible.

Table 4: *Participant scores from Vocabulary Proficiency Measurement Task*

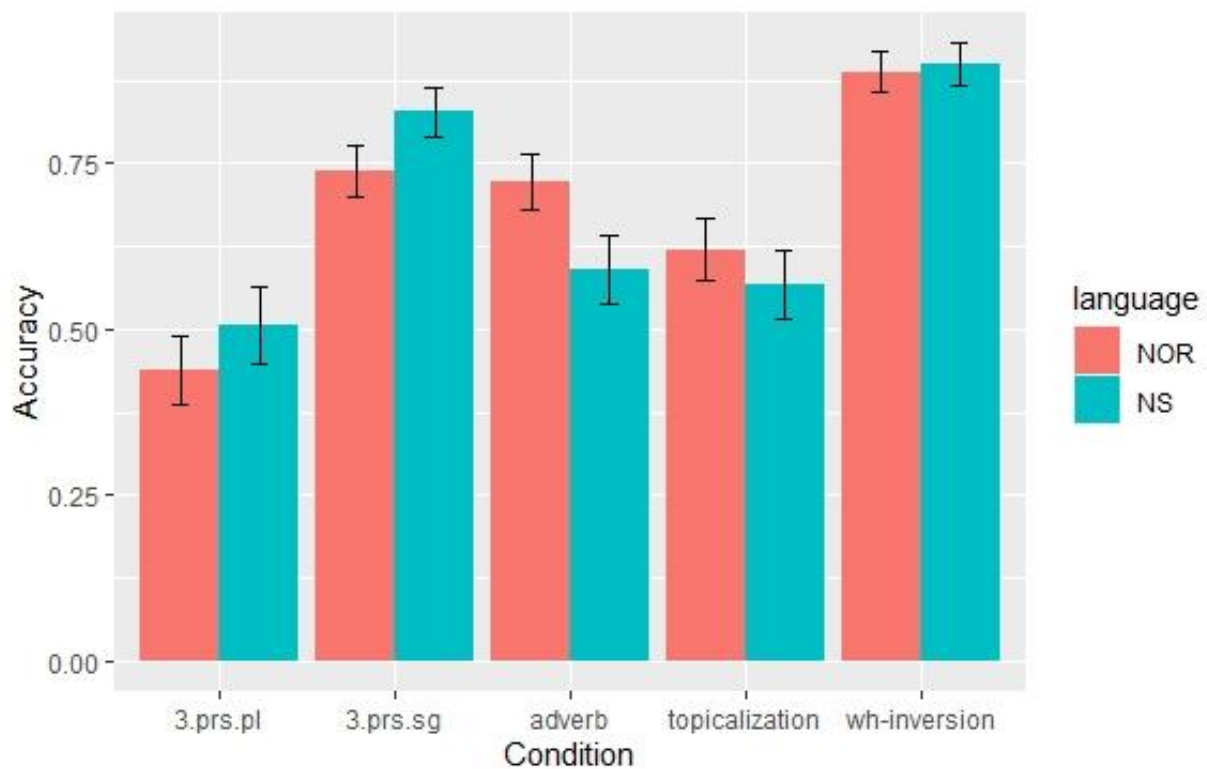
<b>Participant</b>	<b>Language</b>	<b>Age</b>	<b>Grade</b>	<b>Score</b>
<b>1</b>	NS	11	6	.57
<b>2</b>	NS	11	6	.76
<b>3</b>	NS	11	6	.57
<b>4</b>	NS	11	6	.76
<b>5</b>	NS	11	6	.76
<b>6</b>	NS	11	6	.71
<b>7</b>	NS	11	6	.80
<b>8</b>	NS	11	6	.76
<b>9</b>	NS	11	6	.86
<b>10</b>	NS	12	7	.90
<b>11</b>	NS	12	7	.90
<b>12</b>	NS	12	7	.80
<b>13</b>	NS	12	7	.76
<b>14</b>	NS	12	7	.90
<b>15</b>	NS	12	7	.71
<b>16</b>	NOR	11	6	NA
<b>17</b>	NOR	11	6	.81
<b>18</b>	NOR	11	6	.90
<b>19</b>	NOR	11	6	.85
<b>20</b>	NOR	11	6	.81
<b>21</b>	NOR	11	6	.90
<b>22</b>	NOR	12	6	.90
<b>23</b>	NOR	12	6	.71
<b>24</b>	NOR	11	6	.90

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<sup>26</sup> However, participant 16 (a monolingual Norwegian) does not have a score. This participant chose to only do the AJT.

<b>26</b>	NOR	11	6	.85
<b>28</b>	NOR	12	7	.76
<b>29</b>	NOR	12	7	.61
<b>30</b>	NOR	13	7	.57
<b>31</b>	NOR	13	7	.90
<b>32</b>	NOR	12	7	.85
<b>33</b>	NOR	12	7	.85
<b>34</b>	NOR	13	7	.81

The accuracy of the conditions by language group (North Sámi and Norwegian) is illustrated in Figure 12. The x-axis displays all of the structures tested. The y-axis displays the accuracy with respect to each structure. As indicated in the legend, North Sámi bilinguals (NS) are represented in turquoise and Norwegian monolinguals (NOR) are represented in orange.



*Figure 12: Accuracy on English AJT by condition and group*

The conditions testing subject-verb agreement (third person plural and third person singular) are seen on the far left of the bar plot. Third person plural had the lowest accuracy out of all the conditions. However, both language groups performed better on third person singular -s. In fact, third person singular -s had the highest accuracy rate of the conditions, besides the

filler *wh*-inversion. Norwegians received 75% while the North Sámi had an accuracy score of 82%. The Norwegian group had a higher accuracy rate (73%) with on declaratives with adverbs than the North Sámi group (59%). Non-subject initial declaratives are represented as topicalizations in the bar plot. Norwegians had a higher accuracy rate than the North Sámi group. Finally, as one can see on the far right, are the results for *wh*-questions. As was previously mentioned in section X, the *wh*-question subject auxiliary inversion structure was intended to be used as a filler in the experiment. To ensure both language groups had already successfully acquired this property, there were grammatical and ungrammatical pairings. As is evidenced in the bar plot both North Sámi and Norwegian groups were successful at accepting grammatical sentences and rejecting ungrammatical sentences. Both groups performed at ceiling with *wh*-questions. The mean accuracy scores of the two participant groups across the five conditions are summarized in Table 5.

*Table 5: Mean accuracy scores by group and condition*

Language Group	Condition	Mean score
<b>Norwegian</b>	Third person plural	42%
<b>North Sámi</b>	Third person plural	51%
<b>Norwegian</b>	Third person singular	75%
<b>North Sámi</b>	Third person singular	82%
<b>Norwegian</b>	Adverb placement	73%
<b>North Sámi</b>	Adverb placement	59%
<b>Norwegian</b>	Topicalization	65%
<b>North Sámi</b>	Topicalization	57%
<b>Norwegian</b>	Wh-inversion	92%
<b>North Sámi</b>	Wh-inversion	90%

To analyze the results statistically, I fit a binomial generalized linear mixed effects logistic regression model, where accuracy was predicted by a three-way interaction of condition, group and grammaticality (see Appendix: Table A1). The variable ‘condition’ had two levels: word order (comprised of declaratives with adverbs and topicalized declaratives) and agreement (which included verb agreement with 3 pl subjects and verb agreement with 3 Sg subjects in the present tense). Fillers were not included in the analysis. The variable ‘group’ had two levels (Norwegian and North Sámi). Finally, the variable ‘grammaticality’ had two levels: grammatical and ungrammatical. Participants and items were included as random effects. The model revealed a significant interaction of condition and group ( $\beta = -0.26, p = 0.028$ ), and a significant three-way interaction of group, condition and grammaticality ( $\beta = -0.2, p = 0.043$ ). Additionally, a strong main effect of grammaticality was found ( $\beta = 1.06, p < 0.001$ ). There was a significantly higher accuracy for grammatical items than ungrammatical items, suggesting a possible yes-bias in the results. Post-hoc pairwise comparisons revealed that on grammatical trials, there was no difference between the North Sámi and Norwegian participants for neither subject-agreement conditions nor the conditions testing word order (see Appendix: Table A2). However, for the ungrammatical items the Norwegian participants were significantly better in the word order conditions ( $p = 0.02$ ) while the North Sámi participants were significantly better on the subject-agreement condition ( $p = 0.04$ ). while the North Sámi participants were significantly better on the subject-agreement conditions ( $\beta = -0.88, p = 0.04$ ). This significant difference on the ungrammatical items was the driving force behind the three-way interaction between grammaticality, condition, and language group. Furthermore, the difference on the ungrammatical items reveals that the North Sámi participants were better at detecting subject-verb agreement mistakes, while Norwegian participants were better at detecting word order violations.

