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The acquisition of verb and negation placement in L3 German

Abstract: The present study examines the acquisition of the verb-second (V2) word order and non-verb-adjacent negation with object scrambling in intermediate-level L3 German. 64 upper-secondary school students with L1 Norwegian and L2 English were recruited to perform three different elicitation tasks (acceptability judgments, element rearrangement, negation fill-in). The results show that the students generally have acquired the V2 word order, but struggle with non-verb-adjacent negation. Moreover, both previously learned languages seem to exert influence on the acquisition of German verb and negation placement. Whereas L2 English influences the students' verb placement, transfer from L1 Norwegian is present in their negation placement preferences. Finally, the students' verb placement accuracy differs depending on the linguistic context (adverbial complexity and verb type), suggesting that V2 is learned in a stepwise fashion.

Keywords: L3 acquisition, transfer, cross-linguistic influence, German verb and negation placement

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1 Introduction

The verb-second (V2) word order has received much attention by both language teachers and researchers, and its successful acquisition is often considered a milestone in the process of learning Germanic languages other than English (Bohnacker & Westergaard 2024). When Scandinavian learners of German as a third language (L3) make word order mistakes, teachers often perceive this as negative influence from their second language (L2) English (Falk & Lindqvist 2022:163–166; Haukås 2016: 10), whereby violations of the V2 word order are referred to as "the English word order" (Beslagic 2024: 148–149). Yet, how and to what extent (morpho-) syntactic structures transfer from previously learned languages remains a controversial topic within the field of third language acquisition (L3A). Moreover, it has been suggested that rather than being one big rule, the V2 word order is learned stepwise, resulting in varying degrees of target-likeness depending on the linguistic context (Westergaard 2021a). The present study seeks to address these matters by examining the acquisition of L3 German finite verb and negation placement by L1 Norwegian learners with L2 English.

2 Verb and negation placement

Variation in verb and negation placement is here analysed as a result of different movement operations between the CP-TP-VP domains (Adger 2003; Wojtecka et al. 2011).[1] In Norwegian and German declaratives, finite verbs move from V (via T) to C (long movement), resulting in the V2 word order. Contrastingly, English (finite) lexical verbs cannot move out of the VP (Adger 2003; Pollock 1989), making them appear as the third constituent (V3) after topicalizations. Figure 1 below offers a simplified analysis of these movement differences.[2]

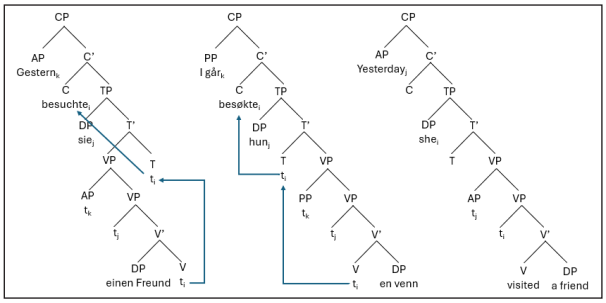

Figure 1: Verb movement in German, Norwegian and English

[1] Complementizer Phrase – Tense Phrase – Verb Phrase.

[2] To simplify the presentation in figure 1 and the following examples, adverbials and negation are analysed as adjoined to the VP in all three languages. The German VP and TP are head final due to German being an SOV language (Meisel 1997: 230).

Since English lexical verbs do not move, the same placement difference occurs in subject-initial declaratives with mid-sentential adverbials (1). English auxiliaries and copulas, however, may move to T (Adger 2003; Pollock 1989). This short movement becomes visible in main clauses with mid-sentential adverbials (2). Yet, after topicalizations, English auxiliaries appear in the third position since they do not move to C (3).

(1) a. [$_{CP}$ Ich **bestelle** [$_{TP}$ [$_{VP}$ oft einen Salat]]].
I order often a salad
b. [$_{CP}$ Jeg **bestiller** [$_{TP}$ [$_{VP}$ ofte en salat]]].
I order often a salad
c. [$_{CP}$ I] [$_{TP}$ [$_{VP}$ often **order** a salad]]].

(2) a. [$_{CP}$ Wir **werden** [$_{TP}$ [$_{VP}$ schließlich dieses Gespräch beenden]]].
We will eventually this conversation finish
b. [$_{CP}$ Vi **vil** [$_{TP}$ [$_{VP}$ omsider avslutte denne samtalen]]].
We will eventually finish this conversation
c. [$_{CP}$We [$_{TP}$ **will** [$_{VP}$ eventually finish this conversation]]].

(3) a. [$_{CP}$ Heute **werden** [$_{TP}$ wir [$_{VP}$ ein Buch lesen]]].
Today will we a book read
b. [$_{CP}$ I dag **skal** [$_{TP}$ vi [$_{VP}$ lese en bok]]].
Today will vi read a book
c. [$_{CP}$ Today, [$_{TP}$ we **will** [$_{VP}$ read a book]]].

Verb movement also influences the placement of sentential negation. Due to the verb's movement to C the negation appears after lexical verbs in German and Norwegian, whereas English must rely on *do*-support, leaving the lexical verb behind the negation as illustrated in (4).

(4) a. [$_{CP}$ Er **tanzt** [$_{TP}$ [$_{VP}$ nicht]]].
He dances not
b. [$_{CP}$ Han **danser** [$_{TP}$ [$_{VP}$ ikke]]].
He dances not
d. [$_{CP}$ He [$_{TP}$ does [$_{VP}$ not **dance**]]].

However, English auxiliaries and copulas move to T, resulting in the same verb-negation surface structure in all three languages.

(5) a. [$_{CP}$ Ich **bin** [$_{TP}$ [$_{VP}$ nicht dumm]]].
I am not stupid
b. [$_{CP}$ Jeg **er** [$_{TP}$ [$_{VP}$ ikke dum]]].
I am not stupid
c. [$_{CP}$I [$_{TP}$ **am** [$_{VP}$ not stupid]]].

In contrast to Norwegian and English, German sentential negation does not require finite-verb-adjacency.[3] In declaratives with objects, the unmarked negation placement is after the object, indicating that the object has been raised above the negation (*scrambling*) (Meisel 1997; Wojtecka et al. 2011). Thus, in declaratives with objects, negation appears in different positions relative to the lexical verb in all three languages (6): After the object in German, directly after the lexical verb in Norwegian, and in front of the lexical verb in English.[4]

(6) a. [$_{CP}$ Ich **mag** [$_{TP}$ [$_{VP}$ meine Stimme nicht]]].
I like my voice not
b. [$_{CP}$ Jeg **liker** [$_{TP}$ [$_{VP}$ ikke stemmen min]]].
I like not voice my
c. [$_{CP}$ I [$_{TP}$ do [$_{VP}$ not **like** my voice]]].

Yet, if the finite verb is an auxiliary, Norwegian and English have the same surface structure (7). In German, the negation appears behind the object, but in front of the lexical verb due to German being a Subject-Object-Verb (SOV/SXV) language.

(7) a. [$_{CP}$ Ich **habe** [$_{TP}$ [$_{VP}$ das Buch nicht gelesen]]].
I have the book not read
b. [$_{CP}$ Jeg **har** [$_{TP}$ [$_{VP}$ ikke lest boka]]].
I have not read book-the
c. [$_{CP}$ I [$_{TP}$ **have** [$_{VP}$ not read the book]]].

Finally, preverbal negation is the unmarked position in Norwegian imperative clauses (Garbacz & Johannessen 2014). This differs from English and German. In English, *do*-support makes the

[3] In this regard, one might raise the concern that the negation does not differ from other adverbials such as *mehrmals* ('many times'): *ich **habe** das Buch nicht gelesen* vs. *ich **habe** das Buch mehrmals gelesen*. In Norwegian and English, other adverbials may also appear separated from the finite verb (*jeg **har** lest boka flere ganger* / *I **have** read the book many times*), but this is not possible with sentential negation: *jeg **har** lest boka ikke / *I **have** read the book not. Hence, sentential negation behaves differently from other adverbials in the languages under study, and as depicted in Section 3 below, previous studies have found that non-verb-adjacent negation in particular poses challenges in the acquisition of German.

