Hands in motion: Learning to express motion events in a sign and a spoken language

English

Motion events contain different semantic components such as Figure, Ground, Path and Manner (e.g., a ball [Figure] rolls [Manner] down [Path] a hill [Ground]) [1]. Previous studies show that signing children encode *both* Path and Manner at around four years of age [2] – earlier than speaking children, who express either Path or Manner, depending on the typology of the language [3]. In expressing Figure and Ground, signing children were found to mention *Figure only*, and skip Ground in their motion event narrations until around 12 years of age [4, 5, 6]. However, previous studies lack direct comparisons between signing and speaking children by using the same tasks.

The aim of the study is to investigate modality effects in learning a spatial language, and to compare developmental patterns in learning to express different components of a motion event (Path-Manner and Figure-Ground) in Turkish Sign Language (TİD) and Turkish by using the same task. Deaf childrenin two age groups (4-6 years & 7-9 years; N=10 in each age group) acquiring TİD natively and age-matched hearing children acquiring Turkish (N=10 in each age group) described 8 short vignettes where a Figure is changing its location with respect to a Ground/Goal along a Path in a salient Manner. Their descriptions were compared to those of adults (N=10 in each language).

In expressing "Path-Manner" (simultaneously or sequentially), age comparisons across languages showed that adults in both languages encoded both Path and Manner similarly (ps>.05). However, both age groups of signing children expressed Path and Manner more frequently than their speaking peers, who mainly encoded Path only (ps<.05). In encoding Figure and Ground, deaf and signing and speaking adults referred to both of these aspects in similar amounts (ps>.05). TİD-acquiring children, however, tended to omit Figure *or* Ground in their descriptions more frequently than Turkish acquiring children (ps<.05). Taking into account the co-speech gestures of the speakers did not change these patterns.

Our results on Path-Manner expression confirm the findings of the previous studies [2, 3]. In a recent study, Turkish child homesigners were also found to express more Path and Manner in their utterances compared to age-matched Turkish speaking children, who in speech and gesture mostly encoded Path only [7].Thus, it may be easier to convey both Path and Manner in the manual modality [8].

However, TİD-acquiring children omitted either Figure *or* Ground more frequently than Turkish speaking children. Similar findings were also found for children acquiring other sign languages [4, 5, 6], and also for child homesigners [9].This might be related to the difficulty of coordinating to convey information about different entities in different articulators in sign languages.

Thus, we suggest that different aspects of the visual modality influence how different components of motion events are acquired in sign versus spoken languages. (458)

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