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WORD ORDER AND VERB INFLECTION IN ENGLISH-SPEAKING CHILDREN'S L2 ACQUISITION OF GERMAN V2*

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L1 acquisition data indicate that children know very early the German position-form contingency for verbs: finite verbs in verb second (V2) position; nonfinite verbs in verb-final position (e.g., Poeppel and Wexler 1993). The present paper investigates whether child L2 learners pattern like child L1 learners, reporting on young English speakers' acquisition of (nonsubject-initial) V2 in German. Fourteen L1 English-speaking child L2 learners of German completed two elicited-production tasks, one targeting topicalized-DO (direct object) sentences, the other targeting topicalized-PP (prepositional phrase) sentences. The age at testing ranged from 8;11 to 14;0 (age at onset: 4;0–5;0). The results (i) contest Prévost's (1997a, b) extension of the Truncation Hypothesis (Rizzi 1993/1994) to child L2 acquisition, (ii) are more compatible with the Missing Inflection Hypothesis (Haznedar and Schwartz 1997), and (iii) suggest that (unlike in L1 acquisition but like in adult L2 acquisition) finiteness and V2 are not developmentally interdependent in child L2 acquisition.

1. INTRODUCTION. Studies of young children's acquisition of a nonnative language can be informative to the fields of both first language (L1) acquisition and adult second language (L2) acquisition. An issue guiding research on child L2 acquisition concerns the extent to which it patterns like L1 acquisition or like adult L2 acquisition. The present study compares child L2 acquisition and child L1 acquisition.

Crosslinguistic studies of L1 acquisition have shown that children acquiring a non-null subject language pass through a stage from roughly 2-4 years of age during which they alternate between the use of finite and nonfinite verbs in main clauses. This is referred to as the Optional Infinitive (OI) (Wexler 1994) or Root Infinitive (RI) stage (Rizzi 1993/94, 1994). The examples below in German from a two-year-old child illustrate this phenomenon:

Nonfinite verb in final position

(1) a. Thorsten Ball haben.
Thorsten ball have-INF

(Poeppel and Wexler 1993:16, (15))

Finite verb in second position

(1) b. Ich hab ein dossen Ball.
I have-1s a big ball

(Poeppel and Wexler 1993:5, (3a))

The RI stage is attested in various languages, such as Dutch (Haegeman 1994), French (Crisma 1992; Friedemann 1993/1994; Levow 1996; Pierce 1990, 1992), German (Behrens 1993; Boser, Lust, Santelmann, and Whitman 1992; Clahsen and Penke 1992; Kursawe 1994; Poeppel and Wexler 1993; Verrips and Weissenborn 1992; Whitman 1994), Hebrew (Rhee and

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Wexler 1996), and Swedish (Platzack 1990; Santelmann 1995).¹ In the present study, the focus is on German. It is evident from German L1 acquisition data, as in (1), that German children acquiring their native tongue go through the RI stage. They know the German position-form contingency very early: finite verbs occur in verb-second (V2) position; nonfinite verbs occur in verb-final position (e.g., Clahsen and Penke 1992; Poeppel and Wexler 1993). This study asks whether child L2 learners behave similarly, reporting on young English speakers' acquisition of German.

V2 in German is a well-studied phenomenon in L1 and adult L2 acquisition. Studies of the L2 acquisition of this phenomenon in children, however, have been scarce. Only two studies have looked at the development of German word order, in particular verb placement, in child L2 acquisition.

One study by Pienemann (1980) observed child L2 acquisition of German by three immigrant children (whose L1 was Italian) at the age of eight for over one year, with a focus on the early development of syntax (one- and multiple-constituent-utterances) in affirmative sentences. It was found that the child L2 learners, once they have reached the stage of producing utterances with several constituents, tend to omit the verbal element (copula or verb) in main declaratives (SVO sentences) in the first weeks. A few weeks later, when they prepose adverbs (XP-VSO sentences), they either (i) do not invert the subject and the verb (INV),² except when the copula is *sein* 'be', or they (ii) omit the subject NP. They especially do not apply INV after preposing a "full PP" such as *auf ein Blatt* 'on a page' (Pienemann 1980:53). Only as from the 53rd week (e.g., for one child) is INV successfully applied.

The other study was conducted by Prévost (1997b), whose results will be addressed in section 2.3.1. The main impetus for the present study is thus the lack of research on the acquisition of V2 in child L2 German. Elicited production data of English-speaking child learners of German will be examined and analyzed. The specific syntactic construction under investigation is non-subject-initial V2 clauses, a noncanonical word order. This involves fronting or topicalizing a phrase, such as a direct object, an adverbial, or a prepositional phrase, which is then supposed to be immediately followed by the tensed verb. The main focus is a comparison between children's acquisition of German as L2 and children's acquisition of German as L1. The research questions addressed are the following:

1. Does child L2 acquisition pattern like child L1 acquisition with respect to the verb position - verb form contingency? Do young L2 learners pass through an RI stage as L1 learners do?
2. In German child L2, is there a correlation between finiteness and V2 and, likewise, is there a correlation between non-finiteness and the uninflected verb in sentence-final position?

The paper is organized as follows. Section 2 provides a brief background on the German V2 construction, V2 in German L1 acquisition, and hypotheses regarding child L2 acquisition. Section 3 turns to the current study itself, including specific questions examined, the participants, and the data-elicitation methodology. Section 4 describes the two experimental tasks, as well as

¹ For other empirical studies on RIs, refer to, e.g., Bromberg and Wexler 1996; Duffield 1993; Haegeman 1995; Hyams and Wexler 1993; Jonas 1996; Jordens 1990; Krämer 1993; Phillips 1996; Roeper and Rohrbacher 1995; Sano and Hyams 1994; Schaeffer 1990; Weverink 1989.

² In Pienemann's (1980) terms, this is referred to as INV, which is equivalent to V2.

analyzes and discusses the tasks' results. Section 5 provides a brief overall summary and the conclusion of the paper.

2. BACKGROUND.

2.1 THE GERMAN V2 CONSTRUCTION. German is an OV, V2 language, which entails that in main clauses with simplex verbs, the OV order is not seen, because V moves from final position to the second (finite) position. In subject-initial main clauses, the word order is thus SVO (or, with non-simplex verbs, SAUX/MODALOV). This finite verb ($V_{[+fin]}$) can be a main verb (2), an auxiliary (3), or a modal (4).

- (2) Hans liest ein Buch.
 Hans read-3s a book
 'Hans is reading a book.'
- (3) Hans hat ein Buch gelesen.
 Hans have-3s a book read-PST
 'Hans read a book.'
- (4) Hans muß ein Buch lesen.
 Hans must-3s a book read-PST
 'Hans must read a book.'

In embedded clauses, preceded by, e.g., the lexical complementizer *daß* 'that', the word order is $SO(V)V_{[+fin]}$. $V_{[+fin]}$ must occupy clause-final position (5).

- (5) Hans sagt, daß er gerade ein Buch liest.
 Hans say-3s that he now a book read-3s
 'Hans says that he is reading a book now.'

In non-subject-initial main clauses, the finite verb must also be in second position. The object (6) or any adverbial projection (7) can be in first position.

- (6) EinBuch liest Hans gerade.
 a book read-3s Hans now
 'Hans is reading a book now.'
- (7) Geradeliest Hans ein Buch.
 now read-3s Hans a book
 'Now Hans is reading a book.'

There are two derivational rules at play in V2: (1) fronting of $V_{[+fin]}$ to C (V-I-C movement) and (2) fronting of any XP, such as an object or adverb to [Spec, CP], as illustrated in Figures 1a and 1b (e.g., den Besten 1983; Grewendorf 1988; Haegeman 1991; Haider and Prinzhorn 1986; Schwartz and Vikner 1989; Travis 1984; Zwart 1993).

There are at least two different analyses of the German V2 structure. In the *asymmetric approach* (e.g., Travis 1984; Zwart 1993) (Figure 1a), I is to the left of VP. The analysis of simple SVO (subject-initial V2) is different from that of XPVSO (non-subject-initial V2). The initial constituent in sentences with XPVSO order sit in the [Spec, CP] position with the finite verb in C. Subjects in SVO sentences are in [Spec, IP] with the finite verb in I. The problem inherent in this analysis, however, is explaining the lack of V2 effects in embedded clauses. In this analysis, raising to C occurs only in main clauses but not in embedded clauses, since the C

position is already filled by the complementizer *daß* ‘that’. While the inflected verb cannot move to C, it can move to I, yielding the ungrammatical *‘*daß*, SVO’ (‘that SVO’) order.

FIGURE 1A. Asymmetric approach.

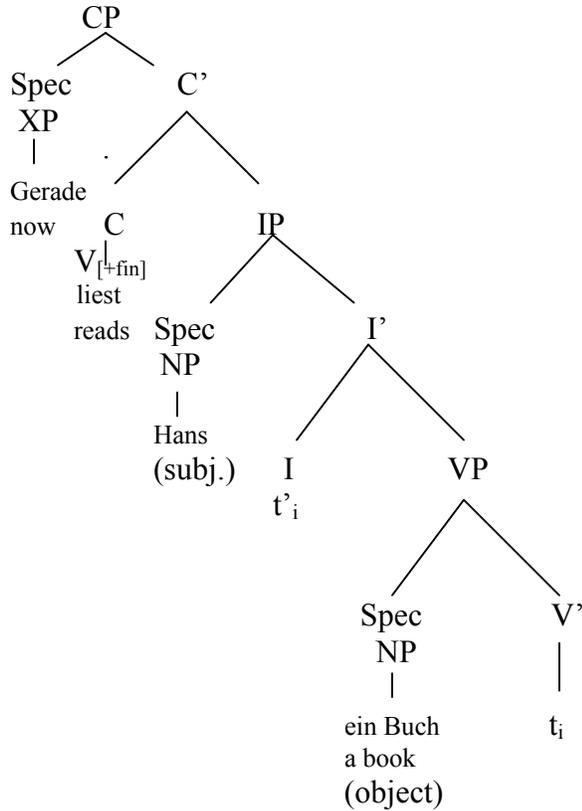
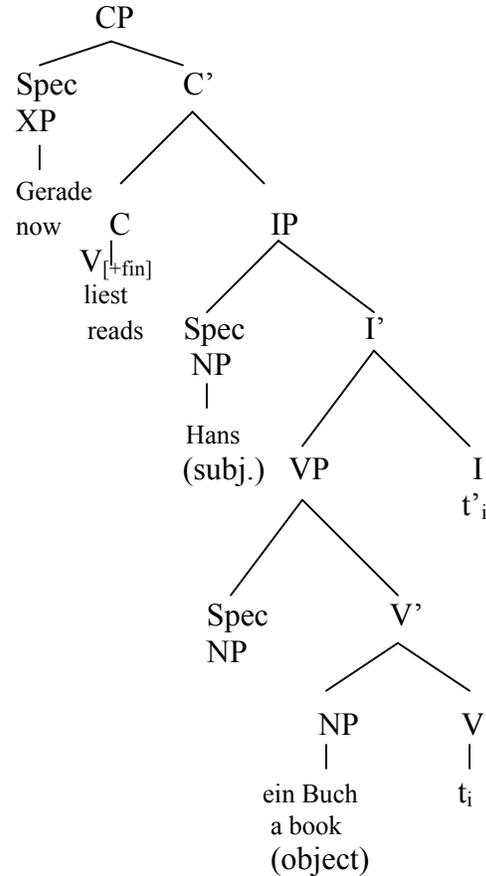


FIGURE 1B. Symmetric approach.