[4] Object pronouns may raise above the negation in Norwegian ('object shift'): *Jeg liker **den ikke***. The present study only examines full Determiner Phrases, which do not raise in Norwegian (Anderssen et al. 2018: 250).

negation occur post-verbally, yet in front of the lexical verb.[5] In German imperative clauses, the negation appears post-verbally with optional scrambling (8).

(8) a. [$_{CP}$ **Trink**] [$_{TP}$ [$_{VP}$ das Wasser <u>nicht</u>]]] / [$_{CP}$ **Trink** [$_{TP}$ [$_{VP}$ <u>nicht</u> das Wasser]]].
Drink the water not drink not the water.

b. [$_{CP}$ <u>Ikke</u> **drikk** [$_{TP}$ [$_{VP}$ vannet]]]. / [$_{CP}$ **Drikk** [$_{TP}$ [$_{VP}$ <u>ikke</u> vannet]]].[6]
Not drink water-the drink not water-the

c. [$_{CP}$ Do [$_{TP}$ not *pro* [$_{VP}$ **drink** the water]]].

3 Background

As mentioned in the introduction, L3 German teachers in Scandinavia link word-order errors to the students' L2 English. In line with this, some studies on L3A involving Germanic languages present evidence of transfer from L2 English (e.g. Bohnacker 2006; Bardel & Falk 2007). According to Falk & Bardel (2011: 77), the order of acquisition is of importance since second and third languages often share (cognitive) similarities "regarding age of onset, outcome, learning situation, metalinguistic knowledge, learning strategies and degree of awareness in the language learning process".[7] Falk & Bardel (2011) therefore suggest that the L2 overrides the L1 as a transfer source (the *L2 status factor*).[8]

However, the results of more recent studies question the validity of the L2 status. Instead, the authors argue for the availability of both previously learned languages (e.g. Dahl et al. 2022; Jensen et al. 2023; Stadt et al. 2020a). Stadt et al. (2020a) compared the acquisition of L3 German with L3 French after L1 Dutch and L2 English. The L3 German group made fewer V3 errors in sentences with mid-sentential adverbials than L3 French learners, indicating more transfer from L2 English in the L3 French group.[9] Stadt et al. (2020a) suggest that the typological closeness and structural similarity between Dutch and German caused an increased L1 influence in the L3 German group. Furthermore, Dahl et al. (2022) examined the acquisition of L3 German by

[5] Some learners might treat the contractions *don't* and *can't* as chunks, which could be interpreted as preverbal negation (Anderssen & Bentzen 2018: 4): "<u>*Don't drink*</u> *the water*". Moreover, it is assumed that *do*/*don't* move to C in imperatives since the *pro*-subject occupies the spec-TP position: [$_{CP}$ Don't [$_{TP}$ ~~you~~ *pro* [$_{VP}$ drink the water]]] (Han 2001: 303).

[6] Postverbal negation adjacent to the finite verb in Norwegian imperatives is dispreferred by younger generations (Garbacz & Johannessen 2014).

[7] According to Bardel & Sánchez (2017), these cognitive similarities disappear if the L2 proficiency level is very high and the language is largely learned through input without developing metalinguistic knowledge. Given the amount of extramural English input Norwegian students are exposed to, it has been argued that English no longer counts as a foreign language (Rindal 2019), meaning that English and German are acquired differently in the Norwegian school context.

[8] Some studies present evidence of the opposite: privileged L1 transfer (e.g. Hermas 2014).

[9] In contrast to English, French lexical verbs move to T, resulting in a surface V2 word order in subject-initial declaratives (Pollock 1989).

students with L1 Norwegian and L2 English. Judgment data from learners in their first, second, fourth and fifth year of German acquisition showed that beginners did not have any clear preference for either V2 or V3, rejecting the notion of a default L2 status. Increased years of instruction corresponded with more target-like verb placement. Since development towards target-like word order occurred earlier with mid-sentential adverbials, Dahl et al. (2022) argue that syntactic structures transfer stepwise ("property-by-property") as opposed to "wholesale".[10]

Largely compatible with these findings, the *linguistic proximity model* (LPM) (Westergaard et al. 2017) and the *scalpel model* (SM) (Slabakova 2017) predict that both previously acquired languages are available throughout L3 acquisition, whereby transfer takes place in small steps based on structural similarity detected through input.[11] Non-facilitative transfer may occur when the learner has not received sufficient input, or the input is misanalysed (e.g. due to complexity or ambiguity) and wrongfully perceived as similar to previously learned languages. Additionally, Busterud et al. (2023) suggest that non-facilitative transfer of verb placement is influenced by movement differences between the languages involved. If one of the previously acquired languages displays (lexical) verb movement, but the other not (e.g. L2 English), learners may be more conservative in performing movement operations in an L3 until sufficient evidence of verb movement has been established through input.

That languages are learned incrementally, is further supported by evidence indicating that transfer and the acquisition of verb placement vary depending on adverbial placement, adverbial complexity and verb type (Bohnacker & Westergaard 2024). Firstly, in addition to Dahl et al.'s (2022) finding of V2 being easier to learn in subject-initial declaratives L3 German, V2 seems more difficult to unlearn in subject-initial declaratives when acquiring English after a V2-language (Westergaard 2003). Secondly, studies on Norwegian as a heritage language show that ungrammatical V3 more often occurs after longer and less frequent adverbials, whereas V2 is more stable after short and frequent adverbials (Bohnacker & Westergaard 2024). Thirdly, V2 seems easier to learn, but more difficult to unlearn with auxiliaries than lexical verbs. Westergaard (2003) found that Norwegian learners of L2 English transferred more (ungrammatical) V2 in clauses with auxiliaries than with lexical verbs. Moreover, studies on the L2/L3 acquisition of negation placement in V2 languages show that postverbal negation occurs earlier with auxiliaries than lexical verbs (Bardel & Falk 2007; Meisel 1997). Thus, instead of being one big rule, Bohnacker & Westergaard (2024: 364) argue that the V2 word order consists of many small rules for different linguistic contexts.

[10] The *typological primacy model* predicts that, depending on overall (psycho-)typological similarity, either the L1 or the L2 grammar transfers completely ('wholesale' transfer) at the early stages of acquisition (Rothman 2015). Given the model's emphasis on lexical similarity as a trigger, a complete transfer of L1 Norwegian would be expected in German L3A with L1 Norwegian and L2 English, resulting in an instant acquisition of the V2 word order.

[11] This was earlier suggested in the *cumulative enhancement model*, which contrastingly predicts transfer to be only facilitative (Flynn et al. 2004).

Besides the reported differences between auxiliaries and lexical verbs, the above-mentioned finding of an accelerated V2 acquisition in subject-initial declaratives is of importance regarding German negation placement since postverbal negation requires V2. Accordingly, post-verbal negation should be learned relatively quickly, which is also what previous studies have found (Meisel 1997; Bardel & Falk 2007). However, the separation of the negation from the finite verb due to object scrambling seems more difficult to acquire for both L1 and L2 learners of German (Clahsen 1988; Wojtecka et al. 2011). Whereas children normally have acquired scrambling productively around the age of three, they have comprehension issues related to non-verb-adjacent negation for a prolonged period (Wojtecka et al. 2011: 232–239). According to Clahsen (1988: 23–24), non-verb-adjacent negation also emerges late in L2 German acquisition. Given the complexity of German negation placement, it is possible that learners avoid scrambling until they have received enough evidence of when to apply this movement operation. Otherwise, they would risk having to later unlearn it in certain contexts (Westergaard 2021a).

