Brigitte Handwerker & Karin Madlener. Chunks für DAF: Theoretischer Hintergrund und Prototyp einer multimedialen Lernumgebung. Hohengehren: Schneider, 2009. Pp. 138, €18, ISBN 3834004952.

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Chunks für DAF ('Chunks for Learning German as a Second Language') presents the prototype of a multimedia self-study program for second language learners of German. The target construction in the prototype are German participial constructions, which are difficult to acquire because of their complex lexico-syntactic behavior. Largely driven by a constructionist perspective on language in which grammar and lexis do not constitute strictly separate modules, the program exposes the learners to chunks, i.e. combinations of participial frames in combination with their most prominent lexical specifications (obtained from authentic native speaker language). The main goal of the program is to facilitate the acquisition of participial constructions by drawing learners' attention to these lexico-syntactic complexities.

Synopsis

The book comprises two main sections. The first section provides an introduction to theoretical assumptions and empirical research findings supporting the authors' working hypothesis that the lexico-grammatical proficiency of second language (henceforth L2) learners of German benefits from exposure to chunks.

Chapter 1 starts out with a definition of the term *chunk*. The authors argue that chunks differ from other formulaic language (including formulae, prefabricated patterns, routines, and lexical phrases) such that they are not necessarily associated with a specific conversational function or context. Rather, chunks are defined as constructional frames filled with selected lexemes which, through repetitive input, are ultimately stored as holistic sequences. Massive exposure to selected variations of these frames is assumed to guide learners' awareness for grammatical idiosyncrasies and idiomatic lexical choices within the frames. Accordingly, rather than focusing on communicative competence, this growing awareness of the combinatory restrictions of frame and lexical items, which the authors call chunking, primarily aims at furthering lexico-grammatical competence. The authors emphasize, however, that while chunking as defined here puts grammar into focus, this does not mean that the selected chunks are not useful for communicative purposes. On the contrary, the constructional frames and their lexical fillings were carefully selected on the basis of attestations in authentic German language use, which entails their embedding in specific communicative contexts and therefore should also render them useful for learners' communicative needs.

Several findings from first and second language acquisition research serve as the foundation for the authors' chunk-driven approach. First, language acquisition is largely implicit, which necessitates explicit instruction on certain grammatical rules to be fully acquired. Second, as N. Ellis (2003) has argued, learners' primary motivation to chunk language sequences seems to free short-term memory capacities, which increases fluency. In that regard, learners seem to gradually progress towards a native language ideal since native language is also highly routinized (a fact powerfully illustrated by corpus-based studies in particular; e.g. Pawley & Syder 1983; Sinclair 1991). Similarly, first language acquisition is considerably driven by chunks, as Tomasello and colleagues have shown in various empirical studies (e.g. Tomasello 2003).

In L2 acquisition, however, chunking is much less of a natural and automated phenomenon than in first language acquisition. L2 learners, as stated by the authors, typically restrict their use of chunks to specific communicative contexts and do not re-analyze them without explicit instruction. Therefore, the authors' main motivation is here to counter-act their observations that "foreign language learners are, by default, word-watchers rather than chunk-collectors", and that learners "use chunks for specific communicative purposes only" (translated from p.6) by highlighting the

interplay between constructional frames and their lexical fillings.

Chapter 2 outlines the *Input Processing* approach which inspired the design of the multimedia self-study program. The authors adopt VanPatten's (2004:7) definition of the term:

> "processing is about making form-meaning/function connections during real time comprehension. It is an online-phenomenon that takes place in working memory".

In other words, input processing is the restructuring of input into intake. As not all input is automatically converted into intake, the authors claim that it is reasonable to maximize and facilitate this conversion by providing chunked input. Since learners tend to focus on meaning rather than form, input processing is enhanced through *explicit instruction* to draw attention to formal features. Explicit instruction may come in various forms, such as making forms salient, providing explicit grammar information, pointing out flawed processing strategies that result in sub-optimal processing, or providing tasks that require conscious analysis of the input.

Next to explicit instruction to guide processing, the authors borrow the concepts *massive input* and *input enhancement* from L2 research. Massive input simply means that learners are ideally exposed to input that is rich in the target structure. In this context, the authors claim that massive input provides only positive evidence, while learners additionally need negative evidence (in the form of, say, information about limitations of grammaticality or usage constraints) to successfully acquire a target structure. For this reason, the program not only provides massive input, but presents the learner with enhanced input in the form of acquisition-compatible grammar tasks (R. Ellis 1997) or structured input activities (Wong 2004, 2005), which force the learner to notice formal aspects of the target structure.

