

Predictive processing of grammatical gender in L3 Spanish throughout the language trajectory: an eye-tracking study on Polish heritage speakers in the UK

Most of the evidence on the intralinguistic and extralinguistic factors mediating morphosyntactic transfer in third language (L3) comes from offline methodologies (Rothman et al., 2019), although there are some exceptions using online techniques (e.g., Abbas et al., 2021; Pereira Soares & Rothman, 2021). Similarly, most of the evidence is derived from cross-sectional studies, so there is scarce data on L3 grammatical development (Puig-Mayenco et al., 2020; Cabrelli & Iverson, 2023). The current longitudinal eye-tracking project aims to fill these gaps by examining the predictive processing of grammatical gender in L3 Spanish among heritage speakers (HSs) of Polish in the UK throughout their language trajectory.

The heterogeneity among heritage bilinguals will provide an opportunity to investigate how variations in bilingual experience influence both transfer selection in predictive processing and developmental sequencing (Kupisch & Rothman, 2018; Rodina et al., 2020; Polinsky & Scontras, 2020). In addition, this study will delve into intralinguistic factors, namely holistic structural similarity between Polish, English, and Spanish, and the characteristics of grammatical gender in these languages to test current models of morphosyntactic transfer in L3 (Rothman, 2011, 2015; Westergaard et al., 2017; Slabakova, 2017).

To do so, this eye-tracking study will use the visual world paradigm to monitor participants' real-time eye movements as they process gender agreement cues in L3 Spanish. Lexical overlap will be manipulated, so facilitative effect of Polish could be observed in the processing of nouns that share the same gender value in both Polish and Spanish. Conversely, processing costs are anticipated for nouns whose gender class in both languages does not match. Participants in the study will include a group of Polish-English bilinguals learning L3 Spanish in the first year of secondary school (aged 11-12) and an L1 English group of learners of Spanish as an L2 to isolate the effect of Polish (Westergaard et al., 2023). Potential changes across development stages will be examined by comparing two testing times.

The findings could shed light on the challenges faced by HSs acquiring grammatical gender in an L3 since the evidence suggests it is a domain that poses challenges for both L2 learners and HSs (Montrul et al., 2008; Fuchs et al., 2021, 2022). Regarding the online methodology, real-time data about language predictive processing is expected to provide insights into the source of morphosyntactic transfer, the role of intra and extralinguistic factors, and how they restructure according to the dynamicity of L3 development (Cabrelli & Iverson, 2023). Ultimately, the longitudinal nature of the study will allow us to go beyond the initial stages of acquisition to start modeling L3 grammatical development.