Finally, it has been hypothesized that non-facilitative transfer occurs more often in language production than in comprehension since the communication situation often forces learners to produce utterances beyond their proficiency level. They therefore resort to structures from previously learned languages (Westergaard 2021a). In a review of 71 transfer studies, Puig-Mayenco et al. (2020) found a correlation between production experiments and finding L2 transfer or influence from both previous languages. However, the results presented by Stadt et al. (2018, 2020a, 2020b) suggest that this changes with increased proficiency: Whereas L3 learners in their first year of instruction tended to make more errors in guided production (gap-filling) than in comprehension (grammaticality judgments), learners in their second or third years performed more target-like in the guided production task than in the judgment task.

4 Research design

As depicted in the above review, there is evidence that syntactic structures are acquired stepwise since they appear earlier in certain contexts than other. The present study seeks to examine the extent to which intermediate learners of L3 German with L1 Norwegian and L2 English have acquired German verb and negation placement in varying linguistic contexts. Moreover, there is uncertainty as to whether language production tests trigger more non-facilitative transfer than comprehension tests such as judgment tasks. Based on this, the following research questions are proposed:

1. To what extent have the students acquired German verb and negation placement?
2. To what extent does transfer affect the acquisition of verb and negation placement?
3. To what extent does adverbial placement and complexity, and verb type exert influence on the acquisition of German verb placement?
4. To what extent do (guided) production and judgment tasks yield different results?

It is predicted that:

a) the participants will perform more target-like on the V2 word order than negation with object scrambling. Whereas the former is shared by Norwegian and German, non-verb-adjacent negation is not available in Norwegian and English, and previous studies report difficulties related to the acquisition of non-verb-adjacent negation. Preverbal negation in declaratives is not expected since the participants are intermediate learners of German.
b) finite verb placement will be more target-like in subject-initial declaratives, in clauses with short and frequent adverbials, and with auxiliaries as opposed to finite lexical verbs.
c) in line with Stadt et al. (2020a), the participants will perform better in guided production than judgments.

It should be emphasized that the study does not aim to test the transfer models described above since this would require control groups (mirror-image or subtractive language groups) that are very difficult – if not impossible – to find (Westergaard 2021b: 508), but the results will nevertheless be discussed in light of the models. Whereas a mirror-image group would involve L1 English, L2 Norwegian, L3 German, subtractive language groups would require L1 Norwegian, L2 German and L1 English, L2 German. It is very difficult to recruit intermediate-level learners of German with such language backgrounds, who have received language instruction comparable to the participants in the present study.[12] Given the omnipresence of English in Norway, it is virtually impossible to recruit Norwegian students with L2 German.[13] Due to the difficulties involved in recruiting control groups, single group designs are common (cf. Puig-Mayenco et al. 2020: 49; Westergaard et al. 2023: 227–228). Despite its limitations, "this methodology can potentially point to important insights and directions for further research" (Westergaard et al. 2023: 227). Puig-Mayenco et al. (2020: 49) express that they "understand it is not always practical to find mirror-image groups. […] if this were a requirement, it would severely reduce the language pairing we would be able to study for obvious practical reasons."

4.1 Participants

To answer the research questions, 64 L1 Norwegian school students, age 16–18, were recruited to perform three tasks (cf. section 4.2) and fill out a language background questionnaire.[14] The

[12] Attempts were made to recruit school students abroad with L1 English, L2 German, but this proved unsuccessful due to the students either being complete beginners or having learned another foreign language prior to German (e.g. L1 English, L2 Spanish/French, L3 German).

[13] Bohnacker (2006) managed to recruit three L1 Swedish learners of L2 German, but these were old-age retirees. It might be possible to recruit similar participants in Norway, but such a group would have been small, and not directly comparable to the school students in the present study.

[14] 111 students performed the tasks, but 24 participants who did not complete all the tasks or had not filled out the language background questionnaire were excluded. Additionally, 23 participants were excluded for reporting

participants had just begun their fifth year of learning German and completed eleven years of compulsory English classes. An additional English acceptability judgment task was given to ensure that the students had acquired the structures under study in their L2. Furthermore, 23 L1 German school students, age 16–18, were recruited to validate the three German tasks.[15] The students were informed that participation was anonymous and voluntary. A written consent was collected from them. The study was reviewed and approved by the Norwegian Agency for Shared Services in Education and Research (Sikt).

4.2 Experiments

All data was collected digitally using Nettskjema (2024), which maintains a high level of privacy and security. The data collection was completed during school hours in the participants' classrooms. The tasks were untimed, but the students were instructed to answer the tasks spontaneously and to submit without checking their answers. The participants first performed the guided production (element rearrangement and negation fill-in), then the comprehension tasks (acceptability judgments, see Appendix). In the following, the design of the tasks is described in more detail.

4.2.1 Acceptability judgment task (AJT)

The two AJTs (one German and one English) consisted of 24 items: twelve grammatical sentences with twelve ungrammatical equivalents. The 16 items covering verb placement contained the same constituents (subject, verb, object, adverbial), but varied in terms of finite verb type (auxiliary, lexical verb), adverbial placement (topic, mid-sentence), and adverbial complexity (short/frequent, long/less frequent).[16] The eight sentences addressing negation could be divided into four categories (see Section 2): a) non-verb-adjacent negation with a lexical verb, b) non-verb-adjacent negation with an auxiliary, c) verb-adjacent negation with a lexical verb (object modified by an attributive subordinate clause), and d) verb-adjacent negation with an auxiliary.[17]

low grades in L3 German, for having additional home/heritage languages or learning an L4. In line with Dahl et al. (2022: 197–198), participants reporting rudimentary knowledge of additional languages (e.g. a few words, phrases, or sentences) were included in the study.

[15] 26 students performed the tasks, but three were excluded for having a different L1 than German.

[16] In topicalizations, subordinate clauses constituted the long/less frequent adverbials, whereas *gestern, morgen, heute* and *plötzlich* occured as short/frequent adverbials. In subject-initial sentences, the polysyllabic adverbials *möglicherweise, normalerweise, regelmäßig* and *hoffentlich* constituted the long/less frequent adverbials. Duden online (2025) classifies these adverbials into frequency class 3 out of 5, meaning that they have a frequency above 10 in a million in the Duden corpus. Contrastingly, the short, monosyllabic, mid-sentential adverbials belong to frequency classes 4 (*gern, oft*, above 100 in a million) or 5 (*dann*, above 1000 in a million). Duden online (2025) does not specify the frequency of the final mid-sentential adverbial, *jetzt*, but DWDS (2025) classifies it as very frequent.

[17] Since attributive subordinate clauses appear adjacent to their correlate (they may normally only be separated by an infinite verb part / verb particle), the unmarked negation placement in the superordinate clause is verb-adjacent

The participants were presented with one sentence at a time, and asked to decide whether they found the sentence to be "correct" or "wrong".[18] To ensure that the participants were judging the targeted structure, they were asked to correct sentences judged as "wrong" (Mackey & Gass 2015). This was generated automatically in Nettskjema at the end of the task. Since the students were performing three tasks and filling out a questionnaire, it was decided not to include filler sentences in the AJT. This may have increased the risk of the participants figuring out the target structures, but to extensive testing "can become tiresome and judgments may become unreliable" (Mackey & Gass 2015: 60).

4.2.2 Element rearrangement task (ERT)

The ERT involved sentence manipulation (Hawkins 2001: 23) and was designed to fit the story of a comic ("Vater und Sohn"), making the task semantically easier to understand. It consisted of eight sentences with constituents in random positions apart from the element to be fronted, which was marked in bold to elicit sentences with topicalizations in half of the sentences. In the other half, the subject was fronted, but violating the V2 word order was still possible due to adverbials (in one instance a negation) being part of the constituents. The task was not designed to systematically test different verb types (e.g. auxiliaries vs. lexical verbs). One of the topicalized sentences contained a long multi-word adverbial, to see if this triggered more V2 violations. The participants had to rearrange the constituents into their preferred order.

