Schemas in first language acquisition: A German traceback study.

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It has been observed that when children begin to use multi-word expressions they produce utterances they have not previously produced in that way or heard in the input in exactly the same manner. According to a usage-based approach (Tomasello 2003) these more complex structures are**,** however, limited in their distribution, because their patterns are organized around individual lexical items and phrases. At this stage the grammatical development is not considered global, but can be characterized as insular, in which individual structures change separately from others. The beginning of this creative and productive use of language need not necessarily be attributed to the internal application of abstract meaningless rules. Instead, it is assumed here that in the phase of multi-word utterances lower-level schemas, with lexically fixed elements and variable slot categories that can be filled creatively will be established. Thus**,** a child first acquires concrete linguistic constructions and then proceeds to summarize them into more abstract structures. The different slot types are seen as the result of a categorization process, which is empirically understandable by using the traceback method (Lieven et al. 2009).

As yet, there are no known traceback studies that focus on German first language acquisition. Therefore the method is applied to German data. The data consist of four high-density developmental corpora. The children were recorded for seven weeks at the age of 2;1. The mothers made one-hour tapes in relatively typical play interactions in their homes five days per week. This resulted in 35 hours recording per child. The recordings were then transcribed in CHAT format (MacWhinney 2000). To demonstrate how multi-word utterances are composed from previously-formed utterances without considering a set of meaningless generative rules the corpora were divided into two parts: a test corpus, which contains the target structures to be traced back and a main corpus, which contains the component units. The repetition and/or combination (lexical or syntactic modification) of these component units should form the target structures. The analysis was carried out automatically by using an algorithm in combination with the German version of CLAN (Koch 2017).

Using the traceback method between 85 and 95 percent of the target utterances could be traced back. These result is very similar to the English studies (Dabrowska/Lieven 2005; Lieven et al. 2009; Vogt/Lieven 2010). In most cases the utterances were based on low-level schemas using a slot category for referents. But in contrast to the English results other slot categories played a bigger role at the same age. Especially a kind of process-slot seems to be more relevant for German at that age. It will be discussed to what extent typological aspects of German in combination with a usage-based approach are able to explain the results of the study.

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