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Teaching the form-function mapping of German 'prefield' elements using Concept-Based Instruction

Abstract: Empirical findings in Second Language Acquisition suggest that the basic structure of German declarative sentences, described in terms of topological fields, poses certain challenges to learners of German as a foreign language. The problem of multiple prefield elements, resulting in ungrammatical verb-third sentences, figures most prominently in the literature. While the so-called V2 constraint is usually treated as a purely formal feature of German syntax both in the empirical as well as in the pedagogical literature, the present paper adopts a usage-based perspective, viewing language as an inventory of form-function mappings. Basic functions of prefield elements have already been identified in research on textual grammar and information structure. This paper presents results from a pilot study with Japanese elementary learners of German as a foreign language, where the form-function mapping of German prefield elements was explicitly taught following the guidelines of an approach called Concept-Based Instruction. The findings indicate that, with a focus on the function-function mapping, it is in fact possible to explicitly teach these rather abstract regularities of German to beginning learners. The participants' language production exhibits a prefield variation pattern similar to that of L1 German speakers; at the same time the learners produce very few ungrammatical verb-third sentences.

Keywords: second language acquisition, German, Concept-Based Instruction, usage, syntax, coherence

1 Introduction

Is it possible, and does it make sense, to teach L2 German learners some of the regularities of German textual grammar on an elementary language proficiency level? For many teachers this would rather seem to be an objective for more advanced learners. However, given the function of prefield elements in German

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declarative sentences, it is argued in this paper that teaching this phenomenon is even necessary, as mastering the basic syntactic structure of German declarative sentences depends on the proper understanding of the textual function of German prefield elements. The levels of textual and sentential grammar therefore need to be integrated from the very beginning.

The research presented in this paper is grounded in a usage-based approach to linguistic theory (cf. Bybee 2013; Langacker 2000) and language acquisition (cf. N. Ellis 2013; Tomasello 2003), according to which language is a structured inventory of form-function mappings. These form-function mappings are seen as the basic units of language acquisition. This usage-based approach to linguistic theory is combined with a pedagogical approach framed within the so-called *Sociocultural Theory* (cf. Lantolf 2011), which is also *usage-based* in two respects. First, it regards language (und thus, linguistic units) as a tool used for problem-solving (in interaction). Secondly, it views language learning as the result of the mediated use of linguistic means to convey meaning. This makes it compatible with usage-based theories of language acquisition. Additionally, due to its focus on mediation, it is a valuable source for direct pedagogical application.

In the following sections, a brief review of the acquisition of basic German syntax, as discussed in the SLA literature, is offered, followed by a usage-based perspective on this issue. After an introduction to the approach of Concept-Based Instruction, the first results of a pilot study are presented and discussed.

2 The prefield in empirical second language acquisition research

Since Drach (1963), German declarative sentences have traditionally been described in terms of so-called topological fields, determined by the fixed syntactic positions of verbal elements (for an overview of the topological model see Dürscheid 2012, chapter 6). Disregarding coordinating conjunctions, which are treated as extra-sentential, finite verbs may only be preceded by one syntactic constituent, defined by grammatical function (e.g., subject, object, adverbial), irrespective of its formal complexity (the constituent can be lexical, phrasal or clausal). This sentence-initial position is called the *prefield* (German: *Vorfeld*). Elements following the finite verb occupy what is called the *middle field* (German: *Mittelfeld*), which is not restricted to any number of different constituents, and which in turn is followed by nonfinite verbal elements, if present. Nonfinite verbal elements are thus separated from finite verbs – another characteristic feature of German syntax. German sentences containing one prefield element and the finite verb in the second position are called V2 structures.

Empirical research on the acquisition of German as a foreign language (GFL) has accumulated broad empirical evidence showing that L2 German learners produce ungrammatical verb-third (V3) structures, once a constituent other than the subject – usually an adverbial – occupies the sentence-initial position. In learner language, this initial constituent is typically followed by the subject in the second and the finite verb in the third position. Such findings have been reported both for naturalistic L2 acquisition contexts (cf. Clahsen et al. 1983) and for foreign language classroom settings (cf. Diehl et al. 2000). Example (1) from a learner's written text production illustrates such a V3 sentence:

(1) *Am Freitag, ich habe im Café mit Mayu gegangen. (TN1605, Dresden schriftlich[1])

In this example, the initial constituent is a temporal adverbial (*Am Freitag*, 'on Friday'), followed by the subject *Ich* 'I' and the finite verb form *habe* 'have' (1st person singular present). The rest of the sentence contains two additional constituents and a nonfinite verb form – the past participle *gegangen* 'gone', which is correctly separated from the finite auxiliary and placed at the end of the sentence. Such V3 structures are referred to as AdvSVX in this paper, as opposed to the grammatical V2 structures of the form SVX or XVS.