4.2.3 Negation fill-in task (NFT)

In the NFT, the participants were presented with eight sentences, which were to be negated. It resembled a gap-filling task, but without the gaps to examine the participants' preferred position without giving them any options that potentially could lead them in a specific direction. The sentences were designed using the same criteria as in the AJT with one exception: One of the sentences with potentially different negation in all languages was replaced by an imperative clause to test whether the participants to a larger degree would prefer preverbal negation in this sentence type (see Section 2).

4.3 Scoring and analysis

The data was initially scored in Microsoft Excel, where sentences with correct verb (V2) or unmarked negation placement (postverbal, object scrambling) were given one point. Non-target verb or negation placement received zero points. Other errors (morphology, orthography etc.) did

(Pittner & Berman 2010: 90–91): *Ich habe nicht das Gefühl, dass er mich wirklich liebt* ("I have not the feeling, that he me really loves").

[18] The dichotomous choice made the results easier to compare with the other tasks (binary scoring).

not impact the score. Scoring of the AJT followed the procedures of Falk & Bardel (2011), where the rejection of a non-target structure only received a point after its successful correction. If a participant rejected a sentence with non-target verb or negation placement, but made an incorrect correction (e.g. morphology, orthography) or no correction at all, zero points were given. If a grammatical sentence was corrected, but no changes were made to the verb or negation placement in the correction, it received a point despite having non-target verb conjugation, case markings or the like. In addition to the author, the entire dataset was scored by another researcher, resulting in an inter-rater reliability percentage of 99.46% (100% after comparison and discussion).

The scoring process described above provides insight into the participants' ability to produce/accept target-like structures, yet it does not necessarily account for whether the non-target productions or judgments can be explained as transfer from the participants' other languages or not. If an item addressing verb placement is given zero points, this does not automatically mean that V3 has been produced since non-target SXV-overgeneralizations, V4, missing constituents and insufficient corrections (e.g. "I don't know") also occur in the material. To examine to what extent non-target verb and negation placement coincided with potential transfer, the data was also analysed descriptively by coding the responses into different verb/negation-placement categories (e.g. V2, V3, SXV, preverbal/postverbal negation). After the initial scoring and coding, the data was further analysed with IBM SPSS Statistics.

5 Results

This section first depicts the total scores for both verb and negation placement combined. Then, descriptive analyses of verb placement and negation placement are presented individually. Figure 2 summarizes the main findings, which are presented in detail below.

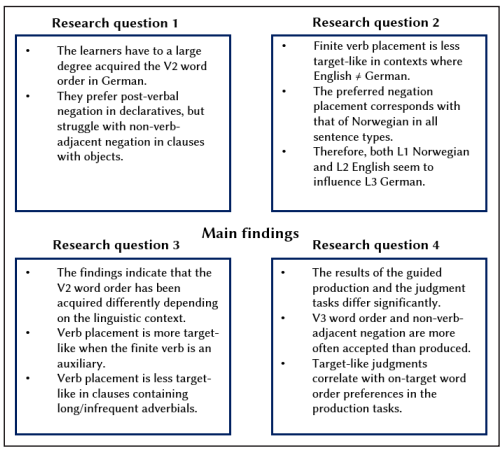

Figure 2: main findings

5.1 Total scores

The average total scores for the L3 German learners and the L1 German natives can be observed in Table 1. While the L3 German group scored 26.58 points on average, the standard deviation suggests there to be substantial differences in the individual scores of the participants. In the L1 German group, the standard deviation is much smaller and the average score at ceiling, indicating that the tasks provide a valid measurement of verb and negation placement proficiency. A t-test shows that the difference between the groups is significant ($p < .001$, d = 2.811).[19]

Table 1: Total scores – L3 group vs. L1 group

Group	N	Mean	Standard deviation
L3 German	64	26.58/40 (66.5%)	4.902
L1 German	23	38.57/40 (96.5%)	1.199

Furthermore, the mean difference between the L3 German and the L2 English AJTs (Table 2) is significant ($p < .001$, d = 2.416). The scores in the English AJT are near ceiling, suggesting that the students to a large degree have acquired English verb and negation placement, making these properties available for potential transfer.[20]

Table 2: Total AJT scores L3 vs. L2

Group	N	Mean	Standard deviation
L3 German	64	15.05/24 (62.7%)	3.583
L2 English	64	22.03/24 (91.8%)	1.968

Both means and standard deviations indicate that the participants are more insecure in the German AJT compared to the English one. Table 3 illustrates that the participants are generally more insecure when judging ungrammatical sentences, but they rarely reject correct verb placement. When judging negation placement, they struggle both with grammatical/unmarked and ungrammatical/marked sentences, suggesting that negation is more difficult for them. The score differences are significant (χ^2 (3) = 448.968, p <.001) with a large effect size (V = .541).[21]

[19] Interpretation of effect sizes (Cohen's d): 0.2 = small, 0.5 = medium, 0.8 = large (Geher & Hall 2014: 206).

[20] Some participants occasionally reject grammatical sentences with topicalizations (30/256) (e.g. *Later, she studied classical music*) and replace them with subject-initial sentences (*She studied classical music later*). Since these participants always accept grammatical V3 in clauses with mid-sentential adverbials and mostly reject ungrammatical V2, these instances are understood as a dispreference for topicalizations rather than a rejection of the finite verb placement. If these instances were counted as a rejection of the verb placement, the mean score would drop to 21.6/24 (90%).

[21] See Kim (2017) for the interpretation of Cramer's V effect sizes relative to the degree of freedom.

Table 3: On-target judgment frequencies relative to item type and structure in the L3 German AJT

	Verb placement		Negation placement	
Item type	Grammatical	Ungrammatical	Grammatical	Ungrammatical
On-target frequency	95.7% (490/512)	43.8% (224/512)	68.8% (176/256)	28.5% (73/256)

*All groups differ significantly from each other.

5.2 Verb placement

As mentioned in Section 4.3, the total scores do not account for the extent to which non-target productions or judgments can be related to previously learned languages. The following paragraphs will therefore contain a descriptive overview of the participants' preferences.

Table 4 shows that the participants have to a large degree acquired V2 in German, yet 26.9% of the results are non-target. Whereas ungrammatical V3 constitutes most of the students' off-target judgments/productions, they also produce non-target SXV to a small extent – a possible overgeneralization of the word order in German subordinate clauses.

Table 4: Finite verb placement in the ERT and the AJT

Finite verb placement	Frequency	Examples
V2 (target word order)	73.1% (1123/1536)	a) Ich bestelle oft einen griechischen Salat. *I order often a Greek salad.*
V3	20.2% (310/1536)	b) *ich oft bestelle einen griechischen Salat. *I often order a Greek salad.*
SXV	3.4% (52/1536)	c) *Ich oft einen Salat griechischen bestelle. *I often a Greek salad order.*
Other[22]	3.3% (51/1536)	d) * Ich oft einen Salat bestelle griechischen. *I often a salad order Greek.*

5.2.1 Verb placement production (ERT) vs. comprehension (AJT)

To compare non-facilitative transfer in production and comprehension, Figure 3 depicts the ungrammatical V3 scores from the ERT and the AJT individually.[23]

[22] The category "other" refers to a) missing AJT-corrections or the answer "I don't know" (29/51); b) odd verb placement such as V4 (14/51); c) inseparability between V3 and SXV-overgeneralizations (5/51): *Der Sohn dort liegt und liest (*The son there lies and reads*); d) inseparability between V2 and V3 (2/51): ?Darum der Sohn soll der Sohn den Vater suchen (*Therefore, the son shall the son the father seek/look for*); and e) missing verb (1/51).

