

Abstract title: Effects of gestures on the acquisition of prepositions in L2

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When language students begin to learn a second language (L2), their greatest challenge is learning the thousands of words required to communicate effectively. Recent research has explored innovative language pedagogy to facilitate word learning, including the presentation of gestures alongside L2 words (e.g., Macedonia & Klimesch, 2014; Macedonia & Knösche, 2011; Macedonia, 2014). While positive effects of gestures on learning concrete and abstract nouns, verbs, and adverbs have been observed, the impact of gestures on preposition learning remains unexplored. This study aims to fill this gap by investigating the effects of adding a gesture in the learning of prepositions, a particularly complex linguistic category in L2 acquisition.

The overall question guiding this research is whether learners acquire novel L2 words more effectively when accompanied by gestures and whether variations in part of speech influence the efficacy of the gesture information. In a preliminary experiment, we compared the effect of gestures on the acquisition of novel nouns and prepositions. In a within-subject design, 36 novel words were taught to participants. Videos were created in which a person said the words, and in half the videos, the person also gestured the meaning of the items. After training, participants were presented with the novel words and asked to provide an English translation. Results showed a significant positive effect of gestures on word learning for nouns; the effect was non-significant for prepositions. However, concerns arose regarding the exclusion of participants from the analysis due to zero correct responses. In response to these concerns, two additional experiments were conducted: one focused exclusively on nouns and the other on prepositions. To increase the reliability of the results, we enhanced the study's design by increasing the number of items per condition and treating part of speech as a between-subjects variable. The noun experiment showed that participants recalled items better with gestures (in both cued L2 and free recall) compared to the no-gesture condition. Results from the preposition study showed enhanced performance in the gesture condition during a free-recall test, suggesting that prepositions can benefit from gestures. Our findings emphasize the potential benefits of integrating gestures into L2 instruction, particularly for challenging linguistic categories such as prepositions.

## References

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