Based on the longitudinal studies cited above (Clahsen et al. 1983; Diehl et al. 2000) a certain developmental sequence in the acquisition of L2 German syntax has been proposed. Table 1 lists this developmental sequence relevant for declarative sentences (omitting an initial stage where syntactic segmentation is not yet possible, and a final stage concerning the syntax of subordinate clauses):

Table 1: Proposed developmental sequence for L2 German declarative syntax

Stage 1	SVX
Stage 2	AdvSVX
Stage 3	verb separation
Stage 4	XVS

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1 Translation: 'On Friday, I went to a café with Mayu'. The example is taken from one of the writing tasks described in section 5. TN1605 is the participant ID number used in the study, "Dresden schriftlich" is a short title of the task, in this case a written report on an excursion to the city of Dresden. Note that in this particular case the learner used a comma to separate the sentence-initial adverbial from the rest of the sentence, but this use is not consistent. The same text contains AdvSVX structures like *Dort wir haben Brot genommmen*, 'there, we had (some) bread' or *Danach wir waren in Minimarkt*, 'afterwards, we were in (the) *Minimarkt* (name of a shop)', without a comma.

According to this view, beginning learners almost invariably produce SVX structures only, not separating finite and nonfinite verbal elements. When they start using non-subject constituents in sentence-initial position, they proceed to a stage in which they produce AdvSVX structures. Only after they have additionally mastered the separation of finite and nonfinite verbal elements in a next developmental stage, some learners finally start to produce XVS structures. This late acquisition of XVS structures has been confirmed in a variety of studies with learners from different L1 backgrounds (for a review see Lee 2012a: 76–79). This does not hold for very young learners aged 3 to 5, however, who – just as children learning L1 German – have not been reported to systematically produce AdvSVX structures (cf. Thoma and Tracy 2006). Furthermore, some counter evidence with adult learners has been presented (cf. Bohnacker 2006 for learners with L1 Swedish; Hoshii 2010 for learners with L1 Japanese).

Several explanations have been put forward to account for these developmental stages. The best known approach is probably *Processability Theory* (Pienemann 1998). The basic idea here is that the effort necessary to process linguistic utterances is directly determined by the number of hierarchical levels present in the syntactic structures involved. Thus, while AdvSVX structures are simply combinations of adverbials and complete SVX sentences (which are regarded as basic or 'canonical') and while the separation of finite and nonfinite verbal elements requires processing on the (verb) phrase level, XVS structures can only be produced by additionally applying sentence level rules. Therefore, these are acquired later (cf. Pienemann 1998: 76–116). Processabillity Theory is a coherent approach based on a formalized linguistic theory, Lexical Functional Grammar (LFG). However, the explanation offered is entirely theory-internal, as the approach presupposes the validity of the LFG-modeled structures both as adequate descriptions of the language involved and as paths of processing, not allowing for any exceptions (cf. Pienemann 1998: 13). Processability Theory is therefore unable to handle a more holistic style of language processing based on *chunks* of language (as reported by Diehl et al. 2000: 340–342 and Hoshii 2010: 62, among others). It is also incompatible with general constructivist theories of learning widely accepted in language pedagogy (for an overview see Wolff 2002: 86–90).

A second influencing factor usually discussed as a possible explanation for the late acquisition of XVS structures is L1 transfer. While this can plausibly be argued for strict SVX languages like French (as in the study by Diehl et al. 2000: 112) or English, it seems less likely for learners with L1 Japanese (cf. Andreas et al. 2015: 106), Turkish or Korean (see Lee 2012a: 77–78 for a discussion). As most GFL learners have some knowledge of English, it is still possible to assume that they use English instead of their L1 as a source for transfer (cf. Lee 2012a: 77).

Findings summarized by Bohnacker (2006: 479–480) and learners' self-reports documented by Lee (2012b: 226) support this assumption, but the considerable variation found in most studies points to a rather individual than general role of language transfer as an explanatory factor – accordingly, Diehl et al. (2000: 338–340) discuss transfer as one possible acquisition strategy among others.