[23] One ERT sentence ("Der Sohn liegt dort und liest") is not included in the analysis because it cannot be determined whether non-target productions have V3 or SXV word order: "*Der Sohn dort liegt und liest".

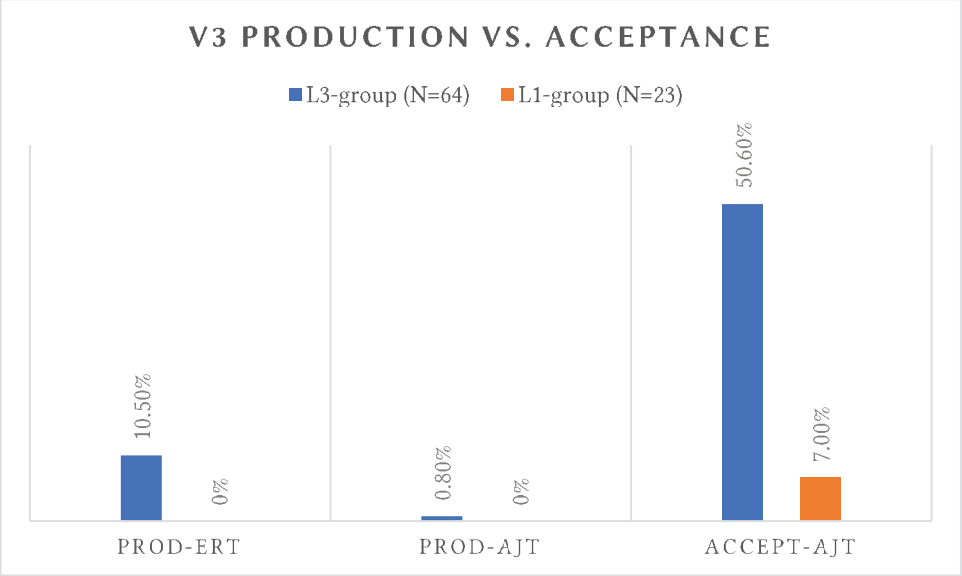

Figure 3: V3 production vs. acceptance

Since the AJT involves correction, the task has an element of production to it. The AJT scores have therefore been divided into two categories: acceptance of V3 (ACCEPT-AJT) and production of V3 (PROD-AJT), the latter meaning that the participant has rejected on-target V2 and produced V3 in the correction attempt. This rarely occurs: Out of the 512 judgments, V2 was rejected and changed to V3 only four times. In comparison, the acceptance of V3 sentences in the AJT is substantially higher (50.6%, 259/512). This also stands in contrast to the average V3 production in the ERT (10.5%, 47/448). The differences are significant (χ^2 (2) = 425.238, p < .001, V = .537).[24] Moreover, there is a weak positive correlation (r = .186, p < .001) between V2 production in the ERT and the ability to reject and correct ungrammatical V3 in the AJT.[25] To summarize, the V3 word order is more likely to be accepted than to be produced. This pattern also occurs in the L1 group as they produce no V3 sentences but, to a small extent, accept them (7%, 13/184), indicating yes-bias in the AJT.[26]

5.2.2 Verb placement in the acceptability judgment task

The AJT items testing verb placement included either topicalized or mid-sentential adverbials. A comparison of these two sentence types (Table 5) did not reveal any differences.[27]

[24] Post-hoc test: All groups differ significantly from each other.
[25] Interpretation of Pearson's r: 0.0–0.3 = weak, 0.3–0.7 = moderate, 0.7–1.0 = strong (Geher & Hall 2014: 70).
[26] In the L3-group, the average acceptance rate in the AJT is at 15.3/24 (with 12 being a perfect discrimination between grammatical and ungrammatical sentences), which suggests a small yes-bias.
[27] Moreover, leaving out heavy adverbials and auxiliaries (potential confounding variables), did not yield any significant differences.

Table 5: Verb placement in the L3 German AJT

	Adverbial placement		**Adverbial type**		**Finite verb type**	
	Topic	Mid-sentence	Long adverbial	Short adverbial	Lexical	Auxiliary
V2	69.5%[a] (356/512)	69.9%[a] (358/512)	65%[a] (333/512)	74.4%[b] (381/512)	66.5%[a] (340/512)	73%[b] (374/512)
V3	26%[a] (133/512)	25.4%[a] (130/512)	30.3%[a] (155/512)	21.1%[b] (108/512)	27.5%[a] (141/512)	23.8%[a] (122/512)
SXV	1.8%[a] (9/512)	1.8%[a] (9/512)	2.55%[a] (13/512)	1%[a] (5/512)	3.3%[a] (17/512)	0.2%[b] (1/512)
Other	2.7%[a] (14/512)	1.9%[a] (15/512)	2.15%[a] (11/512)	3.5%[a] (18/512)	2.7%[a] (14/512)	3%[a] (15/512)

*Different letters (e.g. [a] - [b]) denote significant differences.

The complexity of the adverbials, however, influences verb placement scores as heavy adverbials (topicalized subordinate clauses, (9), polysyllabic mid-sentential adverbials, (10) correspond with a higher average V3 acceptance than short/frequent adverbials (topicalized single words, (11–12), monosyllabic mid-sentential adverbials, (13–14). The difference is significant (χ^2 (3) = 16.871, $p < .001$, V = .128).

(9) *Weil sie Journalistin ist, sie schreibt viele Artikel.
Since she journalist is, she writes many articles.

(10) *Ich normalerweise trinke ein großes Bier.
I normally drink a large beer.

(11) *Heute er präsentiert sein neues Buch.
Today he presents his new book.

(12) *Gestern er hat seinen Großvater besucht.
Yesterday he has his grandfather visited.

(13) *Ich oft bestelle einen griechischen Salat.
I often order a Greek salad.

(14) *Du dann musst ein neues Leben beginnen.
You then must a new life begin.

Another difference was found between lexical verbs (11), (13) and auxiliaries (12), (14): χ^2 (3) = 17.248, p < .001, V = .130. The students perform more target-like (more V2) when the finite verb is an auxiliary. With lexical verbs, ungrammatical V3 is more often accepted, and when rejected, more often replaced with ungrammatical SXV-overgeneralisations compared to auxiliaries. Moreover, the long/less frequent adverbials (9,) (10) emerge as a potential confounding variable: When comparing ungrammatical sentences with long/less frequent adverbials, the acceptance of V3 is equally high regardless of verb type (Table 6).

Table 6: V3 acceptance relative to adverbial type in the AJT

	Long/infrequent adverbials		**Short/frequent adverbials**	
Verb type	Lexical verb	Auxiliary verb	Lexical verb	Auxiliary verb
V3	60.2%[a] (77/128)	60.2%[a] (77/128)	47.7%[a] (61/128)	34.4%[b] (44/128)

*Different letters (e.g. [a] - [b]) denote significant differences.

Contrastingly, if only the ungrammatical sentences with short/frequent adverbials are considered, the students more often accept ungrammatical V3 with lexical verbs than with auxiliaries (χ^2 (1) = 4.666, p = .031, V = .135). In the L2 English AJT, a similar pattern can be observed. The participants are better at rejecting and correcting ungrammatical sentences with lexical verbs.[28] In other words, the participants average V3 scores are higher in sentences with lexical verbs in both the English and the German AJT.[29] Hence, lexical verbs correspond with more target-like performance in L2 English, but more errors in L3 German.

5.2.3 Verb placement in the element rearrangement task

In contrast to the AJT, verb placement differences in relation to adverbial placement were found in the ERT: χ^2 (3) = 8.231, p = .041, V = .146.[30] The post-hoc tests show that the students produce more ungrammatical V3 in declaratives with topicalized adverbials (Table 7), but this does not mean that their productions are more target-like in clauses with mid-sentential adverbials. Instead, they make other mistakes such as SXV-overgeneralizations or placing the infinite verb in the second position (**Darum suchen der Sohn soll den Vater / 'therefore, seek the son shall the father'*).