In chapter 3, the authors introduce the target structure that was selected for the development of the program prototype, i.e. German psych-verbs or so-called stimulus-experiencer verbs. Similar to English *frighten*-verbs (Grimshaw 1990; Dowty 1991), German psych-verbs can occur in a transitive constructional frame in which the subject slot is occupied by the stimulus (rather than the experiencer, which usually ranks higher in agentivity hierarchies):

(1) Ihr neuer Ehemann$_{Stimulus}$ begeistert
Her new husband $_{Stimulus}$ thrills

Liz Taylor$_{Experiencer}$
Liz Taylor$_{Experiencer}$

Psych-verbs exhibit a range of syntactic idiosyncrasies. For one, they can occur in past participial constructional frames expressing the experiencer as subject as in (2a). In that case, the stimulus is expressed optionally as in (2b). This distinguishes psych-verbs from other atelic verbs that are ungrammatical in that frame, as exemplified in (2c).

(2a) Liz Taylor$_{Experiencer}$ ist begeistert$_{Past\ participle}$
Liz Taylor$_{Experiencer}$ is thrilled$_{Past\ participle}$

(2b) Liz Taylor$_{Experiencer}$ ist begeistert$_{Past\ participle}$
Liz Taylor$_{Experiencer}$ is thrilled$_{Past\ participle}$

von ihrem neuen Ehemann$_{Stimulus}$
by her new husband$_{Stimulus}$

(2c) *Die Frau$_{Experiencer}$ ist gestreichelt$_{Past\ participle}$
The woman$_{Experiencer}$ is caressed$_{Past\ participle}$

In addition, many, but not all, psych-verbs can function as adjectives in predicative constructional frames:

(3a) Der Film$_{Stimulus}$ ist enttäuschend$_{Adjective}$
The movie$_{Stimulus}$ is disappointing$_{Adjective}$

(3b). *Der Zustand der Örtlichkeiten$_{Stimulus}$
The condition of this place$_{Stimulus}$

ist ensetzend$_{Adjective}$
is appalling$_{Adjective}$

Furthermore, they rarely occur in imperative or passive constructions, both of which the authors account for with reference to the fact that the focus of psych-verbs is on the stimulus, which would be dropped in either of these frames. Similarly, psych-verbs refuse conversion into a resultative frame as the resultative state of the experiencer is already lexically encoded:

(4) Er hat mich fanatisch begeistert.
→ *Ich bin fanatisch.

He thrilled me fanatical.
→ I am fanatic.

Additionally, psych-verbs vary considerably in terms of their individual behavior, making them even more difficult to acquire. For instance,

verbs such as *vergrämt* ('repelled') or *betrübt* ('aggrieved') occur in contexts in which the stimulus is neither realized nor necessarily inferable:

(5a) Er[Experiencer] ist vergrämt[Past Participle]
He[Experiencer] is/feels/looks repelled[Past Participle]

(5b) Sie[Experiencer] ist betrübt[Past Participle]
She[Experiencer] is/feels/looks aggrieved[Past Participle]

Chapter 4 lays out the main design features of the lexicon contained in the program prototype. Firstly, as far as input variation is concerned, the authors make reference to a recent study by Goldberg and Casenhiser (2008), which presents empirical evidence that L2 learners are sensitive not only to constructional frames, but also to the bias of individual verbs towards one out of several constructional frame alternatives. Goldberg and Casenhiser show that constructions are acquired faster when being exposed to skewed input as opposed to balanced input in terms of the number of different verbs that occur in the given construction. Accordingly, only selected examples of the target structure are presented in the program.

Secondly, for the presentation of verbs and the constructional frames they occur in, the authors chose to use a construction grammar framework since it has previously been employed successfully to account for structures in the interlanguage of L2 learners (Gries & Wulff, 2005; Haberzettl 2006) and licenses the description of phraseological and idiomatic expressions within the same framework as rule-based patterns. In sum, a construction grammar implementation of the lexicon makes it possible to summarize holistic alongside analytical information about the target structures and does not impose any constraints on the kind and amount of additional information provided in a given lexicon entry: details regarding semantics, structure, pronunciation, verb class, morphological properties, subcategorization and selection restrictions, collocations, idiomatic variants, and chunks can be added as needed. This facilitates the authors' primary goal to motivate chunking on the one hand while at the same time encouraging the learner to decompose the chunks.

The second section of the book is devoted to the presentation of the program prototype and preliminary empirical results of several pilot studies on its effectiveness.

