Different explanation topics, different gestural dimensions?

In explanations between a more and a less knowledgeable person, the object being explained (explanandum) is often absent from the referential space. Especially then, co-speech gestures provide visuo-spatial orientation about the explanandum (Kita, 2003; McNeill, 2005) to facilitate understanding of it. These gestures often span dimensions like deixis, iconicity, and temporal highlighting rather than discrete categories (McNeill, 2006).

This study extends previous analyses on the relation between explainers' gesture deixis during the absence of the explanandum and their interpretations of explainees' understanding (Lazarov & Grimminger, 2024), that found gesture deixis to be more frequent following understanding than non-understanding. While this analysis did not yet include the content of the spoken part of the explanation, here we are interested how gesture deixis together with other dimensions occurs in certain categories of explanation topics, such as explaining object features, describing game actions or explaining conditional rules. We hypothesized that different gesture dimensions are observed in different types of explanation topics; more specifically, gesture iconicity compared to temporal highlighting occurs more frequently in topics about object features, whereas temporal highlighting compared to iconicity is more frequently observed in topics about action processes and conditional rules.

We coded gesture iconicity and temporal highlighting along with gesture deixis within explanation topics across 24 board game explanations (a subsample from an existing corpus) in which 8 explainers explained the game to three different explainees (*N*=24) subsequently. Explanation topics were coded based on fully or partly related utterances.

Results from a GLMM partly supported our hypotheses. Only for topics about action processes and conditional rules, the proportions of temporal highlighting were higher than the proportions of iconicity. However, our hypothesis regarding topics about object features was not supported. We will discuss the functions of different gestural dimensions for explanations and for their goal of facilitating understanding.