Next, to analyze whether language dominance had an effect on had an effect on the NS participants’ performance, I fit a generalized binomial mixed effects logistic regression model, where accuracy was predicted by dominance and condition<sup>27</sup> (See Appendix: Table: B1). Overall, the main effect of dominance was not significant, receiving a p-value of 0.31, but there was a significant interaction between language dominance and condition ( $\beta = -0.40, p = 0.024$ ). This interaction comes from the fact that the Norwegian-dominant participants

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<sup>27</sup> The structures tested.

had significantly higher accuracy scores than the North Sámi dominant participants on the word-order conditions (post-hoc pairwise comparison:  $p=0.01$ ; see Appendix: Table B2). At the same time, language dominance did not have a significant effect on the subject-verb agreement conditions.

Figure 13 presents the distribution of individual accuracy scores by group and condition. The North Sámi participants are represented by turquoise triangles and the Norwegian participants are represented by orange circles. The x-axis reveals the accuracy scores for the word-order condition and the y-axis reveals the accuracy scores for the subject-verb agreement condition. As evident from the figure, the majority of the North Sámi participants score above 60% on the subject-verb agreement conditions, while the Norwegian participants are split into two groups (half participants scored above 60% while the other half scored below 60%). For the word-order conditions, the majority of the North Sámi participants score below 60% while the Norwegian participants' scores are more evenly distributed.



Figure 13: Individual accuracy scores for subject-verb agreement and word order conditions

Finally, I fit a separate model just for the bilingual speakers, where accuracy was predicted by proficiency in North Sámi (see Appendix: Table C1). The model did not reveal any significant effects or interactions with proficiency in North Sámi. Table 6 summarizes the

results of the North Sámi AJT. As evident from the table, the scores of most participants are relatively high, with a mean score of 85%.

Table 6: Accuracy scores from North Sámi AJT

Participant	Accuracy
1	.95
2	.87
3	1.0
4	.95
5	.91
6	1.0
7	.79
8	.91
9	.95
10	.83
11	NA
12	.95
13	.91
14	.79
15	.91

## **6. Discussion**

In this chapter I discuss the results of the experiment in light of the research questions and predictions of the study, which are repeated below for convenience.

### **Research Questions**

The following research questions guided the experiment:

RQ1: Do North Sámi-Norwegian bilinguals acquire English in the same fashion as monolingual Norwegian learners do?

RQ2: What is more important for CLI: overall typological proximity between languages, or structural similarity between individual properties tested?

RQ3: Does transfer happen wholesale or property-by-property?

### **Predictions**

#### **Prediction 1a:**

North Sámi-Norwegian bilinguals do not follow the same acquisitional path as monolingual Norwegians when acquiring English.

#### **Prediction 1b:**

North Sámi-Norwegian bilinguals will outperform the monolingual Norwegians on subject-verb agreement and verb placement due to facilitative influence from North Sámi.

#### **Prediction 2:**

I expect that the structural similarity between individual properties is a better predictor of CLI than overall typological similarity.

#### **Prediction 3:**

CLI will happen on a property-by-property basis, not wholesale.

### **6.1 Research Question 1/predictions 1a and 1b**

To reiterate what was already mentioned in chapter 4, research question 1 asked if simultaneous North Sámi-Norwegian bilinguals follow the same acquisitional path as monolingual Norwegians when acquiring English. Previous research demonstrated that monolingual Norwegians have difficulties acquiring both subject-verb agreement and verb placement in English. As Westergaard (2003) and Jensen et al. (2020) studies discovered, monolingual Norwegians tend to transfer V2 word order into English. Additionally, while both linguistic properties are challenging for monolingual Norwegians, SV agreement is the

most challenging to acquire among the two (Jensen et al., 2020). Therefore, to answer the first research question, it is necessary to determine if North Sámi-Norwegian bilinguals also have difficulties with SV agreement and if they transfer V2 into English.

As illustrated in chapter 5, both groups performed at ceiling on *wh*-inversion fillers. Furthermore, both groups successfully accepted grammatical sentences testing SV agreement and word order, but there was a significant difference between the two groups on the ungrammatical items. The North Sámi-Norwegian bilinguals were better at detecting SV agreement violations and the monolingual Norwegians were better at detecting word order violations. It was anticipated that the North Sámi-Norwegian bilinguals would outperform the monolingual Norwegians on SV agreement since overt subject verb agreement exists in North Sámi and not in Norwegian. Thus, the results confirmed my prediction about SV agreement.

I also predicted that the North Sámi-Norwegian bilinguals (NS bilinguals) would outperform the monolingual Norwegians (L1 Nor) on structures testing verb placement, because I assumed structural overlap between North Sámi and English (both of them being non-V2 languages). When it comes to word order in declarative sentences with habitual adverbials, neither English nor North Sámi require obligatory V2 movement. In English, V2 structures would be ungrammatical, while North Sámi would allow this, but does not require the verb to move. Furthermore, both retain SVO word order in topicalizations. This is of course opposite of how Norwegian treats these structures. In Norwegian the adverb must come after the finite verb and in topicalizations, this is because the verb (finite/auxiliary) must move to second position. My prediction was further supported by previous studies, mentioned earlier in this subsection, which demonstrated that monolingual Norwegians tend to assume V2 movement in English for a prolonged time in the L2 development. In other words, L1 Nor prefer V2 word order in declaratives with adverbials and non-subject initial declaratives (my topicalization sentences). However, my predictions were not fully confirmed in my study. Interestingly, the L1 Nor in this study outperformed the NS bilinguals on declaratives with adverbials and topicalized sentences. Thus, the monolingual Norwegians did not act as I predicted. The verb placement results were both surprising and puzzling.

It is unclear why L1 Nor were better on verb placement than the NS bilinguals, but there are a few explanations I would like to propose. First, it is necessary to understand why/how the L1 Nor did so well and then, why did the bilinguals have difficulty with declaratives with adverbials and topicalizations. When looking at both the adverbials and topicalizations,



adverbials had the highest accuracy rate (73% versus 65% for topicalizations) out of the verb placement conditions for the monolingual Norwegians. Yet, what is puzzling about this is that Norwegian does not allow adverbs before the finite verb (S-Adv-V). Therefore, as Westergaard (2003) discovered, it will take time for monolingual Norwegians to unlearn the verb movement found in Norwegian, in order to acquire Adv-V order in English. Thus, it will take time for L1 Nor to learn that (61) is ungrammatical in English.

(61) \* Nathan drinks often cola.

Thus, it appears that the L1 Norwegian participants in my study have already learned that English is not a V2 language. Again, this was not predicted due to the fact that the 6<sup>th</sup> graders in Westergaard's (2003) study accepted S-Adv-V only 17% of the time and 7<sup>th</sup> graders 58% of the time. Therefore, the L1 Nor participants in my study did significantly better (73% on main clauses with adverbials) than anticipated. This perhaps could be a result of the very school and classroom instruction that the students received. This will be discussed further next.

The L1 Nor participants (6<sup>th</sup> and 7<sup>th</sup> graders) were enrolled at two schools<sup>28</sup> and both schools had a national score of 52 in English. It is important to note that not all (possible) students participated. At one school, only 11 students (out of 30) participated and at the other school only 7 out of 9 participated. Therefore, it may be the case that those who agreed to participate were more confident in their English performance than those that did not agree to partake. However, as was exemplified in the Results chapter (see Table 4), both Norwegian and North Sámi participants had comparable scores on the English proficiency task. That said, the vocabulary task was rather short, and its main purpose was to detect outliers. Therefore, perhaps an Oxford Placement test could have better captured the proficiency of the two groups. Moreover, a production task<sup>29</sup>, in addition to a comprehension task, would be a better way to fully capture one's language proficiency. However, I wanted to keep data collection short and age appropriate. This is why I opted for the vocabulary measurement task.

The NS bilinguals in my study were all recruited from the same school and all enrolled students, from both 6<sup>th</sup> and 7<sup>th</sup> grade, participated. The school's national English score was

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<sup>28</sup> To give the students and schools privacy, I will not disclose the names of the schools.

<sup>29</sup> A production task asks the participant to produce the very structure of study.

slightly lower with a score of 50. It may be the case that, while I sampled relatively high proficient students in the Norwegian group, the overall English proficiency in the North Sámi group was lower.