By contrast, in the *symmetric approach* (e.g., den Besten 1983; Schwartz and Vikner 1989) (Figure 1b), I is to the right of VP. All V2 clauses have the same structure; the initial XP in [Spec, CP] and $V_{[+fin]}$ in C. This approach can rule out the ungrammatical *‘*daß*, SVO’ order and account for the grammatical ‘*daß*, SOV $_{[+fin]}$ ’ word order in embedded clauses. Complementary distribution is at work here: If the complementizer is in C, V moves to and remains in I at the end of the clause; otherwise V moves from I to C, deriving V2, regardless of whether the clause is subject-initial or not.

2.2 GERMAN V2 IN L1 ACQUISITION. L1 learners of German acquire the V2 construction at quite an early age. In their study on the acquisition of agreement morphology in two German L1 children, Clahsen and Penke (1992) show that in the early one-word to two-word stages, only about 30% of the children’s spontaneous utterances exhibit V2. During this period (phases II and III³), verb-final patterns are much more prevalent, and the form of the verb is nonfinite (infinitive or stem). In phase IV (around age 3), V2 patterns increase up to over 90% within a

³ Phases II, III, and IV are a part of the profile chart for German child language proposed by Clahsen (1986). “The profile consists of five developmental phases, ranging from the period when children predominantly use one-word utterances up to the time when embedded clauses occur” (Clahsen and Penke 1992:186).

short period of time (Table 1). The finite verb is correctly placed in the V2 position. Only a very small number (less than 10%) of main-clause finite verbs were found in clause-final position.

TABLE 1. Percentages of V2 in two German children (adapted from Clahsen and Penke, 1992:186, Tables 1 & 2)

	Phase II	Phase III	Phase IV			
			35 mo	36 mo	37 mo	39 mo
Mathias	32	30	54	64	97	97
Daniel	31	24	43	73	94	90

Using quantitative analysis of a single child's corpus (Andreas, 2;1), Poeppel and Wexler (1993) examined the relationship between finiteness and word order in early German. They found that an overwhelming majority of finite verbs (95%) occur in second position and nonfinite verbs in final position. Table 2 displays this contrast.

TABLE 2. Finiteness and verb position (Poeppel and Wexler 1993:7, Table 2)

	[+finite]	[-finite]
Verb in second position (V2)	197	6
Verb in final position	11	37

The robust correlation between finiteness and V2 suggests that in Andreas' syntactic representation, there is a C position to which the finite V can move. His production of elements other than the subject in first constituent position (28%), such as object NP or AdvP, gives further evidence for existence of the CP system, as in (8) and (9).

(8) Eine Fase hab ich. (Poeppel and Wexler 1993:14, (13b))
 a vase have I

(9) So macht der. (Poeppel and Wexler 1993:14, (14b))
 so makes he

Based on these results, i.e., that the two-year-old child is able to employ V2 at such a young age, Poeppel and Wexler argue for the existence of the complete set of functional categories in German children's grammar as well as for their knowledge of finiteness and verb placement, agreement, head movement, and permissible word-order variations. This is proposed in their Full Competence Hypothesis (FCH), which claims that children have full competence of adult grammar, *except* that they allow infinitives in matrix clauses where the adult grammar would require a finite verb.

These findings indicate that there is an RI stage in German L1 acquisition. German children do not start out knowing the V2 structure immediately, but, interestingly, alternate *only* between *two* distinct patterns in main clause declarative sentences: (1) verb-second (with finite verbs), found in SVO and XVS patterns (or verb-first, when the subject is dropped), and (2) verb-final (with nonfinite verbs), the underlying SOV order. There is clearly a correlation between the position and the form of the verb. Between the age of 2 and 3, after going through this period of alternation, they produce the V2 structure virtually exclusively.

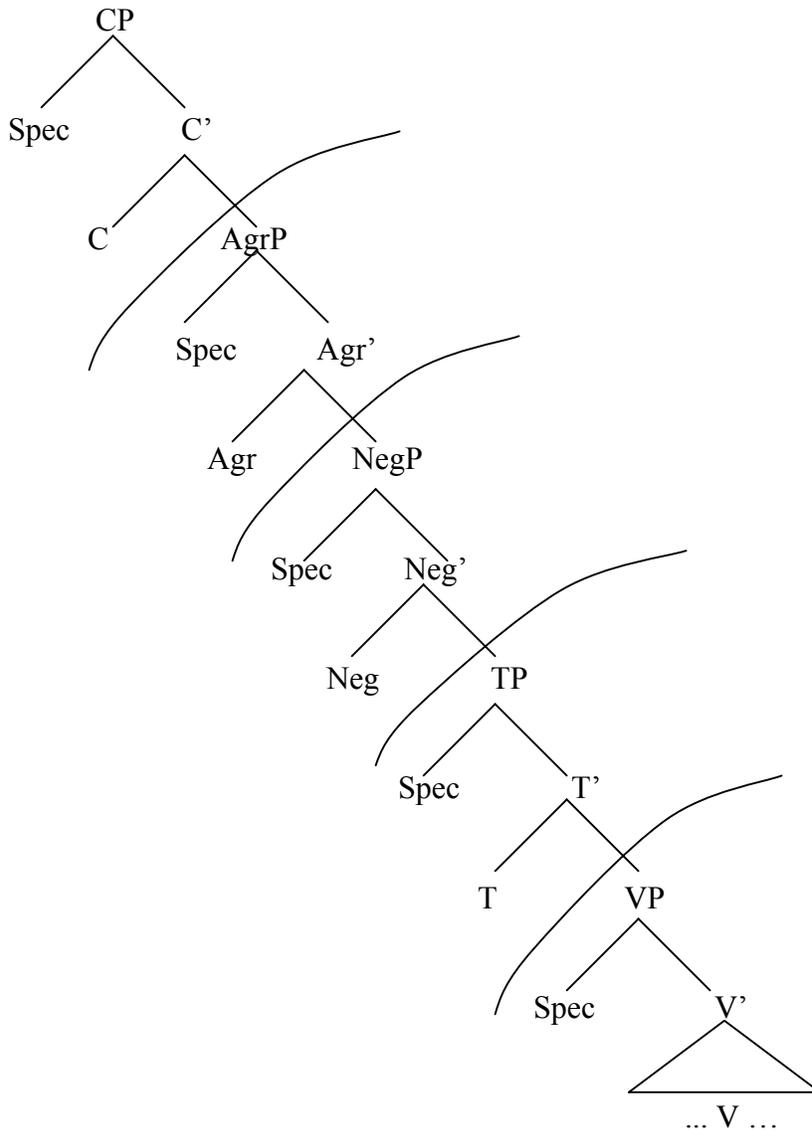
2.3 HYPOTHESES IN CHILD L2 ACQUISITION. In the literature on child L2 acquisition, there have been, among others, two opposing proposals for early L2 acquisition with respect to verb

position and the finite/nonfinite alternation: the Truncation Hypothesis (Prévost 1997a, b) and the Missing Inflection Hypothesis (Haznedar and Schwartz 1997).

2.3.1 TRUNCATION HYPOTHESIS (TH).

2.3.1.1 L1 ACQUISITION. Rizzi (1993/1994) proposes the Truncation Hypothesis to account for the Root Infinitive stage in L1 development. Rizzi (1993/1994) views children's early grammar as having the same set of functional categories as the adult system, but clause structure in child grammar may be truncated at any point below CP, resulting in root VPs, TPs, NegPs, and AgrPs (Figure 2).

FIGURE 2.



Truncation at any particular point implies that all categories below that point are present, while none above it are. For example, if truncation applies below TP, then VP will be the root and the result is a Root Infinitive, because there is no functional category under which the verb can appear. Since no T is posited, tenseless verbs will appear in the VP root, i.e., the verb will

appear in a nonfinite form. If truncation applies above TP, the result is a structure containing the tense variable, which can be identified. The Root Principle (Rizzi 1994), motivated by the tense and discourse-related properties of C, maintains that the root clause must always be a CP and thus finite. This forces verb movement to occur and a finite sentence to be produced. According to Rizzi, Truncation is a property of child L1 grammar because the Root Principle in initial L1 grammars is lacking or “underspecified.” Once the Root Principle matures around age 3-4, truncation ceases to be possible and the child grammar exits the Root Infinitive phase.

2.3.1.2 CHILD L2 ACQUISITION. Prévost (1997b) extends Rizzi’s (1993/1994) Truncation Hypothesis to child L2 acquisition of French and German,⁴ arguing that in early L2 grammar the Root Principle is “not operational” and “underspecified.” [+/-]Finiteness is structurally determined, depending on the properties of the root and the level of truncation. It is expected to co-occur with other syntactic and morphological properties. Child L2 grammar should thus exhibit an early period during which VP roots (‘truncated structures’) are (optionally) projected, resulting in RIs. As with L1 acquisition, the verb in RIs should always be nonfinite, since it cannot move to an upper functional category that hosts a finite feature. In IP/CP-sentences, the verb should be finite, because if CP or IP is the root, the relevant functional categories are projected, verb movement to a finite position should take place, and the verb should be inflected. Clauses that are clearly CPs, i.e., embedded clauses, *wh*-questions, yes/no questions, relative clauses, and nonsubject-initial V2 sentences, should therefore always be finite. IPs and NegPs (if higher than TP) should be finite. Clauses that are not CPs, IPs, and NegPs should be nonfinite.