Chapter 5 introduces the program both as a research and a learning environment. As a computer-assisted, self-paced learning environment, it allows the researcher to track user data, including records of the pages the learners browsed, how long they remained on one particular page, and if and to what extent they took advantage of the help functions and resources. Users navigate through an interface that comprises three main areas: a menu (horizontally arranged on top of the page), the main navigation (vertically arranged on the left side), and a working/content window filling most of the screen.

Users can choose among three main topics: verb classes, psych-verbs and participles in German. Information about verb classes is provided by means of a text summary; information about participles in German is given by way of an introductory summary accompanied by interactive and elaborating tasks that focus specifically on the differences between present and past participle; and information about German psych-verbs comes in the form of an introductory summary, various multimedia input (videos, picture sequences, and animations), a learner grammar, and interactive tasks with automated corrections and feedback. Across the three main topic areas, the introductory summaries vary slightly depending on the user's self-identification as a learner, teacher, or linguist. Any content can be accessed at any time.

Efforts were made to do justice to the theoretical and empirical research findings outlined in the introductory chapters: the program

- provides *massive input* to the target structures;
- makes target structures *salient* through, for instance, subtitles in the video sequences, or bold print in the interactive tasks;
- provides *elaborated input* through modifications, paraphrases, repetitions, redundancies, and help functions such as the glossary and lexicon;
- provides *multimedia input* including video, audio, pictures, and text;
- highlights *constructions* as opposed to single words to motivate chunking;
- makes various *modificational interaction* offers, such as the help function, differentiated feedback, negative feedback in tasks and exercises, links between the lexicon entries and grammatical information, different

subtitle versions in the videos, and elaborating picture sequences for every video;
- puts *focus on meaning and communicative relevance*, since psych-verbs serve to express emotions, so they are highly relevant in a variety of contexts, and they are embedded in natural contexts such as the video and picture materials (topics and items were selected from a corpus of authentic English language use);
- maximizes *learner autonomy* and supports *individual learner strategies* with its calm, unambiguous, and transparent surface design that allows flexible access to all components;
- provides *multi-sensory input* that should maximize intake and facilitate the comprehension of psych-verbs which do not necessarily overtly realize their stimulus via visual clues;
- provides *various tasks and exercises* that serve not only to help the learner determine their current proficiency level, but also to practice and self-assess their learning outcome (priority was given to contextualization rather than pattern drill as well as reception over production, as manifest in the drag and drop and multiple choice offers).

In chapter 6, the authors summarize the findings of three preliminary studies in which the effectiveness of the program prototype was tested. In a first experiment, nine students in an experimental group were compared to a control group of 18 students. The experimental group used the program in two or three sessions of 90 minutes length, focusing only on the present participle. The second experiment comprised two experimental groups (17 students total) and two control groups (15 students total). This time, the experimental groups were given a two-hour introduction to the program before working with it in a self-paced fashion for six hours on average over the course of two weeks. The control group, on the contrary, received 20 hours of regular class instruction during this time period, with ten hours specifically focusing on participial constructions. The third experiment included an experimental group and a control group of equal size (10 students), who all received regular class instruction, while only the experimental group had additional access to the program. As far as the results of this last experiment in particular are concerned, the authors first examined the data in terms of the learners routes and paths as captured by the protocol function of the program, which revealed only few individual differences. Secondly, regarding proficiency development, the authors deem the results inconclusive because the experimental groups tended to be considerably better than the control groups already in the pre-tests, and because there were enormous differences in exposure time both among the participants in the experimental groups as well as between the experimental and the control groups. Still, the authors close by saying that "the overall results license the conclusion that the experimental and the control groups make comparable progress" (translated from p.106). Lastly, the authors point toward the future analysis of data on learner strategies and potential evidence for chunking, which they argue are manifest in the overgeneralizations, productions, and interactional modifications (i.e., instances when learners use the help function) that are captured by the protocol function of the program.

Evaluation

Chunks für DAF is one of the first attempts to implement recent findings from theoretical, applied, and psycho-linguistics into language teaching. As such, the contribution it makes to all these fields cannot be understated. At the same time, *Chunks für DAF* takes on a particularly challenging task since a closer look at current research shows that the role of chunks in L2 acquisition is far from being accounted for in detail. This entails that we need to evaluate the potential effectiveness of the program prototype with considerable caution.

Maybe the most important assumption *Chunks für DAF* rests on is that L2 acquisition is much like first language acquisition as summarized by Dąbrowska (2000:89):

> "Formulas, as pointed out earlier, are essentially big words, and they are learned in the same way as ordinary lexical items: by associating a stretch of sound with a semantic representation. Some may begin life as 'unopened packages', but all are eventually segmented into chunks which are mapped onto aspects of semantic structure. Constructional schemas, I will argue, emerge from formulas as a result of data compression in long-term memory. The schema extraction process is gradual: the child, as we shall see, progresses from invariant formulas through increasingly general formulaic frames to a

> constructional schema in which none of the slots are tied to specific lexical items."