[28] χ^2 (1) = 12.034, p < .001, V = .153.

[29] In clauses with mid-sentential adverbials and auxiliaries, V2 word order is grammatical in English. When analysing clauses with topicalized adverbials only, the (target-like) V3 scores are significantly higher with lexical verbs than auxiliaries (92.2% vs. 75.8%): χ^2 (1) = 12,807 p < .001, V = .224.

[30] ERT sentences h) and c) (see Appendix) were omitted from the analysis since h) contains a heavy adverbial and c) does not distinguish between V3 and SXV.

Table 7: Verb placement preferences in the ERT

	Adverbial placement		Adverbial type		Finite verb type	
	Topic	Mid-sentence	Heavy adverbial	Light adverbial	Lexical	Auxiliary
V2	78.6%[a] (151/192)	80.2%[a] (154/192)	70.3%[a] (45/64)	76.6%[a] (98/128)	78.9%[a] (202/256)	80.5%[a] (103/128)
V3	11.5%[a] (22/192)	4.7%[b] (9/192)	25%[a] (16/64)	12.5%[b] (16/128)	7.8%[a] (20/256)	8.6%[a] (11/128)
SXV	7.3%[a] (14/192)	9.4%[a] (18/192)	3.1%[a] (2/64)	10.9%[a] (14/128)	12.1%[a] (31/256)	0.8%[b] (1/128)
Other	2.6%[a] (5/192)	5.7%[a] (11/192)	1.6%[a] (1/64)	0%[a] (0/128)	1.2%[a] (3/256)	10.2%[b] (13/128)

*Different letters (e.g. [a] - [b]) denote significant differences.

Similar to the AJT, there are differences associated with the adverbial type as the ERT sentence with a long adverbial involves more V3 (χ^2 (3) = 9.349, p = .025, V = .221).[31] Still, the sentences with short adverbials are not more grammatical due to a higher SXV-overgeneralization frequency. Finally, differences regarding verb type were found (χ^2 (3) = 29.763, p< .001, V = .278).[32] The post-hoc tests revealed that these differences are not associated with V2 or V3: Whereas the students produce more SXV-overgeneralizations in declaratives with lexical verbs, they more often mix up finite and infinite verb forms in sentences with auxiliaries. To summarize, no differences in target-like V2 production related to adverbial placement, adverbial type or verb type were found, but these conditions yielded significantly different ungrammatical outcomes.

5.3 Negation placement

As described in Section 2, verb and negation placement are related to one another: Postverbal negation requires verb movement. Table 8 shows that the students predominantly choose postverbal negation, suggesting that such movement on average is in place.

5.3.1 Unmarked negation placement in declaratives

German differs from Norwegian and English in that unmarked German negation is not adjacent to the finite verb in sentences with objects (examples c and d in Table 9). Most participants have seemingly not acquired this feature as negation placement accuracy differs relative to whether

[31] As the ERT contains just one sentence with a heavy adverbial (sentence h), only sentences with topicalizations and lexical verbs were compared to keep things equal.

[32] ERT sentences h) and c) were not included for the same reasons mentioned above.

the unmarked negation placement is verb-adjacent or not (χ^2 (3) = 343.100, p < .001, V = .598). Post-hoc tests exhibit that their negation placement accuracy is higher when the unmarked position is directly after the finite verb (examples a and b in Table 9).[34]

Table 8: Negation placement frequencies (regardless of whether on- or off-target)

Negation placement	Frequency	Examples
Postverbal (adjacent to the finite verb)	77.6% (795/1024)	a) Wir können <u>nicht</u> sicher sein. *We can not be sure.*
Postverbal + raised obj. (not adjacent to the finite verb)	11.7% (120/1024)	b) Er wäscht seine Hände <u>nicht</u>. *He washes his hands not.*
Preverbal (adjacent to the finite verb)	3.6% (37/1024)	c) *Er nicht wäscht seine Hände. *He not washes his hands.*
Other[33]	7.1% (72/1024)	d) *Wir können sicher <u>nicht</u> sein. *We can sure not be.*

Table 9: Negation placement accuracy in the NFT and the AJT (on-target scores)

Unmarked negation placement	Accuracy	Examples
Verb-adjacent (lexical finite verb)	82.8% (212/256)	a) Er tanzt nicht. *He dances not.*
Verb-adjacent (auxiliary)	82% (210/256)	b) Sie kann <u>nicht</u> schwimmen. *She can not swim.*
Non-verb-adjacent (lexical finite verb)	17.2% (33/192)[35]	c) Ich verstehe die Aufgabe <u>nicht</u>. *I understand the task not.*
Non-verb-adjacent (auxiliary)	27.7% (71/256)	d) Ich habe das Buch <u>nicht</u> gelesen. *I have the book not read.*

[33] This category refers to a) ungrammatical scrambling of predicative adjectives (35/71, cf. example d) in table 8); b) missing AJT-corrections/"I don't know" (20/72); c) inseparability between verb-adjacent preverbal negation and SXV-overgeneralization (4/72): *er nicht tanzt (*he not dances*); d) overgeneralization of sentence-final negation (4/72): *Ich habe das Buch gelesen nicht (*I have the book read not*); e) SXV-overgeneralization (3/72): *Ich nicht dumm bin (*I not stupid am*); f) missing negation (3/72); g) negation in odd positions (2/72): *Ich habe das nicht Gefühl, dass er mich wirklich liebt (*I have the not feeling, that he really loves me*) and h) transforming the sentence into an infinitive phrase (1/72): Nicht das Wasser trinken (*Not the water drink*).

[34] In the L1 group, 8/23 participants unexpectedly produce non-verb-adjacent negation in an NFT-sentence with a relative clause, splitting this clause from its correlate: "Ich habe die Antwort <u>nicht</u>, die du willst" (*I have the answer not, that you want*). It has been suggested that the negation could belong to the constituents that may appear between attributive clauses and the correlate (Helbig & Buscha 2000: 232), but this is considered controversial (Pittner & Berman 2010: 91). Nevertheless, this shows that the L1 group have a stronger preference for object scrambling than the L3 learners, who all produce verb-adjacent negation in the same sentence.

[35] The imperative sentence is not included as it has optional scrambling.

5.3.2 Negation with scrambling in production (NFT) vs. comprehension (AJT)

There are differences between the NFT and the AJT with regards to non-verb-adjacent negation. Figure 4 shows that the L3 learners tend not to produce such negation in the NFT (PROD-NFT). To reject marked verb-adjacent negation in favour of unmarked non-verb-adjacent negation occurs even less often (PROD-AJT), but the L3 group is more willing to accept negation with object scrambling.[36] The L1 group, in comparison, consistently produce/accept non-verb-adjacent negation, but they do not always reject marked verb-adjacent negation (PROD-AJT). Again, these findings indicate a yes-bias in the AJT. However, the L3 group to a large degree also reject unmarked non-verb-adjacent negation and replace it with verb-adjacent negation 47.6% (61/128). Moreover, preferring non-verb-adjacent negation in the AJT correlates positively with the production of such negation in the ERT (r = .601, p < .001).