According to Prévost (following Rizzi), the Truncation Hypothesis predicts various phenomena: CP-related clauses such as embedded clauses, *wh*-questions, and yes/no questions should never appear with a nonfinite verb, because complementizers and questions all require the CP projection. Auxiliaries and modals need the projection of at least T, and thus should always appear in the finite form. In sentences with negation, because NegP is higher than the projection of T, the verb preceding the negator (*pas* for French, *nicht* for German) should be finite.⁵

To test these predictions, Prévost (1997b) analyzed spontaneous production data from four child L2 learners: two English-speaking learners of French (Greg and Kenny) and two Italian-speaking learners of German (Concetta and Luigina).⁶ The phenomena tested that are relevant to the present study were finite declaratives vs. root infinitives, and *wh*-questions and embedded clauses (CP).

2.3.1.2.a ENGLISH-FRENCH CHILD L2 DATA. The results of the English-French child L2 data (largely) support the predictions made by the Truncation Hypothesis: RIs occurred during the first 18 months of observation, but dropped dramatically afterwards (e.g., from 15.4% to 1.5% for Kenny). Most important to the concerns of the present study, a consistent form-position correlation was found in CP-related clauses: Finite verbs appeared in *wh*-questions (10a) and embedded clauses (10b) (at a rate of about 97%). Very few nonfinite verbs appeared in *wh*-questions (11a) and embedded clauses (11b).

⁴ Prévost (1997b) also examined data from L2 adults, but his extension of the Truncation Hypothesis applies only to child L2 acquisition.

⁵ Other predictions were made with respect to null subjects, subject clitics, DP subjects, and Case. They are not reviewed here, since they are beyond the scope of the present study.

⁶ Ages: Greg 5;4, Kenny 5;8, Concetta and Luigina 8;0 at the time the data was first collected; age of onset: Greg 4;5, Kenny 4;9, Concetta and Luigina 8;0.

- (10) a. qu'est-ce que tu fais à ça? (Greg, month 9.5)
 what you do-2s to this
- (10) b. regarde qu'est-ce que le crocodile fait (Kenny, month 10)
 look what the crocodile do-3s
- (11) a. qu'est-ce que je jouer avec? (Greg, month 15)
 what I play-INF with
- (11) b. regarde qu'est-ce que moi faire (Kenny, month 11)
 look what me do-INF
 (Prévost 1997b:461, (17a), (17b), (18a), (18b))

With respect to auxiliaries and modals, they were all finite; none exhibited the infinitival form during the first 18 months.

2.3.1.2.b ITALIAN-GERMAN CHILD L2 DATA. For the Italian-German child L2 data, however, the picture is less clear. The results there are not as conclusive as those of the English-French ones. Schwartz and Sprouse (2002) re-examined Prévost's evidence for Truncation based on the English-French and Italian-German child data and found most of his predictions confirmed in the child L2 French data, but the majority of the predictions unconfirmed in the child L2 German data. According to their re-analysis, only the predictions for the finite-nonfinite root declarative alternation, auxiliaries, and modals were confirmed by both sets of child L2 data. The predictions for the other phenomena were not confirmed in the child L2 German data. For example, with respect to CP-related clauses, Concetta produced almost the same number of nonfinite verbs in both RIs (13.3%) and CPs (15.8%). Overall,⁷ the German child L2 data either disconfirm the Truncation Hypothesis or are too inconclusive.

2.3.1.3 COUNTER-EVIDENCE TO THE TRUNCATION HYPOTHESIS. In their reassessment of Prévost's (1997) extension of the Truncation Hypothesis, Schwartz and Sprouse (2000) presented child L2 data that strongly disconfirm the Truncation-based prediction with respect to CPs. Their re-analysis of the data from an eight-year-old Russian child learning English (Gavruseva and Lardiere 1996) showed that nonfinite forms (including a large number of bare stems) occurred in embedded CPs, 44.1% (30/68) of the time, a rate almost as high as the child's nonfinite forms in root declaratives, 52.9% (222/416). This result clearly contests the claim by the Truncation Hypothesis that CPs should necessarily be finite. Schwartz and Sprouse (2002) conclude that child L2 acquisition does not parallel L1 acquisition:

While it's true that early child L2 acquisition is characterized by a finite-nonfinite alternation, it is not the case that the complex of properties arguably associated with the L1 Root Infinitive phenomenon, at least as conceived under Rizzi's (1993/94) Truncation theory, is attested in child L2 acquisition. ... [T]heories of child L1 development can never suffice as an exhaustive explanation of child L2 development. ... [D]espite certain parallels in L1 and child L2 acquisition, there are incontrovertible differences as well (p.151).

Prévost (2001) responded to Schwartz and Sprouse's (2002) contestation, reasoning that as per the Truncation Hypothesis, uninflected (but finite) verb forms can occur in CPs. *Uninflected* is not equivalent to *nonfinite*. A problem of English verb forms is that bare forms are ambiguous;

⁷ Results of the other phenomena tested are not reviewed here, as they are not relevant to the present study.

they can be either finite or nonfinite. Prévost (2001) suggests that in order to test extending the Truncation Hypothesis more clearly, data should not come from L2 English, where the finite-nonfinite verb ambiguity is prevalent, but rather from other languages, such as German, which has overt finite markers (*-e, -st, -t, -en*) and an overt infinitival suffix (*-en*).

2.3.1.4 ADULT L2 ACQUISITION. As the present study does not investigate adult L2 data, the adult data in Prévost's (1997b) study are not reviewed in detail here. Overall, adult learners' longitudinal data (two Moroccan-speaking French learners and two Portuguese/Spanish-speaking German learners) indicate robust use of nonfinite (infinitival) forms in CPs in contrast to the child learners' data, which show a very small number of nonfinite forms in CPs (Prévost and White, 1999). These findings led Prévost and White to conclude that the child L2 results are compatible with the Truncation Hypothesis, but that the adult L2 results are more compatible with the Missing (Surface) Inflection Hypothesis (which will be reviewed in the next subsection).

Prévost's important conclusions are the following: First, analogous to early L1 acquisition, the RI stage, marked by the co-occurrence of finite and nonfinite root declaratives, also prevails in child L2 acquisition. Infinitival forms that occur during this period are truly nonfinite and occur only in nonfinite contexts because they have nonfinite properties. Second, truncation is permitted by child L2 grammar, but truncation does not account for adult L2 grammar.

2.3.2. MISSING INFLECTION HYPOTHESIS (MIH).

2.3.2.1 CHILD L2 ACQUISITION. Haznedar and Schwartz (1997) analyzed longitudinal data of a Turkish child L2 learner of English (age 4;3) named Erdem. Their goal was to compare L1 English acquisition with child L2 English acquisition and to investigate, first, whether there is a stage in early child L2 English which mirrors the L1 RI stage, and, second, whether there is a correlation between the form of the verb and the occurrence of null subjects. Finding robust alternations between finite and nonfinite forms in the child Turkish-English data, they argue that although the alternation between finite and uninflected verb forms characterizes both L1 and L2 acquisition, other differences show that child L2 development lacks (true) Root Infinitives. The results show, with respect to the inflection of verb forms, that similar to L1 English children, Erdem consistently alternates between inflected (12a) and uninflected (12b) forms in main-clause declaratives for a prolonged period.

(12) a. She wants to eat this lemon # I think. (Erdem, S 36)⁸

(12) b. She want to make a window. (Erdem, S 36)

(Haznedar and Schwartz 1997:260, (4a) and (4b))

However, Erdem's grammar development does not parallel that of L1 English. A very crucial observation was that his null subjects disappear long before his uninflected forms do. In L1 English, null subjects and uninflected forms usually drop out at the same time. This implies that for Erdem, there is no developmental association between the regular use of verb inflection and the disappearance of null subjects. By the time Erdem stops producing null subjects (S 13, 5 months exposure), the proportion of inflected verbs is 18%. One year later (S 46) the alternation between inflected forms (58.92%) and uninflected forms (41.08%) still continues on. Also importantly, dissimilar to English L1 children who produce null subjects with uninflected *and*

⁸ S 36 = Sample 36 of the longitudinal data

inflected verbs, Erdem *never* produces null subjects with inflected verbs. Erdem's interlanguage is thus qualitatively different from early child L1 English.

An additional finding supporting the claimed difference between Erdem's and L1 English children's early grammar concerns pronominal subjects. There is L1 evidence that English children make case errors with pronominal subjects. For example, Schütze and Wexler (1996) found for L1 English that non-nominative pronominal subjects are used in nonfinite contexts 40% of the time, and in finite contexts 18.75% of the time. In Erdem's data, however, almost all pronominal subjects are nominative. Haznedar and Schwartz, following Gavrusseva and Lardiere (1996), argue that Erdem transfers from his L1 Turkish the mechanism for nominative Case on subjects.

Overall, Erdem's data display characteristics different from L1 English data, hence diverging from the typical characteristics of the L1 English RI stage: (i) null subjects with only uninflected verbs; (ii) fairly early disappearance of null subjects but still a high rate of uninflected verbs; and (iii) consistent use of nominative subject pronouns. These differences from the L1 English data suggest, according to Haznedar and Schwartz (1997), that the child L2 learner's uninflected forms may not be indicative of their syntactic representation in English. These "uninflected verb forms are not OIs or RIs, but rather MIs - Missing Inflections" (p. 266), i.e., they are actually finite with missing inflection—hence the Missing Inflection Hypothesis. The fact that child L2 learners do not use finite forms, they claim, is due to processing difficulties. Since these difficulties involve feature specification and how the features get spelled out, it is not primarily a problem of knowledge but of processing. Child L2 learners, as per Haznedar and Schwartz (1997), face "a problem with just realizing the morphological form of finite verbs" (p. 266).

2.3.2.2 ADULT L2 ACQUISITION. Lardiere (1998a, 1998b, 2000) proposed that errors made by adult L2 learners in inflectional morphology are due to mapping problems between abstract features and morphological forms.⁹ Hence learners resort to "default" nonfinite forms in the place of finite ones when they are not certain of the appropriate finite forms. Extensive evidence for this claim comes from Lardiere's examination of the L2 English of an adult L1 Chinese speaker, Patty. She found that Patty was target-like in nominative case assignment and knew that English lacks thematic verb-raising; however, Patty's production of third person singular present and past tense morphology on regular verbs was extremely low. The mapping problem between syntax and morphology was thus proposed by Lardiere (1998a) to account for the omission of agreement and tense morphology in adult L2 acquisition.