Lee (2012a: 81–84, 2012b: 228–233) offers a third kind of explanation, namely that the syntagmatic complexity of German declarative sentences results from two interacting features. Based on introspective learner interviews, Lee concludes that during language production the obligatory subject-verb agreement is easier for learners to process if the verb is directly following the subject from which it inherits its agreement values. Some frequent SV sequences may even be processed holistically, as chunks (cf. Lee 2012b: 230). At the same time, this preferred linear ordering is disturbed in verb separation and XVS contexts, demanding cognitive effort in order to process such structures (cf. Lee 2012a: 83). This approach differs from Processability Theory in that it does not presuppose any specific hierarchical structures, nor does it posit any implicational hierarchy of processing procedures. Furthermore, it explicitly incorporates holistic modes of processing. It is therefore compatible with usage-based theories of language acquisition, but has not received much attention in the literature so far.

3 Hypotheses from a usage-based perspective

The approaches mentioned above treat the acquisition of linguistic features as a purely formal problem. By contrast, the function of prefield elements has largely been ignored in research on Second Language Acquisition. Notable exceptions are studies by Bohnacker (2006), Rosén (2006) and Bohnacker and Rosén (2008), and – building on this research – Haukås and Hoheisel (2013a, 2013b). However, in research on textual grammar and information structure, certain typical functions of German prefield elements have already been identified. Fandrych (2003) reviews these functions from the perspective of GFL teaching. Summarizing research on thematic elements and on the textual functions of establishing coherence, emphasizing, orienting towards the following context, and contrasting (cf. Fandrych 2003: 176–183), he concludes that prefield elements have a 'connecting and embedding function' ("*Anschluss- und Einbettungsfunktion*", Fandrych 2003: 194). Bohnacker and Rosén (2008: 513) similarly state that "the prefield [...] anchors the clause in discourse". Based on his functional analysis, Fandrych (2003: 185–190) identifies certain 'standard connecting expressions' ("*Standardanschlüsse*") which include subjects, certain deictic elements, local and

temporal adverbials, and modal sentence adverbials. These types of elements can typically be used to anchor a sentence in context and thus appear as prefield elements in German. The challenge for learners of L2 German is to decide on exactly one element, usually among several adequate alternatives, to place in the prefield (cf. Fandrych 2003: 194).

From a usage-based perspective, it can be argued that the relevant learning objective is not the abstract and purely formal V2 constraint, but the form-function mapping relating prefield elements to the function of anchoring the sentence in context. Prefield elements in turn are defined by their formal environment, i.e., they are sentence-initial constituents directly followed by a finite verb form in declarative sentences. Crucially, it can be expected that once learners understand the relevant form-function mapping, they will choose their prefield elements more carefully than without such understanding. The following hypotheses can be deducted from this line of reasoning: compared to learners who have not (yet) reached this point, learners who do understand the form-function-mapping of prefield elements will

a. exhibit a higher variation in terms of different formal prefield elements (subjects vs. adverbials) induced by contextual preferences, and
b. produce fewer V3 structures, as understanding the form-function-mapping entails deciding on exactly one prefield element.

There are some additional prerequisites for observing such predicted behavior. Trivially, if learners are not required to connect sentences to form a coherent text, they have neither the opportunity nor the motivation to use different prefield elements in their language production (this point is also noted by Bohnacker 2006: 458). In many elementary language course tasks, such as answering wh-questions or creating short dialogues, learners are typically expected to give single-sentence responses, which tend to be subject-initial even in L1 German. Thus, the observed prevalence of SVX structures in elementary learner varieties (stage 1 of the developmental sequence discussed above) may partly be due to a bias induced by the communicative tasks faced by beginning learners. By contrast, the form-function mapping of prefield elements can only be taught (and the outcome can only be observed) by using tasks involving a slightly longer text production. In the study reported on in this article, short narration tasks are used. However, not only the task type is relevant in this context, but also the pedagogical tools the learners are offered to complement the task in an adequate way. For elementary learners writing their first coherent texts in L2 German, this includes the explicit teaching of the anchoring function of prefield elements, as described above. The approach used for this purpose in the present study is presented in the following section.