The next question that needs to be analyzed is, why do NS bilinguals struggle with verb placement? Despite the similarities between North Sámi and English, it appears as if the bilinguals transfer V2 from Norwegian into English. While this was not predicted, it is not completely unexpected either. As was shown in Westergaard et al. (2017)'s study, the Norwegian-Russian bilinguals had lower accuracy scores on adverb placement than monolingual Russian participants, which the authors interpreted as being due to non-facilitative influence from Norwegian. Thus, it is plausible that Norwegian will influence the Sámi participants to some degree. However, the bilinguals in Westergaard et al., (2017)'s study still outperformed the L1 Norwegians on verb placement. Therefore, it appears as if the Norwegian-Russian bilinguals also experienced positive influence from Russian. Yet, in my study it appears as if the North Sámi-Norwegian bilinguals were influenced by Norwegian to a larger degree than the monolingual Norwegian participants on the verb-placement conditions. It appears as if the bilinguals incorrectly assumed that English is a V2 language.

As presented in chapter 5, proficiency in North Sámi did not have a significant effect or interaction on the performance of the bilinguals. This may very well be the case, but I hesitate to make this conclusion just yet. I tried to control for the language dominance via the LSBQ and via the AJT in North Sámi. Out of the 15 NS bilingual participants, only 6 said they were dominant in NS. Surprisingly, those that were dominant in NS did worse on verb placement. While language dominance measured via the LSBQ may be accurate, the NS AJT may have failed to capture proficiency in North Sámi. As presented in Results chapter, the North Sámi AJT results revealed that everyone did exceptionally well. Thus, revealing that the bilinguals had successfully acquired subject-verb agreement and verb placement in NS. However, the results from the AJT may be misleading. This will be expanded upon more in the following sections.

As was presented in chapter 2, the preferred default for North Sámi speakers was S-Adv-V. This assumption was supported theoretically and helped create the North Sámi AJT. That

said, all unmarked<sup>30</sup> adverb sentences were written S-Adv-V and all marked sentences had adverbs in the final position (see (62) below). Therefore, no sentences tested S-V-Adv on the AJT. However, the results clearly show that North Sámi-Norwegian bilinguals prefer V2 word order in both declaratives with adverbs and topicalizations. Thus, I started to wonder if the grammar books were an accurate reflection of spoken language use, in thinking that S-Adv-V is indeed the preferred word order in North Sámi. A discussion with a native speaker revealed that S-Adv-V may not be the default. In fact, I discovered that S-Adv-V word order tends to make the adverb more marked. On the contrary, according to the native speakers, placing adverbs after the finite verb (S-V-Adv) was considered the least marked and thus the most neutral option. Therefore, my assumption that S-Adv-V was the default may have been incorrect. More importantly, my assumptions about word order in main clauses with adverbs provided implications for the NS AJT. No sentences on the NS AJT tested S-V-Adv. That means, all sentences in the AJT were written with adverbials in marked positions.

(62) *S-V-Adverb final*

Lemet vázzá skuvlii **dávjá.**

*Lemet walks school.to often*

Lemet often walks to school.

To confirm the native speaker's intuition, I decided to create a follow-up survey/mini Acceptability Judgement Task to see if other native speakers prefer V2 in declaratives with adverbs. I also decided to investigate if V2 was preferred in other structures, such as topicalizations and *wh*-questions. The AJT was created via SurveyMonkey and publicized online through various Facebook pages. There were in total 40 participants. I opted for the free version of the survey and unfortunately that meant I was limited to only asking 10 questions. Five questions investigated main clauses with habitual adverbs and the other questions investigated non-subject initial declaratives and *wh*-questions. The informants were

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<sup>30</sup> Since verb placement with regard to adverbs in North Sámi is flexible, sentences were regarded in terms of their markedness, versus grammaticality. That said, if a participant judged an unmarked sentence as "bad," this would be incorrect. Additionally, if a participant judged a 'marked' sentence as either good or bad, it was considered correct.

then asked to select the most neutral sentence out of the options given. Figure 14 below shows what the AJT task looked like. To see the mini AJT in its entirety, see Appendix 4.

As Figure 14 shows, question 1 targets word order with respect to the habitual adverb *álo* (“always”). There are three possible options for the participant to choose from. All three word orders are grammatical in North Sámi. The first word order is S-Adv-V, the second option is S-V-Adv (V2), and the final option has the adverb at the end of the sentence.

### Acceptability Task

1. Guđemuš cealkka lea eanemus neutrála du mielas?

- Kránnjá álo vázzá nu jođánit.
- Kránnjá vázzá álo nu jođánit.
- Kránnjá vázzá nu jođánit álo.

2. Guđemuš cealkka lea eanemus neutrála du mielas?

- Boahhte vuossárga boahhtá poasta deike.
- Boahhte vuossárga poasta boahhtá deike.

0 av 10 besvart

*Translation: 1. Which sentence is the most neutral in your opinion?*

- The neighbor always walks so fast. (S-Adv-V)*
- The neighbor walks always so fast. (S-V-Adv/V2)*
- The neighbor walks so fast always. (Adverb final)*

*Figure 14: North Sámi mini Acceptability Judgement Task*

The results from question one are presented in Figure 15, below. As evidenced in Figure 15, native speakers strongly prefer the S-V-Adv/V2 option, represented in blue. The other adverbs investigated were: *muhtomin* (“sometimes”), *harve* (“rarely”), *dávjá* (“often”), and *ii goassege* (“never”). The results revealed that native speakers strongly prefer V2 word order in

declaratives with adverbs. The only adverb that the participants did not prefer V2 word order was *ii goassege* (“never”). *Ii goassege* will be discussed in detail in the next section.

## Guđemuš cealkka lea eanemus neutrála du mielas?

Besvart: 40 Hoppet over: 0

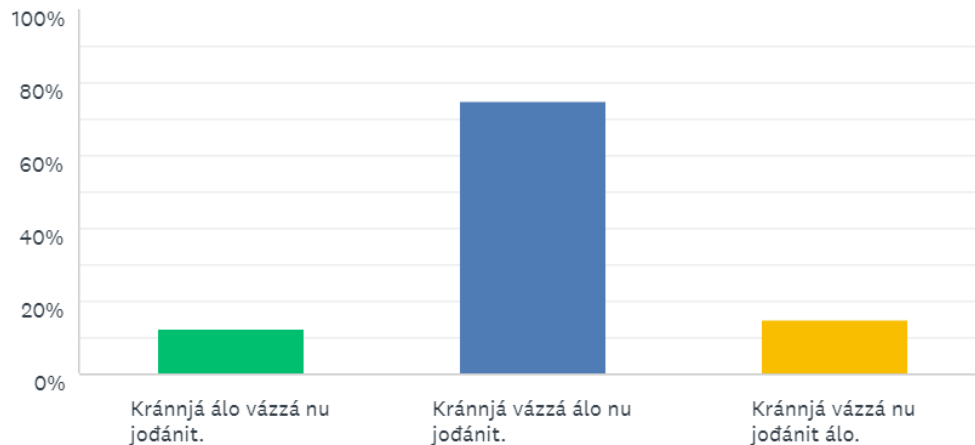


Figure 15: Results from Question 1 from mini NS AJT

The y-axis displays which option participants preferred in percentages. On the x-axis the different sentence options are displayed. The **green** on the far left is **S-Adv-V**, represented in **blue** is **S-V-Adv**, and the **yellow** represents the **adverb final** position.

The speakers’ preference with respect to declaratives with *ii goassege* are summarized below in Figure 16. As exemplified in Figure 16, native speakers prefer S-Adv-V (90%) for this habitual adverb. This is the only adverb that patterns differently in comparison with the other adverbs. It is not surprising however that the participants prefer S-Adv-V. In North Sámi, the adverb *ii goassege* is composed of the auxiliary *ii* (no/not) and *goassege* (ever). Therefore, negation is employed to express that an action will never occur. Typically, when an action is being negated in North Sámi, the lexical element denoting negation “*ii*” will follow the subject and precede the action being negated (see (63) below). Thus, it is not surprising then that that natives preferred S-Adv-V word order for *ii goassege*. Lastly, because this adverb is so different from the others, it should have been excluded and instead another adverb could have taken its place.

(63) Example of Negation in North Sámi

Son ii juga čázi.

*he/she never 3.PRS.SG. PRES. drink 3.PRS.SG.PRES. water*

He/she never drinks water.