The Missing Inflection Hypothesis (MIH) originally proposed by Haznedar and Schwartz (1997) gave rise to further research along this line (e.g., Lardiere 1998a, b). Prévost and White (1999, 2000) dubbed this the Missing Surface Inflection Hypothesis (MSIH). To sum up, the fundamental characteristics of the Missing (Surface) Inflection Hypothesis include (i) the use of morphology can be finite or nonfinite; (ii) nonfinite forms such as infinitivals substitute for finite verb forms; and (iii) L2ers resort to nonfinite morphology when in doubt.¹⁰ The Missing (Surface) Inflection Hypothesis has important theoretical implications for adult L2 acquisition. In the words of Haznedar and Schwartz (1997), "if child L2 acquisition has MIs, then

⁹ Although this idea was raised earlier (e.g., Schwartz 1991; Lardiere 1993; Lardiere and Schwartz 1997), not until 1998 was this problem termed the "mapping problem."

¹⁰ Prévost and White (1999) pointed out that both truncation and missing inflection may obtain in adult L2 grammar; that is, some nonfinite forms produced by the adults were syntactically finite (as per the MIH), whereas others were genuinely nonfinite, the consequence of the projection of a truncated VP.

‘uninflection’ in adult L2 acquisition, too, may be simply MI—with no ramification for the L2 acquisition of syntax” (p. 266).

2.3.3 SUMMARY. Both the Truncation Hypothesis and the Missing (Surface) Inflection Hypothesis predict clear co-occurrence and variability of finite and nonfinite verbs, which suggests that it is not lack of knowledge of finiteness and functional categories in the grammar that causes L2 learners to use nonfinite verbs. Rather, both hypotheses assume that in initial child L2 grammar, full-fledged structures are projected in the representation. One place the two hypotheses diverge concerns CPs. The Truncation Hypothesis predicts that CPs should always contain finite verb forms; nonfinite verb forms should not be used as substitutes for finite ones. The Missing (Surface) Inflection Hypothesis predicts that since there are no ‘real’ RIs, nonfinite verb forms such as infinitives should be able to substitute for finite ones. Overall, the Truncation Hypothesis maintains a fundamental similarity between child L2 and child L1 acquisition, while the Missing (Surface) Inflection Hypothesis proposes nontrivial differences between child L2 and child L1 acquisition.

Recall that Prévost (2001) suggested that better evidence against extending the Truncation Hypothesis to (child) L2 acquisition would come from a language where there is no ambiguity between uninflected, bare, finite/nonfinite, and infinitival forms. German is such a language, since it has clearly distinct forms for finite verbs and an overt suffix on infinitival verbs. It was chosen as the target language, therefore, in order to ask, among other questions, whether English-speaking L2 learners of German use uninflected forms, and if they do, whether these have the infinitival or the bare form and in what positions they occur. We now turn to the present study itself.

3. THE STUDY. The primary purpose of this study is to test both the Truncation Hypothesis and the Missing Inflection Hypothesis in relation to word order (V2 vs. non-V2) and verb finiteness (inflected vs. uninflected). The specific questions examined are the following:

1. Will there be nonfinite verbs in the child L2 German data, as in L1 acquisition? If so, where will they occur?
2. Will nonfinite verbs occur in non-subject-initial V2 position, i.e., in unambiguous CP-structures?

3.1 GERMAN INSTRUCTION: THE WALDORF SCHOOL. The Waldorf School is an institution that puts more emphasis on creativity and on artistry than on the structure of the material taught. In general, meaning rather than form of learned concepts is stressed. An interview with the native-speaking German teacher who teaches grades 3 to 7 revealed the following information:

The children are first exposed to German aurally in kindergarten, where they are not expected to speak German; they only hear the language through songs, verses, and nursery rhymes. In grades 1 to 3, they first learn some words. Various types of lexical items, such as colors, animals, fruits, vegetables, food items, and very simple basic verbs, such as *spielen* ‘to play’, *gehen* ‘to go’, *springen* ‘to jump’, etc., are taught. These items are taught through verses, games, songs, and drawings. In grade 4, they first learn to read and write the words they acquired in grades 1-3. In grade 5, they learn to read picture book stories written in German and are first taught basic grammar in playful ways. For example, they learn to conjugate the verbs through clapping, singing, and game playing. Starting in grade 5, the children are first exposed to the basic V2 structure, such as time adverbial followed by the verb. In grade 6, more grammar structures are introduced gradually, but inductively rather than deductively. Grammar structures can be picked up by reading short stories with pictures. And in grade 7, more grammar is taught

through the reading of longer stories. The teacher almost always speaks in German to the children during the German lesson. In general, the grammar instruction at the Waldorf School is both implicit and explicit, and is couched in innovative teaching techniques that enable the children to learn new structures in playful ways.

3.2 SUBJECTS. The participants in this study were 14 children whose native language is English.¹¹ There were eight boys and six girls from grade 3 to grade 7. One was from grade 3, four from grade 4, three from grade 5, two from grade 6, and four from grade 7. Their age at the time of testing ranged from 8;11 to 14;0. All of the subjects had been exposed to German in school since kindergarten, i.e., when they were 4 or 5 years old. From grade 1 on up, the German classes met three times per week for a period of 40 minutes each. This was their only exposure to the target language. There was no naturalistic exposure to German outside the classroom.

3.3 METHODOLOGY. The main experimental tasks comprise a proficiency measurement task and two elicited production tasks. The tests were conducted one-on-one in either the library or an empty classroom at the Waldorf School. The investigator is not a native speaker of German but has near-native capabilities. Both the elicited production tasks and proficiency measurement task were recorded on audio-tapes and later transcribed.

Prior to the experimental tasks, there was a preliminary meeting with the potential subjects and the German teacher of these children to obtain an overall picture of their proficiency level and to gather a list of common lexical items and grammar structures that these children are familiar with. It was also important for the children to familiarize themselves with the investigator during this meeting. The proficiency measurement test was conducted at the second meeting. The elicited production tasks were carried out at the third meeting. This is because the investigator was allowed to test the children only during their German lessons (which lasted 40 minutes each).

The proficiency measurement task was intended to gauge each subject's general German proficiency independent of grade level. The results of this task can also be used for spotting any verb-second constructions or violations thereof.

A picture description task eliciting natural speech was employed (Whong-Barr and Schwartz 2002; Unsworth 2002). First, the children were shown a color picture book with animals as the main characters. They were asked to tell a short story based on a series of six pictures. Then, another picture book with real pictures of people and pets was used. Four pictures out of this book were shown to the participants. They described what they saw and what was taking place in these pictures. Most subjects took about ten minutes to tell the story and to describe the pictures, but a few required up to fifteen minutes to finish. These latter children were also the less proficient ones.

The data from this task were used to calculate a global proficiency score. The results are presented in Table 3.

Table 3 shows two different proficiency scores. Those in the shaded column are scores based on error-free utterances *excluding* case errors, while the other proficiency score column (the nonshaded one) has scores based on error-free utterances *including* case errors. Those in the shaded column are the actual ones that will be used in this study.

¹¹ Originally, there were 15 subjects. One subject participated only in the picture description task for proficiency measurement, but not in the elicited production tasks due to illness. This subject was excluded from the study.

TABLE 3. Proficiency Measurement (error-free utterances *excluding* and *including* case errors)

Subject	Grade	Words	Utterances	Complexity measure ^a (MLU)	Error-free excluding case errors	Accuracy measure ^b	Proficiency score ^c	Error-free including case errors	Accuracy measure	Proficiency score ^d
BE	7	462	65	7.1	56	86.2%	28.50	29	44.6%	25.05
DY	7	128	23	5.6	18	78.3%	23.51	11	47.8%	21.02
DA	7	197	38	5.2	32	84.2%	22.98	32	84.2%	23.50
JE	7	426	83	5.1	66	79.5%	22.23	30	36.1%	18.40
VI	6	167	26	6.4	11	42.3%	22.15	4	15.4%	20.10
SI	5	236	40	5.9	18	45.0%	21.02	11	27.5%	19.86
HAY	5	361	62	5.8	29	46.8%	20.92	16	25.8%	19.40
HAR	5	179	30	6.0	12	40.0%	20.80	3	10.0%	18.40
MAT	7	264	46	5.7	12	26.1%	18.57	2	4.3%	16.96
MI	4	115	20	5.8	3	15.0%	17.74	0	0%	16.82
KE	6	105	22	4.8	6	27.3%	16.17	2	9.1%	14.83
MA	4	117	28	4.2	12	42.9%	16.05	6	21.4%	14.32
KA	3	95	18	5.3	1	5.6%	15.40	0	0%	15.37
NI	5	136	30	4.5	7	23.3%	14.93	5	16.7%	14.72

^aComplexity measure (MLU) = Total number of words ÷ total number of utterances.

^bAccuracy measure = Total number of error-free utterances ÷ total number of utterances.

^cProficiency score = (complexity measure × 2.8) + accuracy measure × 10) (excluding case errors) → actual proficiency score

^dProficiency score = (complexity measure × 2.9) + accuracy measure × 10) (including case errors)

Case errors are very common in L2 acquisition of German, which has four cases: nominative, accusative, dative and genitive. The errors include attaching the wrong case endings on determiners and adjectives. If case errors were not excluded, each subject's proficiency score would be much lower, such that subjects would have half as many error-free utterances (see subjects BE, JE, MA) or even one fourth as many error-free utterances (see subjects HAR, MAT). Including case errors would give a distorted global level of proficiency and consequently an inaccurate ranking of the subjects, which in turn would yield inaccurate proficiency scores and proficiency groups, which are crucial in the analysis of the data. Table 4 compares proficiency levels with and without case errors. It can be seen that the ranking of the first seven subjects would change noticeably if case errors were included.

TABLE 4. Comparison of ranking of subjects

Subject	Grade	Rank if case errors are excluded	Rank if case errors are included
BE	7	1	1
DY	7	2	3
DA	7	3	2
JE	7	4	7
VI	6	5	4
SI	5	6	5
HAY	5	7	6
HAR	5	8	8
MAT	7	9	9
MI	4	10	10
MA	4	11	12
KE	6	12	14
NI	5	13	11
KA	3	14	13

The range of the actual proficiency scores excluding case errors is 14.93 to 28.50 (see the shaded column). This global proficiency score consists of the combination of the following:

1. Complexity measure: The Mean Length of Utterances (MLU), i.e., the total number of words divided by the total number of utterances produced during the task.
2. Accuracy measure: The percentage of error-free utterances out of the total number of utterances. Error-free utterances are those that contain no morphological (except for case errors), syntactic, or lexical errors. All utterances that contain English words are not considered error-free. Phonological errors were disregarded.

First, the accuracy scores in percentages were converted to decimal figures so as to be comparable to the MLU score. The ranges of the complexity and accuracy scores were calculated by subtracting the lowest score from the highest score. In this group of L2ers, the range of the complexity measure was 2.9 (7.1 minus 4.2) and that of the accuracy measure was 8.06 (8.62 minus 0.56). Then the range of accuracy was divided by the range of complexity to yield 2.8, which means that the accuracy measure was 2.8 times the range of complexity

measure. To obtain the global proficiency score, the complexity measure was multiplied by 2.8 and then the decimal number of the accuracy measure was added.