4 The approach of Concept-Based Instruction

According to usage-based theories of language acquisition, most language learning happens incidentally through processes of implicit learning (see Tomasello 2003 for L1 and N. Ellis 2013 for L2 acquisition). As argued by N. Ellis (1996: 114) and Boers et al. (2010: 4–7), explicit teaching may be beneficial in cases in which form-function mappings are either not salient or not frequent in the given input. Prefield elements are extremely frequent, given that they occur in virtually every non-elliptical German sentence, but obviously the relevant form-function mapping is not very salient even for learners of typologically close languages like Swedish (cf. Bohnacker and Rosén 2008: 518–519) and Norwegian (cf. Haukås and Hoheisel 2013a: 29–30). This makes the prefield a good candidate for explicit teaching. Haukås and Hoheisel (2013b: 81–88) show that explicit prefield element instruction in university courses with intermediate and advanced intermediate GFL learners does have an effect on both language production and on the learners' awareness of cross-linguistic differences. However, these learners are well beyond the proposed developmental sequences mentioned in Section 2. The present study, in contrast, aims at teaching the form-function mapping of prefield elements to elementary learners of L2 German. The pedagogical approach used for this purpose is called *Concept-Based Instruction* (CBI) and has been summarized by Lantolf (2011: 38–41), referencing Gal'perin (1979). It is framed within what Lantolf (e.g., 2011: 24) terms *Sociocultural Theory*, which can be viewed as a constructivist theory of human learning highlighting the role of co-construction and mediation, or *scaffolding*, in the learning process.

According to Lantolf (2011: 38), CBI consists of five instructional phases. The first phase is a systematic verbal explanation of the concept, in the current case the form-function-mapping of prefield elements. However, as a purely verbal explanation is often not sufficient, which is especially true for explanations in the target language, a central element of CBI is a "second phase – *materialization* – in which the concept is represented visually as a model, graph or other synthetic depiction" (Lantolf 2011: 38, original emphasis). Lantolf (2011: 38) calls this visualization a "*schema for the complete orienting basis of action* (SCOBA)". Only with this schema will learners proceed to the completion of a communicative task during a *communication* phase. The communication phase is followed by a fourth phase – *verbalization* – where learners reflect on their own use of linguistic features for conveying the intended meanings and verbalize these reflections. This sequence of instructional phases is then supposed to lead to an *internalization* of the concept, i.e., the integration of the form-function mapping of prefield elements into the learner language system. From a usage-based perspective, a theoretical construct like internalization can rather be conceived of as a gradual

increase in entrenchment (cf. Langacker 2000: 3). Internalization is therefore more adequately viewed as the resulting effect of the whole pedagogical procedure, not as the last phase in a sequence.

Such a CBI approach can easily be integrated into a task-based methodology of teaching as described by R. Ellis (2003: 243–278), i.e., the explanation and materialization phases of CBI are included among the pre-task activities, and verbalization is achieved through adequate post-task activities.

CBI has already been successfully implemented with respect to different linguistic phenomena such as grammatical aspect in Spanish (cf. Negueruela and Lantolf 2006), the use of the passive voice in French (cf. Lapkin et al. 2008), and temporal particles in Chinese (cf. Lai 2012). Interestingly, some researchers working in a Cognitive Linguistics framework advocate a very similar technique, without referencing any pedagogical theory: the zoom lens visualization presented by Niemeier and Reif (2008: 350) to teach the use of the progressive aspect in English would easily qualify as a SCOBA when incorporated in a CBI approach.

In the present study, the procedure was as follows: the phases of Concept-Based Instruction were integrated into a writing task (after 15 hours of language instruction), in which students in an intensive course were asked to tell a friend about their first week abroad in an e-mail. The course was a four-week intensive German language course for elementary learners, and this was the first of five individual writing tasks the students would complete during the four weeks. The participants were Japanese university students, but as the German teacher had no knowledge of Japanese, the visualization was an additional help for the explanation (in German and English). The SCOBA used can be seen in Figure 1, a documentation of the material used by the learners.

The idea behind this kind of visualization is that the prefield connects the sentence to the preceding text, just like a railway carriage is connected to the preceding ones by the coupler, indicated by the arrow. Note that the SCOBA integrates the formal levels of syntax and textual structure, and that it also includes a visualization for the separation of verbal elements (the two positions of the wheels). The SCOBA deliberately excludes a visualization of subordinate clauses for the elementary learners, but it can easily be modified to accommodate such structures.