## Guđemuš cealkka lea eanemus neutrála du mielas?

Besvart: 38 Hoppet over: 2

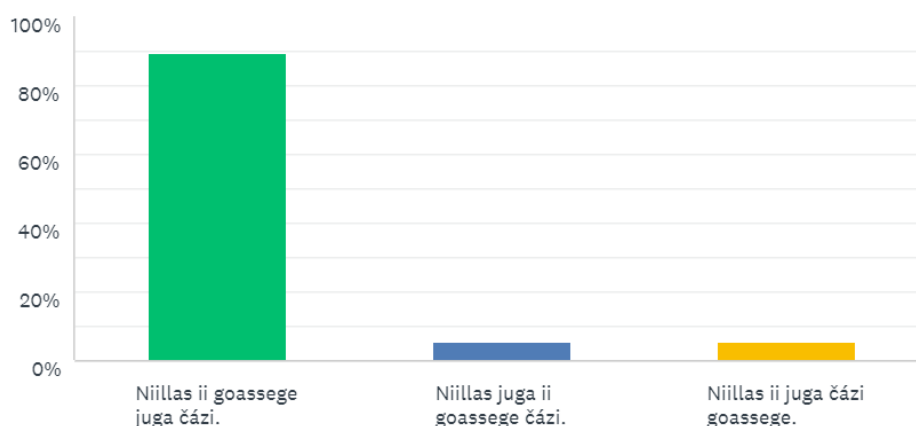


Figure 16: Results from question 9 investigating habitual adverb *ii goassege* (“never”)

The y-axis displays which option participants preference in percentages. On the x-axis the different sentence options are displayed. The **green** on the far left is **S-Adv-V**, represented in **blue** is **S-V-Adv**, and the **yellow** represents the **adverb final** position.

Non-subject initial declaratives were also investigated in the survey. Two options were presented to the participants, XSVO word order and V2 (XVSO) word order. Again, just like with the adverbs, both options were grammatical to a native speaker. In total, there were three non-subject initial declaratives in the survey. As was laid out in the linguistic background, XSVO was assumed to be the default word order for topicalizations in North Sámi. Therefore, it was predicted that the participants would prefer the XSVO word order in the survey. However, the results revealed that V2 word order was preferred in all non-subject initial declaratives. An example of a topicalization from the survey is presented in Question 2 (64) below. Additionally, Figure 17 presents the results from question 2.

(64) *Question 2 from the online Survey.*

“Which sentence is most neutral in your opinion?”

- Next Monday comes the mail here. (*X-V-S-O*) (*V2*)
- Next Monday the mail comes here. (*X-S-V-O*)

Guđemuš cealkka lea eanemus neutrála du mielas?

Besvart: 40 Hoppet over: 0

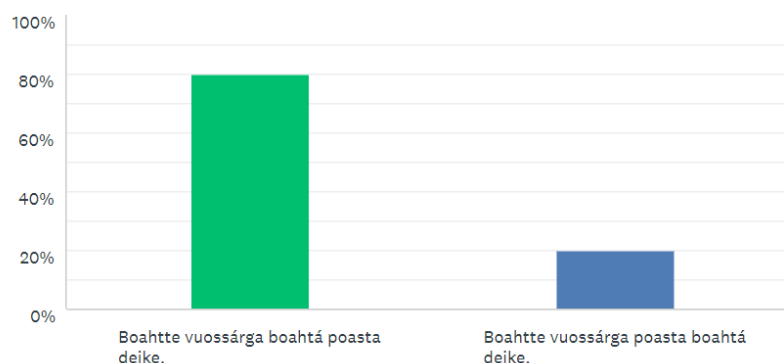


Figure 17: Results from question 2 testing non-subject initial declarative word order.

The y-axis displays which option participants preferred in percentages. On the x-axis the different sentence options are displayed. **V2 word order** is represented in the *green* on the left and **SVO** word order is represented in *blue* on the right.

I also investigated *wh*-questions in the survey. As detailed in chapter 2, both English and Norwegian observe subject-auxiliary/verb inversion in *wh*-questions. North Sámi, however, according to the grammar books retains SVO word order. Thus, it was expected that the natives would prefer SVO word order in *wh*-phrases in the survey as well. Below in (65) is an example of a *wh*-question that was asked on the survey.

(65) Which is the most neutral in your opinion?

- [to]Where walks Silje? (*V2*)
- [to] Where Silje walks? (*Non-V2*)

Figure 18 presents the results from example (65). As seen, the participants once again prefer V2 word order. An additional *wh*-question was presented on the survey, but the same results were found. Thus, it appears that the North Sámi-Norwegian bilinguals prefer V2 word order in all structures testing verb placement. The preference for V2 was not predicted nor theoretically supported by the grammar books. While it is still not completely clear why V2 is preferred, it appears as if Norwegian strongly influences North Sámi. Regardless, because the

North Sámi speakers in my study are simultaneous bilinguals living in a Norwegian dominant society, it is not very surprising that the dominant language has such a strong influence on the mother-tongue.

### Guđemuš cealkka lea eanemus neutrála du mielas?

Besvart: 40 Hoppet over: 0

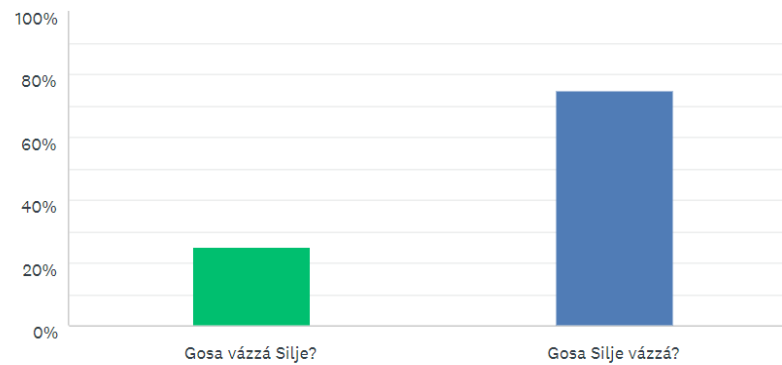


Figure 18: Results from question 9 testing wh-question word order from mini North Sámi AJT

The y-axis displays which option participants preferred in percentages. On the x-axis the different sentence options are displayed. **V2 word order** is represented in the *green* on the left and **SVO** word order is represented in *blue* on the right.

The results of the follow-up experiment led to the conclusion that my experiment was created with incorrect assumptions. First of all, the assumption that the non-V2 word order is the default in North Sámi seems to be misleading. This means that the prediction that CLI from North Sámi would be facilitative for the acquisition of the English word order was erroneous. Quite the opposite, if V2 is indeed the preferred word order in North Sámi, the LPM would predict that North Sámi speakers would have a harder time inhibiting non-facilitative influence of the V2 structure due to co-activation of this structure both previously acquired languages, than the L1 Nor, who will only need to inhibit influence from Norwegian. This prediction is consistent with the results performed with the language group as a predictor (North Sámi speakers are significantly worse at rejecting the ungrammatical V2 structure in English than Norwegian participants). This result is compatible with the prediction that non-facilitative CLI from both previously acquired languages should be harder to suppress than non-facilitative CLI from one language. Furthermore, the results of the analysis with dominance as a predictor, we also found that participants who are dominant in North Sámi



were significantly worse at rejecting the ungrammatical V2 structure in English than Norwegian-dominant participants. The results of the dominance analysis may indicate that CLI is affected by the relative activation of languages. The additive non-facilitative effect of North Sámi is stronger for the North Sámi-dominant participants than for the Norwegian-dominant participants.

Finally, the North Sámi AJT administered to the students can also be reviewed and it appears that it did not properly capture the participants' preferences with regard to declaratives with adverbs, topicalizations, and *wh*-questions. Therefore, going forward, future research should take into account all word order options in North Sámi when testing participants' preferences. The results from the North Sámi survey can help to better understand why the North Sámi bilinguals struggled with verb placement in the English AJT.

To summarize, in response to RQ1, the results indicate that North Sámi-Norwegian bilinguals do not seem to follow the same developmental path in the acquisition of English as monolingual Norwegians. The NS bilinguals were significantly better on SV agreement than the Norwegian monolinguals, however the Norwegian monolinguals were better on word-order. It was observed that NS bilinguals found the non-V2 word order in English significantly more challenging than monolingual Norwegian participants. A follow-up task testing the preference of the North Sámi speakers with respect to word order in North Sámi revealed a strong V2 preference, opposite of my original expectations. This warrants a revision of our original prediction about facilitative influence from North Sámi with respect to verb placement, because the follow-up AJT presents some problems for the core assumption behind this prediction. Future research is needed to explore this preference in more detail.

The number of participants for both NS bilinguals (15 participants) and L1 Nor (19 participants) was quite low. Going forward, increasing the number of participants would be ideal. In addition to increasing the participant size, assessing the proficiency levels in English in more thorough manner (i.e. through Oxford placement test) would be beneficial. Additionally, future research among North Sámi speakers with various linguistic background may be fruitful with regard to the acquisition of verb placement in English. For instance, Finnish-North Sámi bilinguals or Russian-North Sámi bilinguals may provide different results. Finnish, like North Sámi, also belongs to the Finno-Ugric language family and thus the two languages have much in common with regard to verb placement. Therefore, it would be interesting to see how various dominant languages affect CLI in L3 English acquisition.