Based on the results of scores excluding case errors, the subjects were subdivided into three distinct groups:

1. Higher proficiency group (Range of proficiency score: 22.23 – 28.50; BE, DY, DA, JE)
2. Medium proficiency group (Range of proficiency score: 20.80 – 22.15; VI, SI, HAY, HAR)
3. Lower proficiency group (Range of proficiency score: 14.93 – 18.57; MAT, MI, KE, MA, KA, NI)

This subdivision is based on natural breaks of the subjects' proficiency scores, not their age (and grade). It also largely corresponds to the investigator's intuition of each participant's relative command of German.

4. EXPERIMENT. To investigate the developmental pattern of V2 and verb finiteness by the L2 learners, two different elicited productions tasks were administered. Both tasks were set up to provide a discourse-appropriate context for the elicitation of V2.

4.1 TIME PP TOPICALIZATION: "WEEKDAY ACTIVITY TASK." This task was designed to target the response using topicalization of Time PPs, which is very common in German discourse.

4.1.1 MATERIAL AND PROCEDURE. The children were shown a colorful calendar of the week with the days written in German on it. They were asked to look at the calendar and orally list the various activities of their week, starting with Monday and ending with Sunday. They named two typical things they do on each day. The aim here is to elicit the topicalization of time adverbials. Talking about one's weekdays' activities is a very natural context for V2.

4.1.2 RESULTS. There were 10-14 tokens of these topicalized-PP sentences per child. Note that in this section only word order patterns are presented. Verb finiteness is not considered yet, but will be examined in section 4.3 under 'Analysis'. The subjects' utterances have the sentence patterns as shown in Table 5.

The results of this task reflect a large variation in word-order patterns. The target-like V2 pattern was produced by all proficiency levels. Types 1 to 5 were produced predominantly by the medium- and low-proficiency groups.¹² The general pattern is that the higher proficiency group produced primarily V2 in this task; the medium and low proficiency group had V2 and all the other types. An unusual pattern, Type 4, was uttered by two subjects from the low proficiency group. Another unusual pattern, Type 5, occurred in one subject from the medium proficiency group. (Appendix A, Table A1 displays the individual results of this task.)

¹² Except for two subjects from the high-proficiency group: JE produced one PP-O-V and DA produced three PP-S-V-Os

TABLE 5. Patterns in L2ers' word order with topicalization of a time PP

Type	Word order	Example	# of subj.	Proficiency level
V2	PP-V-S	Am Dienstag tauchen ich (VI, 12;4) On Tuesday dive-INF I	8	high, mid, low
	PP-V-S-O	Am Donnerstag mache ich Hausaufgaben On Thursday do-1s I homework (DY, 13;6)		
1	PP-O-V	Am Sonntag Vaters Auto waschen (VI, 12;4) On Sunday father's car wash-INF	8	high (only 1), mid, low
	PP-S-O-V	Am Samstag ich Frühstück essen (HAY, 11;4) On Saturday I breakfast eat-INF	5	
2	PP-S-V	Am Sonntag ich schlafen (MI, 10;3) On Sunday I sleep-INF	8	high (only 1), mid, low
	PP-S-V-O	Am Montag ich spiele Basketball (KE, 11;6) On Monday I play-1s basketball		
3	PP-V	Am Montag gehen in ein Auto (MA, 10;2) On Monday go-INF in a car	5	mid, low
4	PP-O-V-S	Am Dienstag Cello übe ich (KE, 11;6) On Tuesday cello practice-1s I	2	low
5	PP-O-S-V	Am Freitag Computer ich spielen (HAR, 10;9) On Friday computer I play-INF	1	mid

4.2 DIRECT-OBJECT TOPICALIZATION: "STUFFED ANIMAL TASK." After the Weekdays Activity Task, a little game called "Stuffed Animals Activity" was played. This game is designed to target topicalization of the direct object. In German spoken discourse, direct object fronting is very common when new information are being listed.

4.2.1 MATERIAL AND PROCEDURE. All instructions were given in German. Only when the child did not seem to comprehend the instructions were they then given in English. This occurred with three subjects from grades 3 and 4 and one subject from grade 5. The procedure was as follows: The investigator gave the participants a bag with stuffed animals in it. The participants were asked to pretend that these stuffed animals were theirs and that the bag had been sitting in their room for quite a long time, taking up space. Their mom had recently told them to clean up their room and get rid of some of the stuffed animals as they no longer play with them. While they emptied the stuffed animals out of the bag, a puppet showed up and said in German:¹³ "Hi, my name is Santa Claus the organizer. Your room is full of toys. I'm going to help you clean it up and organize your toys. Look at all the stuffed animals you have. What are you going to do with all of them? Which ones are you going to keep? Which ones are you going to give away? And which ones are you going to throw away?"

Each stuffed animal had its own name on a name tag attached to it. The investigator asked the participants to look at each stuffed animal and say what to do with it: whether to keep it, give it away, or throw it away. Three specific verbs were used: *behalten*

¹³ German: 'Hallo, ich heiße Santa Klaus, der Aufräumer. Dein Zimmer is voll von Spielzeugen. Ich werde dir helfen, es aufzuräumen und deine Spielzeuge zu organisieren. Schau mal alle deine Stofftiere an. Was wirst du mit ihnen machen? Welche wirst du behalten? Welche wirst du weggeben? Und welche wirst du denn wegschmeißen?'

‘keep-INF’, *weggeben* ‘give-INF away’, and *wegschmeißen* or *wegwerfen* ‘throw-INF away’. Before starting the activity, the investigator ensured that the child participants knew these three verbs. If they did not, the investigator gave them the verbs in German in the infinitival form.

The task went smoothly. The subjects seemed to enjoy this task the most. Some of them even acted it out very well. Seven of the 14 children, including all those from grade 7, knew the verbs for ‘keep’, ‘give away’, and ‘throw away’ in German. Out of the other 7, 5 knew the verb ‘give away’ and some also knew ‘throw away’, but they did not know the verb ‘keep’. Two of them did not know any of the verbs at all. In German there are two verbs for ‘throw away’, *wegschmeißen* and *wegwerfen*; either one can be used. Those who knew the verb *wegwerfen* used that; those who did not know the verb for ‘throw away’ were given the verb *wegschmeißen* by the investigator.

4.2.2 RESULTS. There were 10-12 tokens of these topicalized-DO sentences per child. The subjects started all the sentences with the name of the stuffed animal, which indicates that they knew how to topicalize the direct object. Their utterances for the “Stuffed Animals Task” have the following sentence patterns:

TABLE 6. Patterns in L2ers’ word order with topicalization of a direct object

Type	Word order	Example	# of subjects	Proficiency level
V2	O-V-S	Susi behalte ich Susi keep-1s I	11	high, mid, low
6	O-S-V	Lusie ich behalte Lusie I keep-1s	5	high (only 1) mid (only 1), low
7	O-V	Susi behalten Susi keep-INF	3	high (only 1), low

The results of this task reveal three distinct word order patterns, not so large a mix as in the previous task. In this activity, more subjects were able to produce the V2 order than in the previous task. Two subjects from the medium-proficiency group (SI, HAY) had 0% V2 sentences in the Weekdays Activity Task but 100% V2 in this Stuffed Animal Task. How can this be explained? This issue will be addressed later in section 4.4. (Appendix A, Table A2 displays the individual production results.)

4.3 ANALYSIS.

4.3.1 WORD ORDER (VERB POSITION). Recall that German child L1ers produce only two patterns: (1) verb-second (or verb-first, when the subject is dropped), and (2) verb-final. In this study’s child L2 data, the results from both tasks together show that both word orders attested in L1 German were found. They were included for the counting of the form-position correlation.

V2	(PP-VS, PP-VSO, OVS) →	verb-second	TARGET-LIKE
Type 1	(PP-OV, PP-SOV) →	verb-final	CHILD L1 GERMAN

Quite a high number of subjects (11 out of 14) could produce V2 utterances. At least two subjects from the high proficiency group did this consistently. The V2 word order is target-like, but since the inflectional rate (finiteness) is not determined yet, we cannot tell how many subjects were actually fully target-like.

At the same time, a significant number of subjects (9 out of 14) made word-order errors of the German L1 pattern (Type 1). They were all from the medium- and low-proficiency groups (except for JE, who produced only one token of this type). Besides these, unattested patterns in L1 German were also found in the data. However, since this study primarily investigates the correlation between verb finiteness and V2, the following unattested word orders are uninformative and hence *excluded* from analysis (refer to Tables 5 and 6 again for the different types of word orders):

1. PP-SV, PP-SVO (Type 2), and OSV (Type 6) are transferred orders from English and are thus neither V2 nor verb-final.
2. PP-OVS (Type 4) occurred only three times in the entire data; PP-OSV (Type 5) was produced by only one subject (see Appendix A, Table A1, subject HAR);
3. PP-V (Type 3) is ambiguous, as (in this PP-topicalization task) it can be analyzed as PP(S)V or PPV(S)—there are not enough constituents to tell whether or not it is V2;
4. OV (Type 7) is ambiguous, as (in this DO-topicalization task) it could be O(S)V or OV(S).

Since the production tasks prompted only topicalized utterances, there were no subject-initial clauses (SVO or SOV orders) in the L2ers' utterances. SVO would have been excluded in any case, since it is possible in both English and German. Even if they were German V2 clauses, they are subject-initial V2 clauses and don't necessarily implicate CP.

4.3.2 VERB INFLECTION (VERB FORM). An examination of the verb form and the verb inflection rate is necessary at this point to determine whether a correlation between verb position and form exists in our child L2 data. First, we look at the child L2 learners' verbal forms in each verb-second and verb-final utterance. Tables 7 and 8, respectively, show the raw tokens of the different verb forms in V2 and verb-final position. Note that the low- and medium-proficiency groups are collapsed here, as the difference in their use of verbal inflections is not so remarkable.

TABLE 7. Verb forms in V2 position

	FINITE V2		NONFINITE V2	
	correct infl.	incorrect infl.	infinitive	stem
High proficiency	78	0	2	0
Less-proficient	37	1	51	0

The results in Table 7 indicate that all but one finite verb in V2 utterances were correctly inflected (13a). There was only one single incorrect form (13b).

- (13) a. Jumpy schmeiße ich weg. (MI, 10;3) → **target-like**
 Jumpy throw-1s I away
- (13) b. Ilio gebest ich weg. (SI, 11;0)
 Ilio give-2s I away

All verbs in nonfinite V2 utterances were infinitival; examples are given in (14a) and (14b) where the verbs have the *-en* suffix.

