## Gesture mimicry in teacher-student interaction: A study on office hour consultations

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Alignment between speakers occurs at different semiotic levels during dialogue (Oben & Brône, 2016). Bodily mimicry, specifically, has shown to have effects on communication. The mirroring of movements and postures seems to influence the liking of a partner or the degree of smoothness of an interaction (Chartrand & Bargh, 1999). Within the classroom, studies on nonverbal mimicry have highlighted the social effects of alignment by linking the phenomenon to rapport (Bernieri, 1988; LaFrance & Broadbent, 1976). Mimicked gestures, which are "highly similar in their form and in the meaning they depict" (Holler & Wilkin, 2011, p. 139), might be copied by teachers or students in order to fulfill different functions during classroom interaction, such as maintaining mutual understanding (Holler & Wilkin, 2011), sustaining common ground (Kimbara, 2006), and creating teaching and learning opportunities (Majlesi, 2014). Contextual factors, such as social roles, have proven to have an impact in these phenomena. We studied gestural mimicry in a specific type of teacher-student interaction: office hour consultations between university lecturers and undergraduate students. Using ELAN, we annotated 27 naturally occurring conversations involving Spanish students who were participating in the ERASMUS student exchange program in four European countries (Ireland, England, Sweden, and The Netherlands). All the conversations were held in English and lasted an average of 10 minutes. We sought to describe the patterns of gesture mimicry in these educational settings; to determine the directionality of the phenomenon (i.e. are students copying teachers or are teachers copying students?); and to understand the temporality of these instances (i.e. do these instances happen in a simultaneous, consecutive, or later manner?). The annotation system also considered the form features and function of these gestures. Previous research has tended to focus on representational gestures, that is, gestures depicting "aspects of an entity, action, or relation" (Cienki & Müller, 2008, p. 485). However, we also included gestures with pragmatic functions (Bressem & Müller, 2014), and deictics (McNeill, 1992).

After performing a qualitative and quantitative analysis, results show that mimicry occurs on most occasions in a consecutive manner within a 10-second window. At the same time, there is a difference between gesture functions: while representational gestures are associated with the technical content of the consultation, pragmatic gestures express the mutual understanding of participants. Kimbara (2006) has previously argued that gesture mimicry could be related to the propositional content, but also to pragmatic functions. The latter provides evidence for the relevance of gesture mimicry in educational contexts, where teachers and students are constantly negotiating pedagogical content. Finally, there is no significant difference in the directionality of the mimicry. However, students copy the teachers' gestures to express understanding or to elaborate an idea previously introduced. We also discuss the cases of multimodal alignment, where lexical and gestural mimicry take place at the same time.

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