## 6.2 Research Question 2/prediction 2

Research question 2 was interested in investigating which was a better predictor of CLI, overall typological proximity between the languages or similarity found in the actual property of investigation. The two theories considered to answer this question were the Typological Primacy Model (TPM) and the Linguistic Proximity Model (LPM). Both of these models will be discussed in light of the present study.

The TPM espoused that in L3 acquisition, wholesale transfer will occur from the language that shares the highest degree of typological structural proximity. Thus, transfer will occur primarily from the language that is more typologically related to the L3. Structural proximity will be evidenced in similarities between the languages with regard to lexicon, phonology, morphology, and syntax. Out of the languages in the present study, Norwegian and North Sámi (NS), the former is typologically closest to English. Norwegian and English both belong to the Germanic language family while North Sámi belongs to the Finno-Ugric language family. Therefore, the TPM would then predict to see wholesale transfer from Norwegian in L3 English among the North Sámi-Norwegian bilinguals. In other words, it would be expected to see influence from Norwegian in both subject-verb agreement and verb placement. Conversely, the TPM would not expect to see transfer from North Sámi since it is typologically more distant from English.

Unlike the TPM, the LPM argued for piecemeal transfer and claimed that both the L1 and the L2 can influence L3 acquisition. Thus, the LPM did not predict that one source alone, L1 or L2, would be elected as the primary source of CLI. Rather, the LPM would predict that the language that is most similar in regard to the actual linguistic phenomena (subject-verb agreement and verb placement) would most likely be the source of transfer. It is difficult to say which language is more similar to English with regard to subject-verb agreement. As presented in chapter 2, SV agreement in English is realized only in third person singular thus making it more of an exception versus an overarching rule. As was also presented in chapter 2, Norwegian lacks overt SV agreement altogether while North Sámi not only has SV agreement, but it is much more complicated than in English. Therefore, it is difficult to say which is more similar to English in SV agreement, however I argue that since North Sámi has overt SV agreement, this makes it more similar to English than Norwegian. Not only does Norwegian lack subject-verb agreement, but as was discovered in Jensen (2020) third person singular -s and third person plural are challenging for L1 Norwegians. With regard to verb placement, it was assumed that North Sámi is structurally more similar to English than

Norwegian. This assumption of course was prior to doing the follow-up mini NS AJT. However, as was discovered, North Sámi also seems to prefer V2 word order and is thus neither more nor less similar to English than Norwegian.

For the present study, if typology overrides structural similarity, it is predicted that North Sámi-Norwegian bilinguals will be equal to Norwegian monolinguals and will only transfer from Norwegian. If, however, structural similarity is more important for CLI, it is expected that the North Sámi-Norwegian bilinguals will outperform the Norwegian monolinguals on structures where North Sámi gives them a boost (subject-verb agreement). As evidenced in chapter 5, there was a discrepancy made between the North-Sámi bilinguals (NS bilinguals) and the monolingual Norwegians (L1 Nor) on the properties tested. While the NS bilinguals were better at detecting SV agreement violations, the L1 Nor were better at detecting verb placement violations. Therefore, because a discrepancy was found it is not possible to claim that language typology is a better predictor of CLI in L3 English. Furthermore, despite that the bilinguals assume English is a V2 language like Norwegian, they do not assume that English lacks overt SV agreement like Norwegian. Instead, North Sámi appears to positively influence the bilinguals' acquisition of SV agreement in English. Therefore, it seems as if the linguistic properties themselves (SV agreement and verb placement) are better predictors of CLI among North Sámi-Norwegian bilinguals.

Since the linguistic properties are better predictors of CLI in this particular study, the LPM is the best model to explain the results. If language typology was the better predictor, providing support for the TPM, then it would have been expected to see transfer only from Norwegian. Moreover, it would have been expected that the bilinguals would perform similar to L1 Norwegians, but this was not the case. Additionally, while the TPM argued for wholesale transfer from one source (in this case, Norwegian), the LPM allowed for CLI from both/all sources (Norwegian and North Sámi). As evidenced in chapter 5, the bilinguals appear to experience both facilitative and non-facilitative influence from North Sámi and non-facilitative influence from Norwegian.

### **6.3 Research Question 3/prediction 3**

Research question 3 asked if linguistic transfer happens wholesale or property-by-property. Prediction 3 predicted that transfer would happen on a property-by-property basis. If wholesale transfer was witnessed, it would be expected to see complete transfer from either North Sámi or Norwegian. However, as the results in chapter 5 disclosed, North Sámi-

Norwegian bilinguals do not transfer strictly from one source, rather they transfer from both North Sámi (for SV agreement) and both languages (for verb placement). Thus, the findings support acquisition taking place on a property-by-property basis. These findings further support the LPM.

## **7. Conclusion**

This thesis analyzed the acquisition of subject-verb agreement and verb placement in L3 English among North Sámi-Norwegian bilinguals (NS bilinguals). The main objective of this thesis was to investigate if NS bilinguals acquire the mentioned linguistic phenomena like monolingual Norwegians (L1 Nor) do, or do they experience influence from North Sámi? Various studies such as Westergaard (2003), Westergaard et al. (2017) and Jensen et al. (2020) have already studied subject-verb agreement and verb placement among L1 Nor, but no studies on English acquisition among NS bilinguals have yet been conducted. Therefore, this current study is novel in its findings.

To discover if NS bilinguals acquire subject-verb agreement and verb placement like L1 Norwegians, it was first necessary to understand how the latter acquires the linguistic phenomena in L2 English. As highlighted in Jensen (2020), subject-verb agreement is challenging for L1 Norwegians, even at later stages of L2 development. Furthermore, as Westergaard (2003) and Jensen et al. (2020) point to in their studies, verb placement (in main clauses with adverbials and topicalizations) also provides difficulty for L1 Nor. Said difficulties with subject-verb agreement are contributed to the fact that overt subject-verb agreement does not exist in Norwegian but does in English (in third person singular -s). Moreover, verb placement is also another area where Norwegian and English diverge. English is an SVO language, and a residual V2, yet Norwegian is a strict V2 language. Unsurprisingly, both Westergaard (2003) and Jensen et al. (2020) found that L1 Nor tend to transfer V2 into L2 English. Thus, based on the previous studies (on L1 Nor), the intent of this thesis was to see if NS bilinguals also have the same difficulties acquiring subject-verb agreement and verb placement in L3 English.

As noted in the linguistic background, North Sámi has more in common with English in relation to subject verb agreement and verb placement than Norwegian. North Sámi has overt subject-verb agreement and is an SVO language like English. Consequently, I predicted that if all previously learned languages influence L3 acquisition, then NS bilinguals would benefit from North Sámi and ultimately outperform L1 Nor on the linguistic phenomena studied.

Most importantly, I predicted that NS bilinguals would not follow the same acquisitional path as L1 Nor.

To investigate the acquisition of subject-verb agreement and verb placement in L3 English, an Acceptability Judgement Task (AJT) was administered to 34 participants (15 North Sámi bilinguals and 19 monolingual Norwegians). Four conditions and one filler were examined. In addition to the AJT, a vocabulary proficiency measurement task was administered to account for English proficiency and finally a Language and Social Background Questionnaire (LSBQ) was supplied. The LSBQ was given to account for variance in the linguistic background of all participants, and for language dominance in the bilinguals. Two conditions examined subject-verb agreement (third person singular -s and third person plural), while two conditions focused on verb placement (main clauses with adverbials and topicalizations). *Wh*-questions were included in the AJT as fillers. The 4 test conditions were specifically chosen based on variance among the respective languages. *Wh*-questions were selected as a filler based on previous research (i.e. Westergaard 2003) which revealed that L1 Nor acquire subject-auxiliary inversion in *wh*-questions early. Therefore, it was assumed that the NS bilinguals would also acquire this property early.

All in all, the results revealed that the North Sámi-Norwegian bilinguals do not acquire English in the same fashion as monolingual Norwegians. While the North Sámi bilinguals were significantly better at detecting subject-verb agreement errors, monolingual Norwegians were significantly better at detecting verb placement violations. Therefore, variance between the two groups on these properties was found. Consequently, the null hypothesis was rejected. Interestingly, while I predicted the bilinguals would experience facilitative influence from North Sámi on SV agreement, I did not foresee any difficulties with verb placement. Therefore, an additional follow-up study was conducted among NS bilingual adults to further analyze the verb placement structures.