- (14) a. Honu behalten ich. (VI, 12;4)
 Honu keep-INF I
- (14) b. Am Montag machen ich Hausaufgaben. (MAT, 12;4)
 On Monday do-INF I homework

The verb forms in verb-final position can be seen in Table 8.

TABLE 8: Verb forms in verb-final position

	FINITE verb-final		NONFINITE verb-final	
	correct infl.	incorrect infl.	infinitive	stem
High proficiency	0	0	1	0
Less-proficient	6	2	26	0

We see that all nonfinite verb-final utterances were infinitival (15a). There were a few finite verb-final utterances, both with the correct (15b) and incorrect inflection (15c).

- (15) a. Am Mittwoch ich Hause gehen. (NI, 10;11)
On Wednesday I house go-INF
- (15) b. Am Sonntag Hausarbeit mache. (KE, 11;6)
On Sunday housework do-1s
- (15) c. Am Montag der Hund mit ich gehest. (KE, 11;6)
On Monday the dog with I go-incorrect inflection

Next, we look at the verb inflection rate. Table 9 shows inflection rates for V2 utterances in both tasks. (Results for each subject can be found in Appendix A, Table 3 and 4.)

TABLE 9. Subject's percentage of V2 and inflection rate of V2 utterances in both production tasks

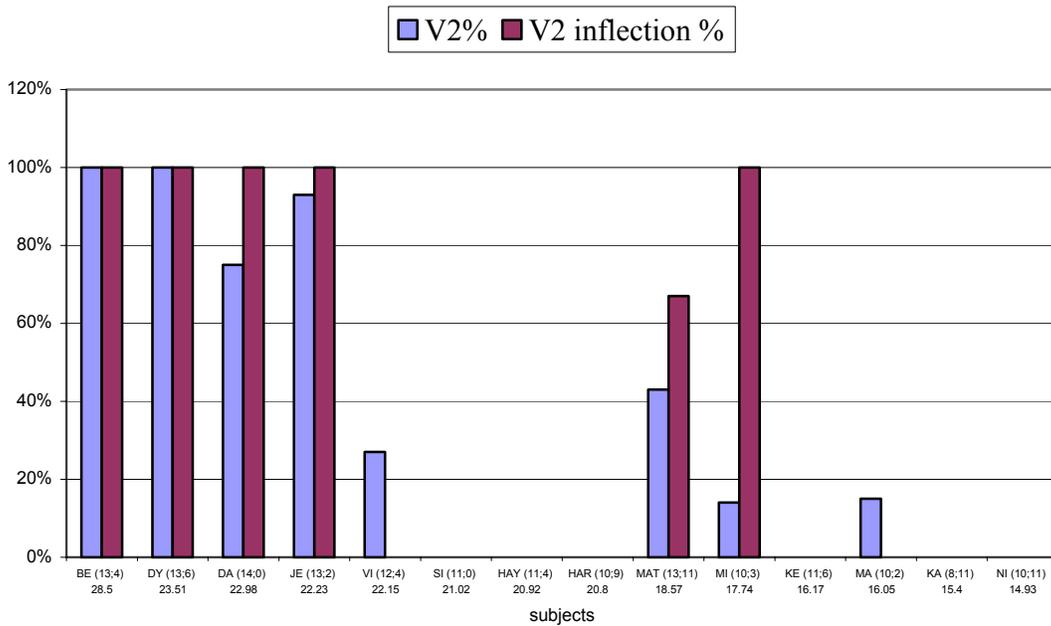
	Subj.	Age	Prof. Score	V2 % in WAT ^a	Inflection % of V2 in WAT	V2 % in SAT ^b	Inflection % of V2 in SAT
High	BE	13;4	28.50	5/5 (100%)	5/5 (100%)	9/9 (100%)	9/9 (100%)
	DY	13;6	23.51	13/13 (100%)	13/13 (100%)	7/11 (64%)	5/7 (71%)
	DA	14;0	22.98	9/12 (75%)	9/9 (100%)	12/12 (100%)	12/12 (100%)
	JE	13;2	22.23	13/14 (93%)	13/13 (100%)	12/12 (100%)	12/12 (100%)
Mid	VI	12;4	22.15	3/11 (27%)	0/3 (0%)	11/11 (100%)	2/11 (18%)
	SI	11;0	21.02	0/14 (0%)	0/0 (0%)	11/11 (100%)	4/11 (36%)
	HAY	11;4	20.92	0/13 (0%)	0/0 (0%)	12/12 (100%)	2/12 (17%)
	HAR	10;9	20.80	0/11 (0%)	0/0 (0%)	0/13 (0%)	0/0 (0%)
Low	MAT	13;11	18.57	6/14 (43%)	4/6 (67%)	12/12 (100%)	12/12 (100%)
	MI	10;3	17.74	1/7 (14%)	1/1 (100%)	8/12 (67%)	7/8 (88%)
	KE	11;6	16.17	0/13 (0%)	0/0 (0%)	12/12 (100%)	4/12 (33%)
	MA	10;2	16.05	2/13 (15%)	0/2 (0%)	11/12 (92%)	2/11 (18%)
	KA	8;11	15.40	0/7 (0%)	0/0 (0%)	0/11 (0%)	0/0 (0%)
	NI	10;11	14.93	0/9 (0%)	0/0 (0%)	0/12 (0%)	0/0 (0%)

^aWAT = Weekdays Activities Task, ^bSAT = Stuffed Animals Task

The raw tokens in Table 9 are projected in Figures 3 and 4. The figures show the percentage of V2 utterances and the inflection percentage of those V2 utterances.

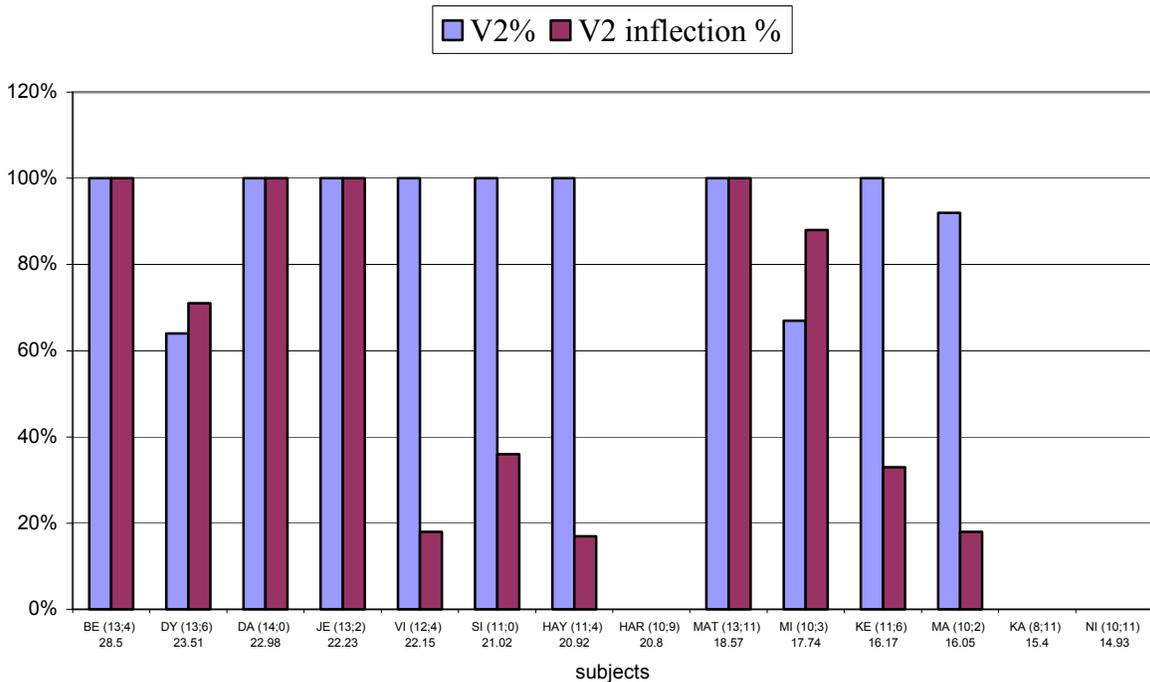
In the Weekdays Activity Task (Figure 3), the high-proficiency group (the first four subjects) had both a high percentage of V2 and a high rate of inflection. Only four out of ten subjects in the less-proficient group could produce V2, but at a rather low rate (14-43%). Of these, two subjects (VI, MA) did not inflect their verbs at all. The other two (MAT, MI) had a higher rate of V2 inflection, but note that in the case of subject MI, the 100% refers to *only one* V2 utterance.

FIGURE 3. V2 and inflection rate in “Weekdays Activity Task”



In the “Stuffed Animal Task” (Figure 4), the high-proficiency group (the first four subjects) also exhibited relatively high percentages of V2 inflection. Many more of the less-proficient group were competent in V2 here than in the other task. Crucially, however, the inflection rate of their V2 utterances is low (18-36%), except for the same two subjects, MI and MAT, who in this task, as in the previous task, also exhibited higher inflection rates (88-100%) than the others.

FIGURE 4. V2 and inflection rate in “Stuffed Animal Task”



In sum, the high-proficiency subjects were consistently target-like in V2 (correct verb placement) and inflection in both tasks. Subjects from the less-proficient groups were also competent in V2, more so when the direct object was topicalized. However, their verb inflection was either consistently missing, as in (14a,b) and (15a), or it was incorrect, as in (13b) and (15b), which, however, was more rare.