Guided by the SCOBA, groups of three or four learners collaboratively analyzed the structure of an e-mail text from the course book (Buscha and Szita 2007: 71), which they had read before. This first activity in which they used the SCOBA still took place in the pre-task phase. During the writing task itself the learners were guided by the design of the material (Figure 2) to employ the same kind of structural analysis as before, but this time of their own text production.
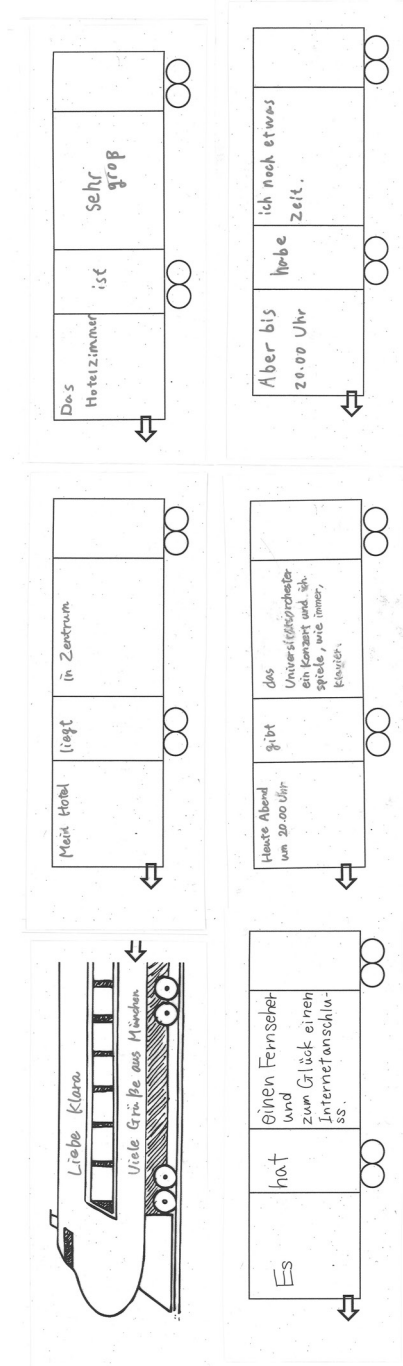
Fig. 1: SCOBA used in the Concept-Based Instruction of the form-function mapping of prefield elements. Locomotive illustration by K. Hatasa taken from http://www.schulbilder.org/malvorlage-eisenbahn-i12288.html (May 25, 2016).

Schreibe eine E-Mail an Tamaki!

Fig. 2: SCOBA-guided written language production by a learner (TN1610). Tamaki is a fictional person introduced earlier to the learners for pedagogical purposes. The e-mail header screenshot picture on the worksheet is adapted from Buscha and Szita (2007: 71).

The verbalization took place on the following course day, embedded in the evaluation of the texts, and preceding a second and very similar writing task (writing about weekend activities) using the same visual guidance. Thus, the post-task phase included both the verbalization phase and a task repetition. During the third writing task (exactly one week after the CBI session), the learners were again visually reminded of the SCOBA by a single picture on the worksheet, but their writing space consisted of normal lines. For the fourth and fifth individual writing

tasks, as well as for all written pair work tasks, learners had no explicit visual reminder on their worksheets. However, the SCOBA cards shown in Figure 1 were constantly available in the classroom for both learner and teacher use throughout the remaining course time.

5 Empirical findings of a pilot study

The approach described in the preceding section was applied in March 2016 to a group of 10 GFL learners who were part of the third follow-up cohort of a larger study, as described in Andreas et al. (2015). Their L1 was Japanese, and all of them had previously learned English as an L2, thus German was their second foreign language. They were not tested on their English skills, but their speaking skills when communicating with the teacher in English were rather poor. They frequently and successfully used English for vocabulary clarification requests. They were all students of different majors, aged 19 to 21, and there were 4 male and 6 female participants. They had been learning German at their home university for between 6 weeks and several months, but they were all placed in the A1 level of the CEFR using a c-test procedure, and an additional test component (the pretest for this study) revealed that they had some basic knowledge of German syntax (for details see Figure 3), but no apparent knowledge of German textual grammar. None of them had previously been to any German-speaking country.