The results of the follow-up study revealed that the NS bilingual adults strongly prefer V2 to non-V2 word order in North Sámi. These results challenge my original assumption about English-like word order in North Sámi. Crucially, the NS bilinguals' preference for V2 points to strong influence from Norwegian and further explains the difficulty in acquiring verb placement in L3 English. Moreover, because influence from both languages was present, the findings provide evidence for property-by-property acquisition. Furthermore, while the TPM argued for wholesale transfer predominately from one source (in this case, Norwegian), the

LPM allowed for CLI from both/all sources (Norwegian and North Sámi). Thus, the Linguistic Proximity Model best explains my results. Yet, I still underscore the need for further research. As was expressed in the Discussion, I mentioned larger data samples would be ideal. In addition to larger sample sizes, collecting data among other North Sámi speakers with various dominant languages (i.e. Finnish-North Sámi) could potentially offer fruitful results.

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## 9. Appendix A: Consent Letter/Informational Letter

### Vil du/dere delta i forskningsprosjektet

#### *”English Acquisition among Norwegian Speaking and North Sámi Speaking Children”?*

Dette er et forespørsel til barnet ditt/dere om å delta i et forskningsprosjekt knyttet til min mastergradsoppgave ved UiT – Norges arktiske universitet. Formålet er å se nærmere på hvordan norskspråklige og samiskspråklige barn tilegner seg engelsk. I dette skrivet gir vi deg informasjon om målene for undersøkelsen og hva deltakelse vil innebære for barnet ditt/dere foreldre.

#### **Formål**

Kort fortalt ønsker jeg å se nærmere på hva norskspråklige og samiskspråklige barn har til felles og hva som eventuelt er ulikt i deres tilegnelse av engelsk, gitt ulik språkbakgrunn. Formålet med prosjektet mitt er å kartlegge hvordan elever faktisk svarer på disse oppgavene, ikke å finne ut «hvor flinke» de er.

#### **Hvem er ansvarlig for forskningsprosjektet?**

Mine veileder, Natalia Mitrofanova og Kristine Bentzen, er ansvarlige for prosjektet med meg, Melissa Karen Lantto (masterstudent).

#### **Hvorfor får du spørsmål om å delta?**

Jeg tar kontakt med dere fordi jeg skal samle inn data hos norskspråklige elever på 6. og 7. trinn på barnet ditt sin skole i forbindelse med mastergradsoppgaven min.

#### **Hva innebærer det for deg/barnet ditt å delta?**

Datainnsamlingen består av et spørreskjema om språkbakgrunn, en *Acceptability Judgement Task* (hvor elevene skal rangere setninger som gode eller dårlige), og en *Vocabulary Task* (hvor elevene skal svare på spørsmål knyttet til ulike bilder).

Hvis du aksepterer at barnet ditt deltar i prosjektet, innebærer det at du svarer på noen (se vedlagt) om ditt barns morsmål. På skolen vil det ta barnet ditt ca. 1.5 time til å gjennomføre både oppgavene og spørreskjemaet. Spørreskjemaet inneholder spørsmål om hvilke språk barnet ditt kan, hvilke språk brukes oftest, og hvilke språk bruker de mens de snakker med venner, slektninger, ser på TV, handler mat, osv.. Deres svar fra spørreskjemaet blir anonymisert i oppgaven og publikasjoner, og registreres elektronisk.

Jeg vil også be barnet ditt til å skrive i spørreskjemaet hvilke språk foreldrene kan og hvilke språk bruker dere hjemme. Dere foreldre kan få se spørreskjemaet på forhånd ved å ta kontakt.

#### **Det er frivillig å delta**

Det er frivillig å delta i prosjektet. Selv om dere velger å delta, kan dere når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for dere hvis dere ikke vil delta eller senere velger å trekke dere. Det vil ikke påvirke ditt forhold til skolen/læreren.

Forskningen gjennomføres i forbindelse med vanlige undervisningstimer. De som ikke deltar kommer til å få et alternativt opplegg av læreren.

### **Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger**

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Kun veilederne mine (Natalia Mitrofanova og Kristine Bentzen) og jeg, Melissa Karen Lantto (masterstudent), vil ha tilgang til dine/deres opplysninger.

Masteroppgaven vil bli gjort åpent tilgjengelig på nett gjennom Munin ved Universitetsbiblioteket ved UiT-Norges arktiske universitet. Det er også aktuelt på et senere tidspunkt å publisere resultatene fra oppgaven i en vitenskapelig artikkel.

Alle deltakere i undersøkelsen vil bli anonymisert i oppgaven og publikasjoner. Hver deltaker vil få et eget kodenavn, og man vil ikke kunne indentifisere eleven når resultatene presenteres i oppgaven min. Kun alder, trinn, og språkferdigheter vil bli skrevet om i mastergradsoppgaven til Melissa Karen Lantto.

Det er jeg, Melissa Karen Lantto, som skal samle inn data på skolen.

### **Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?**

Personopplysninger som kan direkte identifiserer deltakerne (navn og koblingsnøkkel) vil slettes ved prosjektet slutt [31.12.2021].

Selve det språkvitenskapelige datamaterialet lagres i 5 år [31.12.2026] etter prosjektets slutt med tanke på videre forskning. I dette materialet vil deltakerne kun forekomme med kodenavn, alder, klassetrinn og språkferdigheter. Koblingen mellom kodenavn og den faktiske identiteten til deltakerne vil altså *ikke* lagres etter prosjektets slutt [31.12.2021].

### **Dine rettigheter**

Så lenge du/dere kan identifiseres i datamaterialet, har du rett til:

innsyn i hvilke personopplysninger som er registrert om deg/dere, og å få utlevert en kopi av opplysningene,

å få rettet personopplysninger om deg/dere,

å få slettet personopplysninger om deg/dere, og

å sende klage til Datatilsynet om behandlingen av dine personopplysninger.

### **Hva gir oss rett til å behandle personopplysninger om deg?**

Vi behandler opplysninger om deg/dere basert på ditt/deres samtykke.

På oppdrag fra Melissa Karen Lantto har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

### **Hvor kan jeg finne ut mer?**

Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

Natalia Mitrofanova, Kristine Bentzen, eller Melissa Karen Lantto ved UiT – Norges arktiske universitetet i Tromsø.

Natalia Mitrofanova: natalia.mitrofanova@uit.no tlf. nr. 91162774

Kristine Bentzen: kristine.bentzen@uit.no tlf nr. 776 46665

Melissa Karen Lantto: mla121@uit.no tlf.nr. 974 84273

Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:

NSD – Norsk senter for forskningsdata AS på epost (personvertjenester@nsd.no) eller på telefon: 55 58 21 17.

Med vennlig hilsen,

Natalia Mitrofanova og Kristine Bentzen, Melissa K. Lantto

(Forsker/veileder, Master student)

---

## **Samtykkeerklæring**

Jeg har mottatt og forstått informasjon om prosjektet *English Acquisition among Norwegian Speaking and North Sámi Speaking Children*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- barnet mitt å delta i *Acceptability Judgement Task*
- barnet mitt å delta i *Vocabulary Task*
- barnet mitt å svare spørsmål på spørreskjemaet
- at mine svarer på spørreskjema om foreldrenes språkferdigheter kan brukes
- at mine/våres språkvitenskapelige datamateriale (kun alder, trinn, språkferdigheter) lagres etter prosjektslutt, til 31.12.2026
- Jeg samtykker til at mine/våres opplysninger behandles frem til prosjektet er avsluttet

---

(Signert av prosjektdeltaker, dato)

## Spørreskjema (som fylles ut av foreldre)

Barnets morsmål:    Norsk                       Samisk                       Annet \_\_\_\_\_

Andre språk barnet eventuelt snakker: \_\_\_\_\_

Brukes det andre språk i hjemmet (selv om barnet ikke selv snakker dette/disse språkene)?