4.3.3 VERB POSITION AND VERB FORM CORRELATION. Recall that only the verb-second and verb-final patterns in the box shown below are included in the counting for the correlation between finiteness and V2:

Verb-second: PP-VS, PP-VSO, OVS
Verb-final: PP-OV, PP-SOV

An analysis across proficiency groups which collapses across both tasks yields the findings in Table 10:

TABLE 10. Finiteness and verb position of the child L2 learners by group

	High proficiency group (n=4)		Less proficient group (n=10)	
	[+finite]	[-finite]	[+finite]	[-finite]
Verb second	78	2	38	51
Verb final	0	1	8	26
Errors ¹⁴	2		59	

TABLE 11. Finiteness and verb position of an L1 child (adapted from Poeppel & Wexler 1993: 7, Table 2)

German L1 child (Andreas, 2;1)

	[+finite]	[-finite]
Verb second	197	6
Verb final	11	37
Errors	17	

The high proficiency group (4 L2 learners) produced altogether 80 verb-second sentences and only one verb-final sentence. Of the 80 sentences with verb-second positions, 78 had a finite verb, and only two had a nonfinite (infinitive) verb form. These results indicate that the four high-proficiency subjects were target-like, as they produced V2 utterances with finite verbs. The remaining less-proficient group (10 L2 learners) produced altogether 89 verb-second sentences and 34 verb-final sentences. Of the 89 verb-second utterances, 38 had a finite verb, and 51 had a nonfinite (infinitive) verb form. Of the 34 verb-final utterances, 26 had a nonfinite (infinitive) verb form, and 8 had finite verb forms. These striking results show that the less-proficient child L2 learners made word-order errors as well as verb-form errors. For the sake of comparison, the results for the L1 child from Poeppel and Wexler's (1993) study (Table 11) are repeated immediately below Table 10. Comparing the results of the German L1 child and the child L2 learners, we see that the results of the L1 learner and the high-proficiency L2 learners pattern

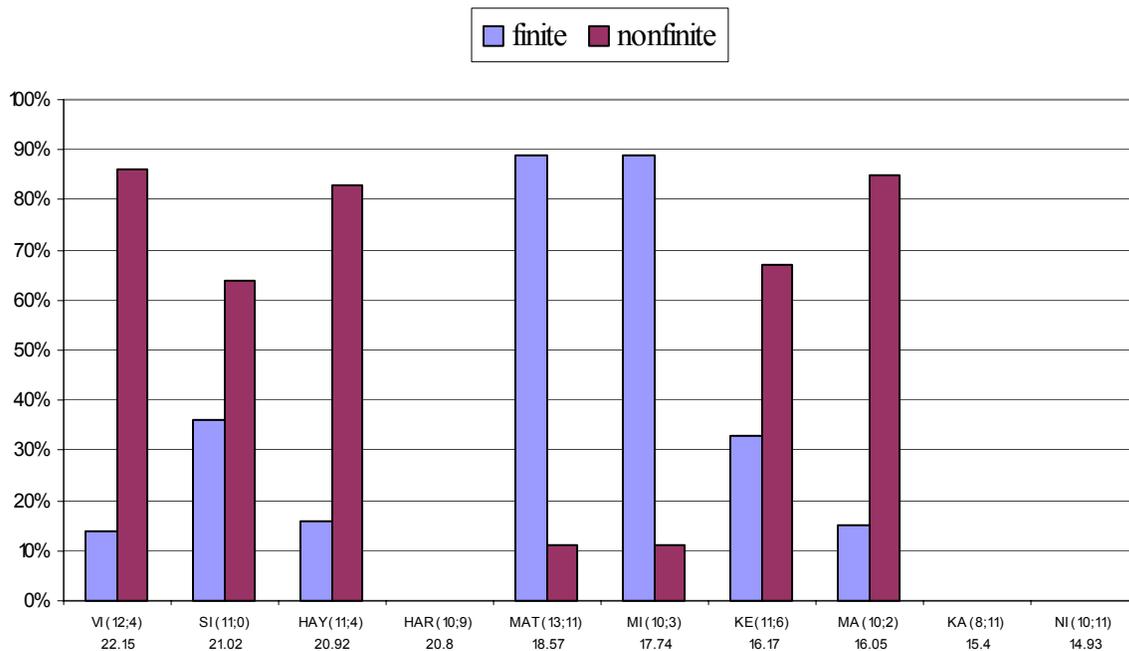
¹⁴ Errors were [-finite] verb second and [+finite] verb final utterances.

somewhat similarly, whereas the results of the L1 learner and the less-proficient L2ers are very different.¹⁵

4.4 DISCUSSION. As Table 10 shows, the high-proficiency L2 learners' finite verb forms systematically appear in second clausal position. These learners do not seem to be at an OI stage. They make very few errors with V2, and do not show an alternation between finite V2 and nonfinite verb-final structure, as the child L1 learner in Table 11 does. This indicates that they have fully acquired the V2 construction. The less-proficient group's verb position and verb form patterns are very different and more interesting. These child L2 learners do not pattern like the German L1 child. Nonfinite forms are regularly found in finite position. Indeed, these L2 children's V2 position hosts about one third more nonfinite (51/89=57%) than finite (38/89=43%) verb forms.

Figures 5 and 6 below give individual results collapsed across both tasks for each of the less-proficient child L2ers in terms of both finiteness and nonfiniteness in their verb-second and verb-final utterances. (The individual raw tokens can be found in Appendix A, Table A5.)

FIGURE 5. Less-proficient L2 learners' +/-finiteness in V2 position



The individual results in Figure 5 indicate that the L2 learners in the less-proficient group make many verb-form errors. Among the ten subjects, three subjects (HAR, KA, NI) did not produce any V2 patterns. Five subjects who could produce V2 (VI, SI, HAY, KE, MA) had a high rate of nonfinites (64-86%), which were virtually exclusively infinitival forms. For only two subjects (MAT, MI) were almost all verbs in verb-second utterances inflected (89%). These are the two subjects who consistently had a higher inflection rate than the others in the less-proficient group in both tasks. Overall, the less-proficient child L2 learners exhibited an

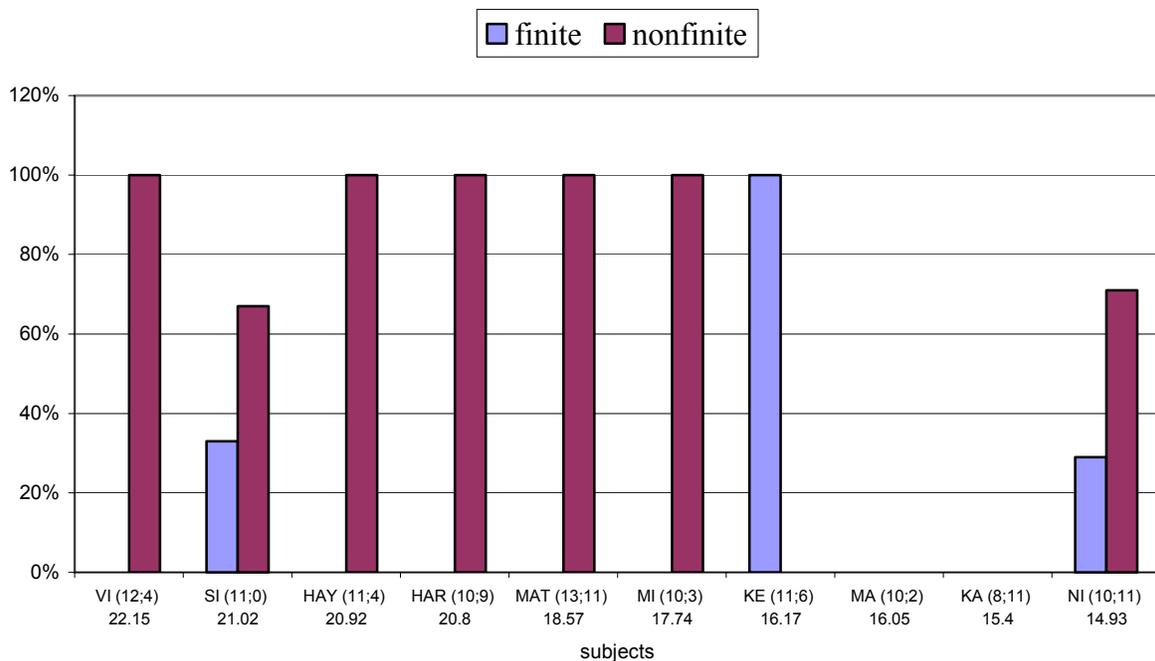
¹⁵ The German L1 data used for comparison come from spontaneous production. A comparison to experimental German L1 data would be ideal, but such data were unavailable due to lack of access to very young native German L1 learners.

intermediate pattern, alternating between [+finite] and [-finite] forms of the verb placed in second position.

In the verb-final clauses (Figure 6), there is much less of an alternation between [+finite] and [-finite]. Here, nonfinites clearly dominate.

The results of the less-proficient group are not consistent with the Truncation Hypothesis. According to this hypothesis, nonfinite verbs should never be found in a CP structure such as the V2 patterns in this study. However, in the less-proficient group's production, nonfinite verbs do appear in V2 position (57% of the time). Addressing Prévost's (2001) point about the three-way distinction of the ambiguous bare verb in English, which can be (1) an uninflected form, (2) a stem, or (3) an infinitive, the data in this study on German child L2 acquisition show that all nonfinite forms in the V2 order (CP) are unambiguous infinitives, having the *-en* ending (refer to Table 7). Their appearance in a CP structure therefore contradicts the Truncation Hypothesis.

FIGURE 6. Less-proficient L2 learners' +/-finiteness in verb-final position



The results are more compatible with the Missing Inflection Hypothesis. According to this hypothesis, child L2 learners have full projection of CP; the inflection is just missing - i.e., they are in a stage of still having difficulty inflecting the verb. This is exactly what happened. The less-proficient child L2 learners in this study can produce V2 orders ($89/123 = 72\%$), but their verbal inflections are missing ($51/89 = 57\%$). The distributional pattern of their infinitival forms is also consistent with the Missing Inflection hypothesis, which predicts that there should be more variability in the placement of infinitival than finite verb forms. The child L2 learners in this study indeed use infinitival forms (nonfinite verbs) as a substitute for finite inflection. These findings support the claim made by the Missing Inflection Hypothesis that although uninflected forms in CPs look nonfinite, they are in fact finite verbs.

The mapping problem between syntax and morphology as suggested by Lardiere (1998a, 1998b, 2000) for adult L2 learners occurs in these child L2 learners of German. They have difficulties with the realization of finite inflectional morphology and use infinitival affixation

instead. The high-proficiency participants, on the other hand, no longer have this mapping problem.

Importantly, the data indicate that child L2 acquisition does not exhibit an RI phase, which is common in L1 acquisition. Unlike the German L1 learner, who alternates between finite verb-second and nonfinite verb-final utterances in the RI phase, our child L2 learners do not alternate but produce both finite and nonfinite V2 sentences. Also crucially, the results show that there is no correlation between finiteness and V2, implying that they are not developmentally interdependent in child L2 acquisition.