They attended a four-week intensive GFL course held at Humboldt University Berlin with a total of 60 contact hours. *Begegnungen A1+* (Buscha and Szita 2007) was used as a course book, complemented by occasional additions from other sources and tailor-made materials from the teacher. The course book was deliberately chosen because of the rich and variable input it offers with respect to prefield elements. The data presented below consist of the pre- and posttests completed by the learners in this CBI group, and some observations of learner and teacher actions during the lessons. The complete analysis of additional data, such as the language produced in all of the five writing tasks mentioned above, the video documentation of oral language production as well as oral and written data elicited by some specifically developed tasks, is still in progress.

The test data of this CBI group were compared with the test results of two different groups. One comparison group was the 2014 cohort of the same German language course arrangement, consisting of 20 L1 Japanese students from the same home university, with a comparable background in language biography, age, gender, and fields of study. They were instructed by two different teachers, but the course book, the elicitation tasks and the pre- and posttests for this group were identical to those of the CBI test group. They received some explicit

CBI group

Item	example solution	AdvVSO	AdvSVO	SVAdvO	SVOAdv	SAdvVO	Other	n.a.	sep.	Total
Pretest								no verb		
1	Außerdem hat sie Deutsch gelernt.	0	0	6	2	0	2	0	5	
2	Zuerst hat sie einen Intensivkurs in Tokyo besucht.	0	0	7	1	1	1	0	5	
3	In diesem Kurs hat sie viel Grammatik gelernt.	0	0	2	5	0	3	0	4	
4	Tamaki hat auch viele deutsche Texte gelesen.	0	0	7	0	1	2	0	7	
5	Dann wollte sie Deutschland kennen lernen.	0	0	4	0	1	5	0	5	
6	Am liebsten wollte sie Berlin kennen lernen.	0	0	3	2	0	5	0	5	
7	Deshalb hat sie viele Bücher über Berlin gelesen.	0	0	2	5	0	2	1	4	
8	Im Frühling ist Tamaki nach Berlin gereist.	0	0	6	1	0	0	3	3	
9	Dort hat sie einen zweiten Intensivkurs besucht.	0	0	3	4	0	0	3	4	
10	In diesem Kurs hat sie viel gesprochen.	0	0	3	3	0	0	4	1	
Total		0	0	43	23	3	20	11	43	100
Posttest										
1	Sie konnte es sehr genießen.	0	0	0	9	0	1	0	0	
2	Am Vormittag ist sie zum Deutschunterricht gegangen.	8	1	1	0	0	0	0	0	
3	In diesem Kurs hat sie viel gelernt.	2	0	4	4	0	0	0	0	
4	Sie hat vor allem viel gesprochen.	0	0	6	3	0	0	1	0	
5	Am Nachmittag hat sie Berlin kennen gelernt.	7	1	0	1	0	1	0	0	
6	Einmal hat sie das Deutsche Historische Museum besucht.	0	0	6	3	0	1	0	0	
7	An einem anderen Tag hat sie das Brandenburger Tor besichtigt.	7	0	1	1	0	0	1	0	
8	Sie hat auch Ausflüge gemacht.	0	0	8	0	1	0	1	0	
9	An einem Wochenende ist sie nach Dresden gefahren.	7	1	1	1	0	0	0	0	
10	Abends und nachts hat sie Partys gefeiert.	4	0	3	2	0	0	1	0	
Total		35	3	30	24	1	3	4	0	100

Fig. 3: Test results. The test consisted of 10 sentences, each to be created by ordering five constituents: S = subject, O = object, Adv = adverbial, V = a finite verb, and a non-finite verbal constituent (not represented in the column headers, as it is obligatorily placed sentence-final in L1 German). The sentences were supposed to make up a coherent text following two introductory items which served for modeling. The two introductory sentences of the posttest, preceding item 1, were: *Tamaki hat in diesem Jahr schon viel erlebt. Im Frühling war sie 4 Wochen lang in Berlin.* 'Tamaki has seen a lot this year. In spring, she went to Berlin for 4 weeks.' The pretest was preceded by one item only: *Tamaki hat in Tokyo Geschichte studiert.* 'Tamaki studied history in Tokyo.') AdvVSO, SVAdvO, SVOAdv, and SAdvVO are grammatical options in L1 German. OVSAdv would also have been a possible option, but was never chosen by the learners and is therefore not coded in the tables. The shading of the cells corresponds to the percentage of answers per item.

teaching of the formal V2 constraint of German declarative sentences, but no explicit mention of the form-function mapping of prefield elements and no form of Concept-Based Instruction.