Hvis ja, vennligst oppgi hvilke: \_\_\_\_\_

### 9. Appendix B: Acceptability Judgement Task sentences/conditions

Test item	Grammaticality	Condition	Structure
Pat always cleans the house.	Grammatical	Adverb placement	S-A-V
Emily rarely does her homework.	Grammatical	Adverb placement	S-A-V
Tommy never eats broccoli.	Grammatical	Adverb placement	S-A-V
Penny sometimes walks home.	Grammatical	Adverb placement	S-A-V
Bill often rides the bus.	Grammatical	Adverb placement	S-A-V
Tyler rarely brushes his teeth.	Grammatical	Adverb placement	S-A-V
*Chris cleans always the house.	Ungrammatical	Adverb placement	S-V-A
*Mark does rarely his homework	Ungrammatical	Adverb placement	S-V-A
*Vivian eats never broccoli.	Ungrammatical	Adverb placement	S-V-A
*Jack walks sometimes home.	Ungrammatical	Adverb placement	S-V-A
*Sarah rides often the bus.	Ungrammatical	Adverb placement	S-V-A
*Susie brushes rarely her teeth.	Ungrammatical	Adverb placement	S-V-A
Yesterday the boys ate pizza.	Grammatical	Non-subject initial declarative	X-S-V
Tomorrow Vicki will go swimming.	Grammatical	Non-subject initial declarative	X-S-V
Last week Bryan talked with Linda.	Grammatical	Non-subject initial declarative	X-S-V
Next Sunday the game will be outside.	Grammatical	Non-subject initial declarative	X-S-V
Last night the dog slept on the sofa.	Grammatical	Non-subject initial declarative	X-S-V
Next month the family will go on holiday.	Grammatical	Non-subject initial declarative	X-S-V
*Yesterday ate the boys pizza.	Ungrammatical	Non-subject initial declarative	X-V-S
*Tomorrow will Vicki go swimming.	Ungrammatical	Non-subject initial declarative	X-V-S
*Last week talked Bryan with Linda.	Ungrammatical	Non-subject initial declarative	X-V-S
*Next Sunday will the game be outside.	Ungrammatical	Non-subject initial declarative	X-V-S
*Last night slept the dog on the sofa.	Ungrammatical	Non-subject initial declarative	X-V-S
*Next month will the family go on holiday.	Ungrammatical	Non-subject initial declarative	X-V-S

Tom walks the dog home.	Grammatical	Third person singular -s	S-V agreement
Melissa sits on the chair.	Grammatical	Third person singular -s	S-V agreement
Anna listens to music.	Grammatical	Third person singular -s	S-V agreement
Mark works at the supermarket.	Grammatical	Third person singular -s	S-V agreement
Matt likes chocolate	Grammatical	Third person singular -s	S-V agreement
Hannah eats chocolate with her friends.	Grammatical	Third person singular -s	S-V agreement
*Susie walk the dog home.	Ungrammatical	Third person singular -s	S-V disagreement
*Benji sit on the chair.	Ungrammatical	Third person singular -s	S-V disagreement
*Peter listen to music.	Ungrammatical	Third person singular -s	S-V disagreement
*Lizzy work at the supermarket.	Ungrammatical	Third person singular -s	S-V disagreement
*Matt like chocolate.	Ungrammatical	Third person singular -s	S-V disagreement
*Teresa eat chocolate with her friends.	Ungrammatical	Third person singular -s	S-V disagreement
The horses run fast.	Grammatical	Third person plural	S-V agreement
Tom and Vince like pizza.	Grammatical	Third person plural	S-V agreement
Becky and Jess work on their homework.	Grammatical	Third person plural	S-V agreement
Cows eat grass.	Grammatical	Third person plural	S-V agreement
The trains leave in five minutes.	Grammatical	Third person plural	S-V agreement
Molly and her friends swim in the pool.	Grammatical	Third person plural	S-V agreement
*The horses runs fast.	Ungrammatical	Third person plural	S-V disagreement
*Tom and Vince likes pizza.	Ungrammatical	Third person plural	S-V disagreement
*Becky and Jess works on their homework.	Ungrammatical	Third person plural	S-V disagreement
*Cows eats grass.	Ungrammatical	Third person plural	S-V disagreement
*The trains leaves in five minutes.	Ungrammatical	Third person plural	S-V disagreement
*Molly and her friends swims in the pool.	Ungrammatical	Third person plural	S-V disagreement
Where is Anne going to study?	Grammatical	Subj.aux inversion- Wh question	Wh- aux-S -V
What time will the train leave?	Grammatical	Subj.aux inversion- Wh question	Wh- aux-S -V
Who is Bob going to call?	Grammatical	Subj.aux inversion- Wh question	Wh- aux-S -V
What will the dog find?	Grammatical	Subj.aux inversion- Wh question	Wh- aux-S -V
What can the old man do?	Grammatical	Subj.aux inversion- Wh question	Wh- aux-S -V
Where can the dogs run?	Grammatical	Subj.aux inversion- Wh question	Wh-aux-S-V
*Where Anne is going to study?	Ungrammatical	Subj.aux inversion- Wh question	Wh -S- aux -V

*What time the train will leave?	Ungrammatical	Subj.aux inversion- Wh question	Wh -S- aux -V
*Who Bob is going to call?	Ungrammatical	Subj.aux inversion- Wh question	Wh -S- aux -V
*What the dog will find?	Ungrammatical	Subj.aux inversion- Wh question	Wh -S- aux -V
*What the old man can do?	Ungrammatical	Subj.aux inversion- Wh question	Wh -S- aux -V
*Where the dogs can run?	Ungrammatical	Subj.aux inversion- Wh question	Wh-S-aux-V

### 10. Appendix C: Language and Social Background Questionnaire

Språk spørreskjema

Kode: \_\_\_\_\_ Dato: \_\_\_\_\_ Trinn # \_\_\_\_\_

11. Hvilke språk behersker du? Skriv gjerne **alle** språkene du kan. Om du kan flere, begynn gjerne med det språket du snakker mest flyttende. Om du er mest flyttende på norsk så skriver du norsk først.

Språk	Hvor lærte du språket? Sett en X ved siden av <b>alle</b> som gjelder.
1.	Hjemme På skolen Samfunnet Andre
2.	Hjemme På skolen Samfunnet Andre
3.	Hjemme På skolen Samfunnet Andre
4.	Hjemme På skolen Samfunnet Andre
5.	Hjemme På skolen Samfunnet Andre

12. Sett X under språket du hørte oftest eller brukte oftest i ....



	Norsk	Engelsk	Andre språk (skriv gjerne hvilke)
Barnehagen			
på skolen (før i dag)			

13. Sett X under språket du bruker oftest mens du prater med ....

(om du bruker flere, skriv med nummer. **1** betyr **oftest**, **2** mindre, og **3** av og til).

	Norsk	Engelsk	Andre språk (skriv gjerne hvilke)
Mor			
Far			
Søstrene/brødrene			
Venner			
Besteforeldrene			
Slektningene			
Naboer			

14. Sett X under språket som brukes oftest ...

	<b>Norsk</b>	<b>Engelsk</b>	<b>Andre språk (skriv gjerne hvilke)</b>
Hjemme			
På skolen			
Sosiale aktiviteter (med venner, drar på kino, osv.)			
Sport/hobbyer			
Shopping			

15. Sett X under språket som brukes oftest ...

	<b>Norsk</b>	<b>Engelsk</b>	<b>Andre språk (skriv gjerne hvilke)</b>
Lese			
Teksting (SMS)			
Sosiale media (Facebook, Twitter, Snapchat, etc.)			
Se på TV			
Lytte til music			
Se filmer / Netflix			
På nett			

16. Vurder dine engelskferdigheter i følgende aktiviteter på en skala fra 0-10.  
Sett en X for å plassere dine ferdigheter på skalaen.

	Ingen ferdigheter		Svært gode
ferdigheter			
Snakke	0-----5-----10		
Forstå	0-----5-----10		
Lesing	0-----5-----10		
Skrijving	0-----5-----10		

17. Vurder dine norskferdigheter i følgende aktiviteter på en skala fra 0-10.  
Sett en X for å plassere dine ferdigheter på skalaen.

	Ingen ferdigheter		Svært gode
ferdigheter			
Snakke	0-----5-----10		
Forstå	0-----5-----10		
Lesing	0-----5-----10		
Skrijving	0-----5-----10		

18. Andre språk: \_\_\_\_\_

Vurder dine ferdigheter i følgende aktiviteter på en skala fra 0-10:  
Sett en X for å plassere dine ferdigheter på skalaen.

	Ingen ferdigheter		Svært gode
ferdigheter			
Snakke	0-----5-----10		
Forstå	0-----5-----10		
Lesing	0-----5-----10		
Skrijving	0-----5-----10		

19. Andre språk: \_\_\_\_\_

Vurder dine ferdigheter i følgende aktiviteter på en skala fra 0-10:  
Sett en X for å plassere dine ferdigheter på skalaen.