Different results in the two production tasks

The production results indicate that 4 out of 14 child L2 learners of German have acquired the V2 construction. The results also show that the learners are much more target-like for V2 order with the topicalization of an object rather than a time PP. This may be (speculatively) due to these reasons: There is a difference in nature and degree of difficulty in the two tasks. The participants achieve a higher rate of V2 in the Stuffed Animal Task (SAT) than the Weekday Activity Task (WAT), because the WAT is simply a more difficult task in that it involves more of a vocabulary retrieval burden. Subjects had to retrieve vocabulary items on the spot during production, and thus this additional processing interfered with their producing the V2 pattern. The SAT, however, requires minimal vocabulary retrieval, as the task involves only three specific verbs, and the fronted direct objects are not NPs with gender differentiations, but proper names that were given to each stuffed animal, which the participant could clearly see and read.¹⁶

5. CONCLUSION. To summarize the findings, various word order types and both finite and nonfinite forms occurred in the child L2 data in this study. As V2 clauses are CPs, and many of these contained infinitival verb forms, the results contest Prévost's extension of Truncation to child L2 acquisition and are thus more compatible with Missing Inflection. There *are* differences in child L1 German and child L2 German learned by English-speaking children. First, with regard to verb position, English-speaking child L2 learners produce word-order patterns unattested in child L1 German, most of these compatible with the hypothesis of transfer of L1 English, i.e., XPSV... (verb-third). Even of those orders that do occur in L1 German, i.e., V2 and SOV, the child L2 learners behave differently from the German L1 learner: Only the L2 learners frequently have infinitive verb forms in V2 position. Second, with respect to verb form, there is an alternation between nonfinite and finite verbs in V2 position, with nonfinite (infinitival) forms outweighing finite ones. However, there is no alternation between finite V2 and nonfinite verb-final utterances, which is a characteristic of the German RI phase. Thus, unlike L1 acquisition, child L2 acquisition does not exhibit an RI phase, but rather an MI phase.

¹⁶ There were certain individual cases:

Subject MI (low proficiency) consistently produced OSV orders only with the verb *behalten* 'keep' (4/12 tokens), but consistently produced V2 orders with the verbs *weggeben* 'give away' (3/12 tokens) and *wegschmeißen* 'throw away' (5/12 tokens), which are separable-prefix-verbs. This implies that MI had a bias in the verb type.

Subject SI (medium proficiency) did not know any of the verbs and had difficulty remembering them during the task. SI overused the word *weg* 'away', producing it together with every verb. Hence, there were utterances such as *Lusie behalten ich weg* 'Lusie keep I away'. These were still counted as V2 with a non-target-like verb form, which is uninflected.

Subject DY (high proficiency) had all the V2 utterances right, but towards the end, in the last three elicited utterances, he produced OV with no subject. This could be due to distraction or excitement because he was the one who wanted to act out this activity. He actually threw the stuffed animals he chose to throw away.

Verb inflections are missing, but intermediate child L2 learners of German have knowledge of full projection of CP, since they know the V2 movement.

Findings in Prévost's (1997a, b) study of French-English, Italian-German child and adult L2 learners (Prévost and White, 2000) show that child L2 learners tend to pattern with L1 learners, and adult L2 learners behave differently with respect to finiteness and verb placement. The results from the present study's data strongly suggest that in German L2 acquisition, child L2 results pattern with those of adults reported in Vainikka and Young-Scholten (1994) and Prévost and White (2000), in that nonfinite forms are treated as finite forms. The data here have shown that in line with Haznedar and Schwartz (1997), not just adult learners exhibit missing inflections, but child L2 learners do so as well. The results in this study also illustrate that there is no correlation between finiteness and V2 in German child L2 data.

APPENDIX A. Individual results in each production task

TABLE A1. Individual results for Time PP topicalization from the Weekdays Activities Task.

	Subject	Age	Total # of sentences	PP-O-V	PP-S-O-V	PP-S-V(O)	PP-V	PP-O-V-S	PP-O-S-V	PP-V-S(O) (V2)	V2 % ¹⁷	Prof. score
Hi	BE	13;4	5	0	0	0	0	0	0	5	100%	28.50
	DY	13;6	13	0	0	0	0	0	0	13	100%	23.51
	DA	14;0	12	0	0	3	0	0	0	9	75%	22.98
	JE	13;2	14	1	0	0	0	0	0	13	92.9%	22.23
Mid	VI	12;4	11	6	0	0	2	0	0	3	27.3%	22.15
	SI	11;0	14	3	0	11	0	0	0	0	0%	21.02
	HAY	11;4	13	3	2	8	0	0	0	0	0%	20.92
	HAR	10;9	11	1	1	0	2	0	7	0	0%	20.80
Low	MAT	13;11	14	2	0	6	0	0	0	6	42.9%	18.57
	MI	10;3	7 ¹⁸	0	4	2	0	0	0	1	14.3%	17.74
	KE	11;6	13	3	2	5	1	2	0	0	0%	16.17
	MA	10;2	13	0	0	7	3	1	0	2 ¹⁹	21.4%	16.05
	KA	8;11	7	0	0	7	0	0	0	0	0%	15.40
	NI	10;11	9 ²⁰	6	1	0	2	0	0	0	0%	14.93
TOTAL			156	25	10	49	10	3	7	52		

¹⁷ The V2 percentage was calculated by dividing the number of utterances with V2 by the total number of utterances.

¹⁸ Subject MI originally produced 8 sentences, but one of them was *Am Samstag ich Gymnastiks* 'On Saturday I gymnastics'. Due to the lack of a verb, this utterance is uninformative and hence excluded from the entire analysis.

¹⁹ Subject MA originally had 3 V2 utterances. However, in one utterance, the verb was in English, *riding*, which is [-fin] in English. As this English verb occurs in a German utterance, the finiteness of its form cannot be determined. The utterance was thus excluded from the entire analysis.

²⁰ Subject NI originally had 10 total utterances. In one utterance, however, the verb was in English: *Am Donnerstag Bruder fight*, 'On Thursday brother fight'. Since this sentence could be interpreted as PP-SV or PP-OS and since the finiteness of the verb cannot be determined, the sentence was excluded from the entire analysis.

TABLE A2. Individual results for direct object topicalization from the Stuffed Animals Task.

	Subject	Age	Total # of sentences	O-S-V	O-V	O-V-S (V2)	V2 %	Proficiency score
High	BE	13;4	9	0	0	9	100%	28.50
	DY	13;6	11	1	3	7	63.7%	23.51
	DA	14;0	12	0	0	12	100%	22.98
	JE	13;2	12	0	0	12	100%	22.23
Mid	VI	12;4	11	0	0	11	100%	22.15
	SI	11;0	11	0	0	11	100%	21.02
	HAY	11;4	12	0	0	12	100%	20.92
	HAR	10;9	13	13	0	0	0%	20.80
Low	MAT	13;11	12	0	0	12	100%	18.57
	MI	10;3	12	4	0	8	66.7%	17.74
	KE	11;6	12	0	0	12	66.6%	16.17
	MA	10;2	12	1	0	11	91.7%	16.05
	KA	8;11	11	0	11	0	0%	15.40
	NI	10;11	12	8	4	0	0%	14.93
TOTAL			162	27	18	117		

(For Table A3, see the next page.)

TABLE A4. Individual results for the distribution of **verb-final** finites and nonfinites in the PP-OV and PP-SOV patterns.²¹

Subject	Proficiency score	Total of PP-OV, PP-SOV (verb-final, Type 1)	[+fin]	[-fin]
BE	28.50	0	0	0
DY	23.51	0	0	0
DA	22.98	0	0	0
JE	22.23	1	0	1
VI	22.15	6	0	6
SI	21.02	3	1	2
HAY	20.92	5	0	5
HAR	20.80	2	0	2
MAT	18.57	2	0	2
MI	17.74	4	0	4
KE	16.17	5	5	0
MA	16.05	0	0	0
KA	15.40	0	0	0
NI	14.93	7	2	5
Total		35	8	27

²¹ Recall that the OV pattern is excluded from analysis because of its ambiguity; it could be (S)OV, O(S)V, or OV(S).

TABLE A3. Individual results for the distribution of V2 finites and nonfinites in the elicited production tasks.

Subject	Age	Prof. score	Weekdays Activities Task (WAT)				Stuffed Animals Task (SAT)				TOTAL V2		
			# of sentences in WAT	Total V2	[+fin] V2	[-fin] V2	# of sentences in SAT	Total V2	[+fin] V2	[-fin] V2	Total V2 in WAT & SAT	[+fin] V2	[-fin] V2
BE	13;4	28.50	5	5	5	0	9	9	9	0	14	14	0
DY	13;6	23.51	13	13	13	0	11	7	5	2	20	18	2
DA	14;0	22.98	12	9	9	0	12	12	12	0	21	21	0
JE	13;2	22.23	14	13	13	0	12	12	12	0	25	25	0
VI	12;4	22.15	11	3	0	3	11	11	2	9	14	2	12
SI	11;0	21.02	14	0	0	0	11	11	4	7	11	4	7
HAY	11;4	20.92	13	0	0	0	12	12	2	10	12	2	10
HAR	10;9	20.80	11	0	0	0	13	0	0	0	0	0	0
MAT	13;11	18.57	14	6	4	2	12	12	12	0	18	16	2
MI	10;3	17.74	7	1	1	0	12	8	7	1	9	8	1
KE	11;6	16.17	13	0	0	0	12	12	4	8	12	4	8
MA	10;2	16.05	13	2	0	2	12	11	2	9	13	2	11
KA	8;11	15.40	7	0	0	0	11	0	0	0	0	0	0
NI	10;11	14.93	9	0	0	0	12	0	0	0	0	0	0

TABLE A5. Less-proficient L2ers' +/-finiteness in V2 and verb-final patterns in both tasks.

Subject	Age	Proficiency Score	[+finite] in verb-second	[-finite] in verb-second	[+finite] in verb-final	[-finite] in verb-final
VI	12;4	22.15	2/14 (14%)	12/14 (86%)	0/6 (0%)	6/6 (100%)
SI	11;0	21.02	4/11 (36%)	7/11 (64%)	1/3 (33%)	2/3 (67%)
HAY	11;4	20.92	2/12 (16%)	10/12 (83%)	0/5 (0%)	5/5 (100%)
HAR	10;9	20.80	0/0 (0%)	0/0 (0%)	0/2 (0%)	2/2 (100%)
MAT	13;11	18.57	16/18 (89%)	2/18 (11%)	0/2 (0%)	2/2 (100%)
MI	10;3	17.74	8/9 (89%)	1/9 (11%)	0/4 (0%)	4/4 (100%)
KE	11;6	16.17	4/12 (33%)	8/12 (67%)	5/5 (100%)	0/5 (0%)
MA	10;2	16.05	2/13 (15%)	11/13 (85%)	0/0 (0%)	0/0 (0%)
KA	8;11	15.40	0/0 (0%)	0/0 (0/0)	0/0 (0%)	0/0 (0%)
NI	10;11	14.93	0/0 (0%)	0/0 (0/0)	2/7 (29%)	5/7 (71%)

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