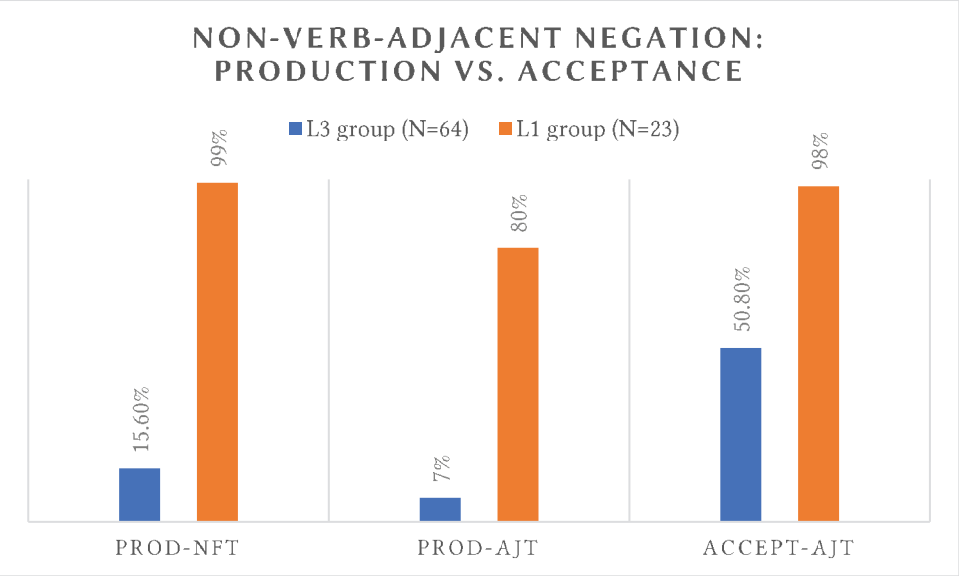

Figure 4: Frequencies of negation placement with object scrambling.[37]

5.3.3 Preverbal negation and imperatives

The students seldom produce preverbal negation. Besides 23 students accepting a sentence with preverbal negation in the AJT, only once is postverbal negation rejected in favour of preverbal negation. Among the declaratives in the NFT, preverbal negation is suggested twice. This is different in the imperative sentence in the NFT.

[36] χ^2 (2) = 79.580, p < .001, V = .421. Post-hoc test: Only the difference between ACCEPT-AJT and the other categories is significant.

[37] The imperative is not included as object-raising is optional in this clause type.

Table 10: Negation placement in the NFT

	L3 Group		**L1 Group**	
	Declarative	Imperative	Declarative	Imperative
Postverbal (Non-verb-adjacent)	6.2%[a] (4/64)	25%[b] (16/64)	100%[c] (23/23)	52.2%[b] (12/23)
Post verbal (verb-adjacent)	93.8%[a] (60/64)	56.3%[b] (36/64)	0%[c] (0/23)	47.8%[b] (11/23)
Preverbal (verb-adjacent)	0%[a] (0/64)	17.2%[b] (11/64)	0%[a] (0/23)	0%[a] (/23)
Other[38]	0%[a] (0/64)	1.5%[a] (1/64)	0%[a] (0/23)	0%[a] (0/23)

*Different letters denote significant differences.

Table 10 compares the L3 and L1 groups' placement preferences in two NFT-sentences, which are similar in that they both feature a single lexical verb and an object. They differ in that one of them is an imperative (17), the other a declarative (18). The comparison revealed negation placement and group differences (χ^2 (9) = 97, p < .001, V = .432).

(15) a. Trink das Wasser nicht.
Drink the water not.
b. Trink nicht das Wasser
Drink not the water.
c. *Nicht trink das Wasser.
Not drink the water.

(16) a. Ich mag meine Stimme nicht. *(unmarked)*
I like my voice not.
b. Ich mag nicht meine Stimme. *(marked)*
I like not my voice.
c. *Ich nicht mag meine Stimme.
I not like my voice.

Whereas the L3 learners produce no preverbal negation in the declarative (18c), eleven students suggest preverbal negation in the imperative (17c) – a negation placement that happens to be the unmarked position in Norwegian imperatives.

[38] The utterance was converted into an infinitive phrase ("*Nicht das Wasser trinken*").

6 Discussion

The present study sought to examine the following research questions:

1. To what extent have the students acquired German verb and negation placement?
2. To what extent does transfer affect the acquisition of verb and negation placement?
3. To what extent does adverbial placement and complexity, and verb type exert influence on the acquisition of German verb placement?
4. To what extent do (guided) production and judgment tasks yield different results?

The results show that the participants on average have acquired the V2 word order, but also produce and (to a larger degree) accept non-target V3 word order. The extent to which the participants allow or produce V3 varies under different syntactic conditions (further details below). Regarding negation, the learners have a strong preference for verb-adjacent post-verbal negation, indicating that the German non-verb-adjacent negation in declaratives with objects is difficult to acquire. There are many possible reasons for this. Firstly, the German input is complex as learners encounter both verb-adjacent and non-verb-adjacent postverbal negation, which may cause misanalyses of the input, leading to a transfer of verb-adjacent negation. Secondly, neither Norwegian nor English have scrambling in negated declaratives. To avoid potential unlearning, the learners may hesitate to perform this movement until they, through input, have established when to scramble in German (Westergaard 2021a).

Preverbal negation is virtually non-existent in the students' productions, which was expected given that they were intermediate learners of German. Such negation placement predominantly occurred in an imperative clause. This is interpreted as transfer from L1 Norwegian as preverbal negation is the unmarked position in Norwegian declaratives (Garbacz & Johannessen 2014). One could argue that the preverbal negation in **Nicht trink das Wasser* was transferred from English *Don't drink the water* because the participants may have treated *don't* as a chunk equal to *nicht*. However, this is unlikely since they did not produce preverbal negation in other contexts where the negation appears in front of the lexical verb in English (e.g. **Ich nicht mag meine Stimme* vs. *I don't like my voice*). Instead, the participants' negation placement preferences in German above all match those of Norwegian in all sentence types, suggesting that their L1 Norwegian exerts influence on their L3 German – an influence that is facilitative in contexts where German has verb-adjacent negation, and non-facilitative when German has object scrambling.

While the acceptance of ungrammatical V3 indicates transfer from L2 English, L1 Norwegian seems to exert a strong influence on L3 German negation placement. This suggests that both previously learned languages are available for transfer and – as demonstrated by

the L1 Norwegian influence on negation placement – it can be both facilitative and non-facilitative. As such, the results are compatible with the LPM (Westergaard et al. 2017) and the SM (Slabakova 2017). In this regard, the lack of the control groups described in section 4 constitutes a limitation of the present study. Without control groups it is difficult to determine whether other factors than transfer, such as general learning effects, may have influenced the results. The above-mentioned models may therefore not be directly tested. Still, the results clearly indicate that transfer plays a role. For instance, the tests included both sentences where English has the same verb placement as German and Norwegian (auxiliaries), and sentences where English differs from German and Norwegian (lexical verbs). Since the students were more target-like at judging sentences, where all three languages have the same verb placement (auxiliaries), but struggled more with sentences in which English differs from German and Norwegian (lexical verbs), this is an indication of influence from English. Moreover, the participants' preferred negation placement corresponds with that of Norwegian in the different sentence types.

The compatibility of the findings with the LPM and the SM reaches beyond that of influence from both previously learned languages. These models hypothesize that the L3 grammar is built incrementally in a stepwise fashion. The findings of the present study indicate that the V2 word order has been acquired to a different extent depending on the adverbial complexity and verb type, supporting "analyses that treat V2 word order as the result of many smaller rules" (Bohnacker & Westergaard 2024: 364). Firstly, the participants' verb-placement preferences are more target-like in clauses with short/frequent adverbials. Similar to the results in studies on Norwegian as a heritage language (Bohnacker & Westergaard 2024), more V3 occurred after topicalizations with long/less frequent adverbials. A new finding in the present study is that this also occurs in subject-initial clauses with long/less frequent mid-sentential adverbials.