	Ingen ferdigheter		Svært gode
ferdigheter			
Snakke	0-----5-----10		
Forstå	0-----5-----10		
Lesing	0-----5-----10		

## 12. Appendix: Table A1

**Model 1: Accuracy predicted by grammaticality, group and condition.**

```
Acc ~ 1 + grammaticality * language * condition + (1 + condition |
code) + (1 + condition | item)
AIC      BIC    logLik deviance df.resid
831.6    896.6   -401.8   803.6    753
```

```
Scaled residuals:
  Min      1Q  Median      3Q      Max
-4.8872 -0.6454  0.3051  0.5498  3.6143
```

```
Random effects:
Groups Name          Variance Std.Dev. Corr
code  (Intercept)      0.6541  0.8088
      condition2WordOrder 0.6645  0.8151 -0.62
item  (Intercept)      1.2872  1.1345
      condition2WordOrder 0.8408  0.9169 -0.93
Number of obs: 767, groups: code, 32; item, 24
```

<i>Predictors</i>	<b>Acc</b>		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	2.42	1.54 – 3.81	<b>&lt;0.001</b>
grammaticality	2.89	1.95 – 4.29	<b>&lt;0.001</b>
language	1.04	0.78 – 1.39	0.782
condition	1.07	0.70 – 1.63	0.748
grammaticality * language	1.03	0.86 – 1.24	0.748
grammaticality * condition	0.77	0.52 – 1.15	0.198
language * condition	0.77	0.61 – 0.97	<b>0.028</b>
grammaticality * language * condition	1.21	1.01 – 1.45	<b>0.043</b>

### Random Effects

$\sigma^2$	3.29
$\tau_{00}$ code	0.65
$\tau_{00}$ item	1.29
$\tau_{11}$ code.condition2WordOrder	0.66
$\tau_{11}$ item.condition2WordOrder	0.84
$\rho_{01}$ code	-0.62
$\rho_{01}$ item	-0.93

ICC	0.37
N <sub>code</sub>	32
N <sub>item</sub>	24
<hr/>	
Observations	767
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	0.199 0.496

### 13. Appendix: Table A2

```

$emmeans
grammaticality = G, condition2 = Agreement:
  language emmean SE df asymp.LCL asymp.UCL
NOR       1.7576 0.582 Inf 0.618 2.897
NS        1.7544 0.593 Inf 0.592 2.917

grammaticality = U, condition2 = Agreement:
  language emmean SE df asymp.LCL asymp.UCL
NOR      -0.2866 0.551 Inf -1.366 0.793
NS        0.5919 0.562 Inf -0.509 1.693

grammaticality = G, condition2 = WordOrder:
  language emmean SE df asymp.LCL asymp.UCL
NOR       2.2769 0.410 Inf 1.474 3.080
NS        1.9967 0.407 Inf 1.199 2.794

grammaticality = U, condition2 = WordOrder:
  language emmean SE df asymp.LCL asymp.UCL
NOR      -0.0434 0.324 Inf -0.679 0.592
NS       -0.9640 0.352 Inf -1.655 -0.273
Confidence level used: 0.95

$constrasts
grammaticality = G, condition2 = Agreement:
  contrast estimate SE df z.ratio p.value
NOR - NS 0.0032 0.485 Inf 0.007 0.9947

grammaticality = U, condition2 = Agreement:
  contrast estimate SE df z.ratio p.value
NOR - NS -0.8785 0.436 Inf -2.017 0.0437

grammaticality = G, condition2 = WordOrder:
  contrast estimate SE df z.ratio p.value
NOR - NS 0.2802 0.515 Inf 0.544 0.5866

grammaticality = U, condition2 = WordOrder:
  contrast estimate SE df z.ratio p.value
NOR - NS 0.9206 0.404 Inf 2.280 0.0226

```

### 14. Appendix: Table B1

```

Acc ~ 1 + dominance * condition2 + (1 + condition2 | code) +
(1 + condition2 | item)

      AIC      BIC  logLik deviance df.resid
392.2  430.4  -186.1  372.2      326

Scaled residuals:
   Min      1Q  Median      3Q      Max
-4.6087 -0.6196  0.3042  0.5414  2.8534

Random effects:
 Groups Name              Variance Std.Dev. Corr
item  (Intercept)          1.5466   1.2436
      conditionWordOrder  0.8552   0.9247  0.03
code  (Intercept)          0.5112   0.7150
      conditionWordOrder  0.7116   0.8436 -0.86
Number of obs: 336, groups: item, 24; code, 14

```

---

**Acc**

<i>Predictors</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	2.28	1.17 – 4.46	<b>0.015</b>
dominance	1.20	0.85 – 1.69	0.312
condition	1.47	0.75 – 2.87	0.264
dominance * condition	0.67	0.47 – 0.95	<b>0.024</b>

### Random Effects

$\sigma^2$	3.29
$\tau_{00}$ item	1.55
$\tau_{00}$ code	0.51
$\tau_{11}$ item.conditionWordOrder	0.86
$\tau_{11}$ code.conditionWordOrder	0.71
$\rho_{01}$ item	0.03
$\rho_{01}$ code	-0.86
ICC	0.38
$N_{code}$	14
$N_{item}$	24
Observations	336
Marginal $R^2$ / Conditional $R^2$	0.53 / 0.417

## 15. Appendix: Table B2

```

$emmeans
condition2 = Agreement:
dominance emmean SE df asymp.LCL asymp.UCL
N          0.984 0.506 Inf -0.00711 1.97
NS         1.433 0.557 Inf  0.34199  2.52

condition2 = WordOrder:
dominance emmean SE df asymp.LCL asymp.UCL
N          1.026 0.549 Inf -0.04946 2.10
NS         -0.139 0.566 Inf -1.24739 0.97

Confidence level used: 0.95

$constrasts
condition2 = Agreement:
contrast estimate SE df z.ratio p.value
N - NS          -0.449 0.545 Inf -0.823 0.4104

condition2 = WordOrder:
contrast estimate SE df z.ratio p.value
N - NS           1.164 0.456 Inf  2.554 0.0107

```

## 16. Appendix: Table C1

```

Acc ~ 1 + score * condition2 + (1 + condition2 | code) + (1 +
condition2 | item)

AIC      BIC      logLik deviance df.resid
396.5    434.7    -188.2   376.5     326

```

Scaled residuals:  
 Min 1Q Median 3Q Max  
 -5.1688 -0.6416 0.3183 0.5338 2.0038

Random effects:  
 Groups Name Variance Std.Dev. Corr  
 item (Intercept) 1.5465 1.2436  
 conditionWordOrder 1.1447 1.0699 -0.08  
 code (Intercept) 0.5471 0.7396  
 conditionWordOrder 1.3302 1.1533 -0.84  
 Number of obs: 336, groups: item, 24; code, 14

Fixed effects:  
 Estimate Std. Error z value Pr(>|z|)  
 (Intercept) 3.587 2.426 1.478 0.139  
 score -3.009 2.640 -1.140 0.254  
 condition -1.227 2.868 -0.428 0.669  
 score:condition 1.706 3.129 0.545 0.586

Correlation of Fixed Effects:  
 (Intr) score cndt21  
 score -0.990  
 condition 0.043 -0.046  
 scr:cndtn -0.046 0.047 -0.992

<i>Predictors</i>	<b>Acc</b>		
	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	36.12	0.31 – 4196.09	0.139
score	0.05	0.00 – 8.72	0.254
condition	0.29	0.00 – 81.01	0.669
score * condition	5.51	0.01 – 2538.36	0.586

### Random Effects

$\sigma^2$	3.29
$\tau_{00}$ item	1.55
$\tau_{00}$ code	0.55
$\tau_{11}$ item.conditionWordOrder	1.14
$\tau_{11}$ code.conditionWordOrder	1.33
$\rho_{01}$ item	-0.08
$\rho_{01}$ code	-0.84
ICC	0.39
$N_{code}$	14
$N_{item}$	24
Observations	336
Marginal $R^2$ / Conditional $R^2$	0.028 / 0.406

## 17. Appendix E: Mini North Sámi Acceptability Judgement Task (translated into English)

1. Which sentence is most neutral in your opinion?

- The neighbor always walks so fast.
- The neighbor walks always so fast.
- The neighbor walks so fast always.

2. Which sentence is most neutral in your opinion?

- Next Monday comes the mail here.
- Next Monday the mail comes here.

3. Which sentence is most neutral in your opinion?

- Kristina sometimes eats vegetables.
- Kristina eats sometimes vegetables.
- Kristina eats vegetables sometimes.

4. Which sentence is most neutral in your opinion?

- Why is the police car outside the house?
- Why the police car is outside the house?

5. Which sentence is most neutral in your opinion?

- Piera rarely reads books.
- Piera reads rarely books.
- Piera reads books rarely.

6. Which sentence is most neutral in your opinion?

- (to) Where walks Silje?
- (to) Where Silje walks?

7. Which sentence is most neutral in your opinion?

- Ánne often walks to school.
- Ánne walks often to school.
- Ánne walks to school often.

8. Which sentence is most neutral in your opinion?



- Last week Májjá was in Kárašjok.
- Last week was Májjá in Kárašjok.

9. Which sentence is most neutral in your opinion?

- Niillas never drinks water.
- Niilas drinks never water.
- Niilas no water drinks ever.

10. Which sentence is most neutral in your opinion?

- Tomorrow grandma wishes to paint the house.
- Tomorrow wishes grandma to paint the house.