The second comparison group consisted of 20 L1 German speakers, in order to establish an L1 German baseline for the posttest used. These were students of different majors at Humboldt University Berlin, aged 18 to 24. They completed the test in April and May 2016 as part of their workload in seminars on linguistic diversity, but were only afterwards informed about the purpose of the test.

As the pretest results of the CBI group show, learners invariably produced subject-initial sentences before the beginning of the course. Sentences in the 'other' column (one fifth of the pretest total) contain other non-target-like structures than multiple prefield elements and were therefore not interpreted in terms of L1 German syntactical categories. Note that in 43 out of 100 cases learners did not separate the finite and non-finite verbal elements, and 5 out of 10 learners did not separate the verbal elements in the majority of their sentences. This indicates that at least half of the learners in the CBI group had not yet mastered the verb separation feature of German declarative syntax.

In the posttest of the CBI group, there is considerable variation with respect to the prefield elements chosen. The four ungrammatical V3 structures, as well as the n.a. cases, are all due to one single learner (TN1601), who often chose not to participate in the course activities, even when physically present in the classroom. These cases are therefore excluded from the further discussion of the results. The remaining learners in the CBI exhibit a fairly even balance between adverbials (35%) and subjects (30%) in the prefield. One learner (TN1604) placed subjects only in the prefield during the posttest, but the texts produced by the same learner in the writing tasks show a prefield variation comparable to that of the other learners.

When compared to the 2014 cohort (see Figure 4), who received comparable linguistic input from the teaching materials but no CBI on the form-function mapping of prefield elements, there is a marked difference: only 12% of all prefields in the 2014 posttest are adverbials, and 14 out of 20 learners in this comparison group did not produce any non-subject prefields. By contrast, the distribution of adverbial prefields in the L1 German group is more similar to that of the CBI group, even though the preferences for individual items differ.

During the language course, some further interesting observations could be made. First, and as intended, the SCOBA was repeatedly used by the teacher for purposes of corrective feedback. However, even during pair work writing tasks some learners searched for the SCOBA in their course materials and used it for guidance, without prompts from the teacher.

Comparison groups

Item	example solution	AdvVSO	AdvSVO	SVAdvO	SVOAdv	SAdvVO	Other	no verb n.a.	no verb sep.	Total
2014 cohort (no CBI)										
Posttest										
1	Sie konnte es sehr genießen.	0	0	0	18	0	2	0	0	
2	Am Vormittag ist sie zum Deutschunterricht gegangen.	4	0	6	10	0	0	0	0	
3	In diesem Kurs hat sie viel gelernt.	2	0	9	8	0	1	0	0	
4	Sie hat vor allem viel gesprochen.	1	0	12	7	0	0	0	0	
5	Am Nachmittag hat sie Berlin kennen gelernt.	6	0	5	8	0	1	0	0	
6	Einmal hat sie das Deutsche Historische Museum besucht.	0	0	10	10	0	0	0	0	
7	An einem anderen Tag hat sie das Brandenburger Tor besichtigt.	5	0	6	9	0	0	0	0	
8	Sie hat auch Ausflüge gemacht.	0	0	17	3	0	0	0	1	
9	An einem Wochenende ist sie nach Dresden gefahren.	6	0	6	8	0	0	0	0	
10	Abends und nachts hat sie Partys gefeiert.	0	0	11	9	0	0	0	0	
Total		24	0	82	90	0	4	0	1	200
Total %		12	0	41	45	0	2	0	0,5	100
L1 German										
Posttest										
1	Sie konnte es sehr genießen.	0	0	0	20	0	0	0	0	
2	Am Vormittag ist sie zum Deutschunterricht gegangen.	8	0	10	0	0	2	0	0	
3	In diesem Kurs hat sie viel gelernt.	10	0	7	2	0	1	0	0	
4	Sie hat vor allem viel gesprochen.	10	0	10	0	0	0	0	0	
5	Am Nachmittag hat sie Berlin kennen gelernt.	11	0	2	3	0	4	0	0	
6	Einmal hat sie das Deutsche Historische Museum besucht.	12	0	4	2	0	2	0	0	
7	An einem anderen Tag hat sie das Brandenburger Tor besichtigt.	9	0	4	2	0	5	0	0	
8	Sie hat auch Ausflüge gemacht.	0	0	16	0	0	4	0	0	
9	An einem Wochenende ist sie nach Dresden gefahren.	17	0	3	0	0	0	0	0	
10	Abends und nachts hat sie Partys gefeiert.	13	0	5	0	0	2	0	0	
Total		90	0	61	29	0	20	0	0	200
Total %		45	0	30,5	14,5	0	10	0	0	100

Fig. 4: Posttest results for the comparison groups. For the L1 German group, most sentences in the "other" column are (grammatical) OVSAdv structures.