Secondly, the participants make more accurate judgments in the German AJT when the finite verb is an auxiliary as opposed to a lexical verb. Simultaneously, they more often accept non-target auxiliary V2 in the English AJT. Thus, a similar pattern emerges in both tests: V2 is more likely to be accepted if the finite verb is an auxiliary. Westergaard (2003), who found a similar pattern in the L2 English of young Norwegians, suggests that learners may be misled by the fact that English auxiliaries behave differently (short movement in declaratives, long movement in *wh*-questions), causing the misinterpretation that English auxiliaries have long movement also after topicalizations in declaratives (Westergaard 2003: 95). In the present study, this pattern may have been transferred from L2 English into the participants L3 German, which would explain why they perform equally well on clauses with auxiliaries regardless of whether they are subject-initial or have topicalized adverbials. The larger acceptance for V3 with lexical verbs supports Busterud et al.'s (2023) suggestion that L3 learners are more

conservative in performing movement operations if a previously learned language (English) does not allow such movement.

However, no clear differences related to adverbial placement were found. This diverges from the results of Dahl et al. (2022) but may be explained by the participants' different proficiency levels as Dahl et al. (2022) included both beginners and intermediate learners in their analysis, whereas this study only tested intermediate learners.

Finally, guided production and acceptability judgments yielded different results. In line with the results of Stadt et al. (2020a), there is less ungrammatical V3 in the production task (ERT) compared to the comprehension task (AJT). This seemingly goes against the notion that production triggers more non-facilitative transfer (Westergaard 2021a), but regarding negation placement, the L1 influence is stronger in the production task (NFT) than in the AJT. In both cases, the results do not correspond with Puig-Mayenco et al.'s (2020) finding of more L2 transfer in productions tasks. The higher acceptance rates in the AJT are most likely influenced by a certain yes-bias. Also, Stadt et al. (2020b: 253) relate the higher acceptance rates in their judgment tasks to possible test effects, suggesting that judgments are demanding since they require both reading skills, the ability to focus and morphosyntactic knowledge.[39] Their participants reported finding guided production easier. The tendency to accept both grammatical and ungrammatical sentences could be a sign of insecurity related to a generally low target-language proficiency: Whereas the average acceptance rate in the L3 German AJT (in the present study) is at 15.3/24 (with 12 being a perfect discrimination between grammatical and ungrammatical items), the acceptance rate in the L2 English AJT is 12.75/24, where they scored almost at ceiling. The availability of two previously learned languages with different verb placement patterns may add to the insecurity – maybe above all when learners are forced to decide whether a sentence is grammatical or not.

In the AJT, the participants reject both grammatical and ungrammatical negated clauses. Especially grammatical non-verb-adjacent negation is rejected and replaced by verb-adjacent negation. Contrastingly, they virtually always accept grammatical verb placement. Hence, they struggle more with negation than verb placement, which may be due to the complexity of negation placement and object scrambling not being available in either previously learned languages. The ability to produce scrambling in the NFT correlates positively with non-verb-adjacent negation accuracy in the AJT, and there is a similar correlation between V2 production in the ERT and ability to reject and correct ungrammatical verb placement in the AJT. The findings in the AJT therefore cannot only be described as the result of a test effect.

[39] Stadt et al. (2020b: 254) note that they did not randomize the items, which may have influenced the results. This is also the case for the present study. Moreover, an anonymous reviewer suggested randomizing the order of the tasks to ensure that not all participants would perform the production task before the comprehension task and vice versa. Future studies should take this into consideration.

7 Conclusion

The results of the present study suggest that the V2 word order has been largely acquired by intermediate L3 learners of German with L1 Norwegian and L2 English. Transfer of the V3 word order from English seems present, but to a low degree (in production), whereby target-likeness differs depending on adverbial complexity and verb type, indicating that the acquisition of V2 is a stepwise, context-dependent process. Furthermore, post-verbal negation in declaratives is in place, but the learners struggle with German non-verb-adjacent negation. Above all, they prefer verb-adjacent negation placement similar to Norwegian. Both previously learned languages seem therefore to exert influence on L3 German. Finally, guided production and judgement tasks yielded different results, which is likely a consequence of the participants being insecure when judging sentences, leading to a yes-bias. The results could perhaps have been clearer if the grammatical and ungrammatical sentences were presented pairwise, making the participants choose between them. Alternatively, future studies could employ a different comprehension task such as self-paced reading.

Appendix

Element rearrangement task (ERT)

- Bringen Sie die Wörter in die richtige Reihenfolge. Beginnen Sie mit dem **fett gedruckten Glied**.

a) [essen] **[Der Vater]** [nicht] [darf] [ohne den Sohn]
b) [der Vater] [ins Kinderzimmer] **[Deshalb]** [geht]
c) [liegt] **[Der Sohn]** [und] [dort] [liest]
d) **[Der Vater]** [den Sohn] [zuerst] [bittet] [, zum Essen zu kommen]
e) [schaut] [auf das Buch] **[Dann]** [der Vater]
f) [auf den Vater] [jetzt] **[Die Mutter und der Sohn]** [warten]
g) [suchen] [den Vater] [der Sohn] **[Darum]** [soll]
h) [der Sohn] **[Zurück in seinem Kinderzimmer]** [den Vater] [findet] [lesend auf dem Fußboden]

Quelle: https://de.wikipedia.org/wiki/Datei:Vater_und_Sohn_-_Der_Schmoeker.png

Negation fill-in task (NFT)

- Setzen Sie das Wort „**nicht**“ in den Satz hinein.

a) Ich mag seine Stimme.
b) Sie kann schwimmen.
c) Er tanzt.
d) Ich habe die Antwort, die du willst.*
e) Wir können dieses Thema diskutieren.
f) Sie hat den Film gesehen.
g) Trink das Wasser!
h) Ich bin dumm.

Verneinen Sie den unterstrichenen Satzteil mit „nicht“

Acceptability judgment task (AJT)

- Finden Sie den Satz grammatisch richtig oder falsch?

a) Ich baue jetzt meine eigene Garage.
b) Ich verstehe nicht die Aufgabe.
c) Gestern er hat seinen Großvater besucht.
d) Weil ich Allergiker bin, esse ich keine Nüsse
e) Wir können nicht sicher sein.
f) Du dann musst ein neues Leben beginnen.
g) Morgen wasche ich meinen roten Audi.
h) Ich habe das Buch nicht gelesen.
i) Wenn ich groß bin, ich möchte meine Freundin heiraten.
j) Wir können gern eine lange Pause machen.
k) Heute er präsentiert sein neues Buch.
l) Er kann Pilot nicht werden.
m) Weil sie Journalistin ist, sie schreibt viele Artikel.
n) Du hast möglicherweise die falsche Methode benutzt.
o) Sie hat nicht die Rechnung bezahlt.
p) Ich normalerweise trinke ein großes Bier.
q) Er wäscht seine Hände nicht.
r) Wir finden hoffentlich ein gutes Hotel.
s) Ich habe nicht das Gefühl, dass er mich wirklich liebt.
t) Sie regelmäßig hat ein dummes Computerspiel gespielt.
u) Plötzlich haben wir eine Stimme gehört.
v) Wir nicht haben den Eindruck, dass diese Lösung funktioniert.
w) Wenn du fertig bist, kannst du deinen Vater wecken.
x) Ich oft bestelle einen griechischen Salat.

L2 English test

Acceptability judgement task

- Do you think the following sentences are grammatically correct?

a) Later, she studied classical music.
b) He likes not his own father.
c) Because he is older, he should get the bigger bedroom.
d) Today, will we read an interesting book.
e) She does not understand the problem.
f) When he is angry, he says horrible things.
g) She still visits her old grandmother.
h) She lives not in Paris anymore.
i) She occasionally teaches academic writing.
j) I would then repeat the question.
k) He can find his mother not.
l) Yesterday, played he computer games.
m) We eventually will finish this conversation.
n) Later, you can watch the beautiful sunset.
o) She has not done her homework.
p) Because she is French, will she study literature.
q) He repaired then the washing machine.
r) That is not the man I saw.
s) We soon will discuss this issue.
t) I do not want to talk about it.
u) He drinks regularly fresh orange juice.
v) You not are the right person for this job.
w) When I am hungry, eat I a large sandwich.
x) She can finally write her own name.

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