This raises two fundamental questions. Firstly, are differently schematized versions of a construction mentally stored at the same time? From a "storage is cheap, processing is costly"-point of view that drives many contemporary speech production models, one would assume that multiple versions of a construction are stored alongside each other, some as fully lexically specified fixed expressions available for speedy retrieval, some as more abstract constructional frames (see, for example, Barsalou 1992). In a model that strives to be maximally parsimonious in terms of storage, on the contrary, one could assume that the former are discarded as soon as the latter are established (see, for example, Goldberg 1995), and that fluent production is ascertained just as much through strong activation linkages between a given constructional frame and the lexical items that frequently fill it.

Secondly, are there any differences in the (development of the) mental lexicon of native and non-native speakers with regard to the (potential) conversion of chunks into constructions? Research supports the idea that advanced L2 learners have constructional knowledge that is similar to that of native speakers (see the studies mentioned above), and some findings indicate that this knowledge builds up gradually (Liang 2002). Also, there is general consensus that unlike in first language acquisition, bootstrapping does not take place automatically in L2 acquisition, but requires the learner's conscious attention, which, for many if not most language learners, can only be raised through focus on form(s) in explicit instruction (see, for instance, Klapper & Rees 2003)[1]. However, we are far from being able to give a detailed account of the different stages of interlanguage development, or from answering the question if and to what extent this development mirrors first language development (described in detail in Tomasello 2003); not to mention the potential impact of factors such as differences in L1 background, onset age of acquisition, cognitive predispositions, differences in learning style, etc. Briefly put, when it comes to L2 acquisition, we know that learners start out with formulas and end up with constructions, but we know only very little about how they get from one to the other.

Inevitably, then, *Chunks für DAF* operates in a vaguely defined zone when it tries to help learners on their way from formulas to constructions. This surfaces in various places in the design of the multimedia program and the preliminary research findings on its effectiveness. Clearly, the program offers massive, enhanced, and salient input of the target construction, and it does so in a very appealing manner. Beyond doubt, and as generally confirmed by the experiments reported, learners using the program learn something. However, it is beyond the capacities of the program to track, control, or predict how the learners using it *process* the input, and if, to what extent, and in which *form* (formulas, chunks, constructional schema) they *retain* it.

As I see it, these questions can only be addressed though external validation, taking the form of, say, constructional priming, fill-in-the-gap, sentence completion, and other controlled, and free production experiments. Similarly, even the data provided by tracking the pages browsed, how long a learner stays on a given page, and the errors they commit need to be interpreted with caution as they provide only very indirect evidence of learner strategies, learner routes, or language development through chunking. Especially with regard to the latter, an item-by-item analysis would be necessary: which instantiations of the target construction are used adequately or inadequately, and how often? With regard to the former two, we cannot be sure that length of stay on a given page is very revealing – more fine-grained measures like eye-tracking, for instance, would give more decisive answers. While this has not been done as of now, the program would constitute a nice platform for such an experiment.

Likewise, considerable effort was made to present authentic language data, rendering the input very useful to the learner. Again with regard to questions of learner routes and language development, however, a proper experiment would have to control for various other factors, including the frequency of the component words, the construction, and the specific combinations of words and constructional frames in native speaker language, as well as learners' familiarity with each of these prior to using the program. Learners' more or less adequate use of any given instantiation of the target construction, and the speed with which they acquire it, may vary considerably as a function of their familiarity with any of the component words, for instance.

In sum, the multimedia program presented in *Chunks für DAF* is a rare attempt to bridge the gap between recent research on formulaic language in L2 acquisition and the (virtual) classroom. Loaded

with plenty of relevant input and a variety of different tasks and exercises, and presenting information in an accessible and entertaining way, it clearly constitutes one of the most appealing self-paced learning programs for L2 learners of German that are out there. As far as acquisition research using the program goes, the multimedia program may very well be used in further studies when combined with other methodological tools and forms of experimental validation. The preliminary findings reported in *Chunks für DAF* may serve as valuable pointers to the design of such studies.

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Notes

[1] I am reluctant to agree with the claim that *no* language learner *ever* bootstraps their input on their own since this stands at odds with the afore-mentioned evidence in favor of constructional knowledge in (at least) advanced second language learners. For a more in-depth discussion of the role of explicit instruction and its, as of yet under-researched, interaction with task complexity, the grammatical target structure in question, and other factors, see Sanz and Morgan-Short (2004).

Processing Information

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