Second, in the last writing task, which included both a self- and peer-correction phase, learners produced variable and adequate prefields already in their first versions of the text, before the corrections. Only 3 out of 10 learners produced very few ungrammatical V3 structures. Moreover, the learners used different types of adverbials (temporal, local, modal, and a few causal adverbials) in the prefield, showing that their use of non-subjects in the prefield is not restricted to the temporal adverbials prevailing in the posttest.

It is worth noting, however, that compared to the written texts, these learners' oral production exhibited much less variation, both in terms of syntactic structure and in terms of the lexical items used. It seems that while the learners used the writing task to experiment with newly-learnt lexis, they were far more conservative in their oral speech, and somewhat reluctant to depart from well-rehearsed oral routines.

6 Discussion

The learner actions and texts clearly show that the learners in this study were able to use the SCOBA as a tool to mediate their written language production. Thus, the suggested SCOBA can be evaluated as "pedagogically relevant" in the sense of Lantolf (2011: 43), who claims that "features should be presented in a form students can use to guide their thinking and performance" – this is exactly what happened in the language course.

As to the hypotheses presented in section 3, it can be concluded from the test results that learners in the CBI group indeed exhibited a higher variation in terms of different formal prefield elements (subjects vs. adverbials) than the non-CBI comparison group. The prefield variation in the CBI group posttests is even similar to the one in the L1 German group, a result which was quite unexpected. The texts produced in the writing tasks reflect the learners' elementary proficiency level in terms of genre and vocabulary, but they appear native-like with respect to the use of prefield elements to anchor the respective sentences in the given context.

The second hypothesis, according to which learners in the CBI group would produce fewer V3 structures than those in the comparison group, could not be evaluated, because only a few learners in the comparison group tried out non-subject prefields at all in the posttest, not resulting in any V3 structures. This can be interpreted in several ways. One possibility is that most learners in the comparison group simply did not notice the variability of formal prefield elements in the input. A second possibility is that the conditions under which adverbials can be placed in the prefield were not clear to them, leading them to avoid such

AdvVSX structures. Additionally, they may have failed to notice that the test sentences taken together constitute a coherent text, and thus they might not have used any means to establish textual coherence. The SCOBA proposed above could in principle be used to work on any of these potential problems, and the performance of the CBI group indicates that Concept-Based Instruction was successful in these respects.

As mentioned above, at least half of the learners in the CBI groups had not mastered the verb separation feature of German syntax before the beginning of the course. These learners received instruction on verb separation and on the use of prefield elements at the same time, as the SCOBA forced them to assign a structural position to non-finite verbal elements, even if this was not the focus of the CBI teaching sequence. As the written texts and the test results show, there was no evidence for a sequence like the one given in Table 1 (according to which verb separation precedes the production of AdvVSX structures), nor was there any evidence for a different sequence. Rather, the results of the study call into question whether it is useful to assume such developmental sequences at all. From a usage-based perspective, the observed sequences can most probably be explained as a result of converging influencing factors such as features of the input available, task types posed to the learners, possibly language transfer, and in the case of classroom learning the tools used for explicit instruction.

Differences in processing effort as suggested by Lee (2012a, 2012b; see the discussion in section 2) may still play a role. If declarative sentences with non-subject prefields are indeed harder to process than SVX structures because of the interaction of subject-verb agreement and constituent order (cf. Lee 2012a: 83), this might at least partly explain the difference between the oral and written productions by the learners. This is also explicitly noted by Lee (2012b: 225), citing learners' self-reports.

In sum, the present study has shown that the form-function mapping of German prefield elements can successfully be taught using a Concept-Based Instruction approach embedded in a sequence of writing tasks. A further pedagogical perspective would be to include a comparison with the learners' L1 in the explanation phase, as suggested by Lantof (2011: 38). Further research fields include the additional use of introspective learner data to assess the suitability of the SCOBA from the learners' perspective and the comparison of learners with different L1 languages.

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