

A Review of the Impact of Teachers' Gestures on Teacher-Student Interaction in Second Language Classrooms for Adult Learners

Yichen Xue^{1*}

¹ China Foreign Affairs University, Beijing, 100037, China

Abstract. The contribution of gestures in second language acquisition is an area that has attracted considerable research attention but for which there is not yet a thorough review available. This article examines gestural behavior by teachers in the L2 classroom, concentrating on three common ones: pointing and tracing gestures, iconic gestures, and beat gestures. The paper also discusses the role of each in vocabulary comprehension, supports the memorization of language items, and assists in managing classroom interaction. Teachers' gestures have significant effects on students' second language acquisition. In particular, pointing and tracing gestures assist the learners quickly locating key linguistic elements, reducing input confusion. Iconic and beat gestures serve as a visual backdrop to conceptual linguistic abstractions, significantly improving the vocabulary memory and understanding. This paper also finds that the semantic-related gestures could improve language understanding a lot, as well as increase the motivation of learning. However, improper usage of gesture may cause failure in communication. Too much or irrelevant gesturing (e.g. knocking on the table) may distract learners' attention from target language contents, and corrective gesturing (e.g. hitting the whiteboard), or perfunctory gestures (e.g. casual waving) may leave students feeling disrespected or ignored and lower their motivation for engagement.

1 Introduction

Second language acquisition (SLA) studies have recently framed the process of language learning in terms of its situatedness with respect to a set of teaching and social contexts. Gestures, facial expressions, gestures, etc., reinforce speech and give it weight as well as make intangible concepts tangible [1]. In addition to verbal communication, many other types of classroom interactions are represented by non-verbal cues. Teachers' hand gestures serve as a commonly employed communication tool due to their status as the most prevalent, instinctive, and expressive type of body language for conveying emotions and intended meanings during interactions [2]. Particularly, gestures support language acquisition through helping understanding, memorization, or involvement [3]. Ehrman & Dornyei noted that learners' perceptions of classroom interactions shape their learning [4]. Classrooms were seen by Lantolf as socially constructed spaces that reshape understandings of learners as

* Corresponding author: yichenxue1223@gmail.com

social agents who act in situated ways, influenced by dynamic ethnic, national, gendered, class, and social identities [5]. The majority of researches about foreign language teachers' gesture usage has investigated how the influence of learners' L2 learning is related to the teacher's gestures frequency. According to Stam, the competence can be an influencing factor, suggesting that high proficiency speakers have less cognitive burden due to linguistic representations and therefore require less gesture use [6].

Although there are increasing numbers of studies concerning teachers' gestures in L2 instruction, one glaring issue is that these studies remain isolated from each other and have not been reviewed systematically. The purpose of this survey paper is to provide an overview of previous works about teachers' gesturing in SLA, based on the theoretical basis of these studies, methodology used and results obtained.

2 Theories and definitions of teachers' gestures

Sociocultural Theory views gestures as mediators of knowledge in that they are means by which people facilitate communication of their thoughts and ideas with other people; Nonverbal Communication Theory offers a framework for considering the role of gestures in teaching; Embodied Cognition Theory proposes that thought processes are embodied, making gestures important to language teaching [3]. Both Marianne Gullberg and Manuela Macedonia play a crucial role here that both of them concentrate on the Embodied Cognition Theory as their main theoretical framework, assuming that linguistic interpretation is sensitive to the semantic relationship between speech and gesture, and is facilitated if speech and gestures are semantically related [7,8]. Kendon's Continuum Theory has been put forward by Adam Kendon, and elaborated upon by David McNeill. It categorizes gestures in terms of degrees between the spontaneous use of gesture accompanying speech and more conventionalized forms such as sign language.

The academic community has illustrated multiple definitions of teachers' gestures based on different research perspectives. From the angle of action attributes, gestures denote physical movements produced by people when they speak or think. Most of them involve hand and arm movements, and may also include movements of other body parts such as the head and face [9]. Many gestures are produced in what is termed neutral space, the area in front of one's body, but gestures can also involve pointing to, touching, or tracing physical objects or two-dimensional displays such as images, graphs, diagrams, or other inscribed forms [9]. The key core feature that distinguishes gestures from other behaviors is "aiming to represent the world rather than acting on the world" [10], but this distinction is not always obvious. Functionally speaking, gestures are important non-verbal communication resources in the classroom, conveying emotions, emphasizing key points or explaining concepts through body movements, and together with language, constitute a complete teaching communication system [11]. In non-verbal communication, gestures are the most commonly used method by teachers. Among them, 7% of the content is conveyed through text or language, and the remaining 93% is output through non-verbal means [12]. Furthermore, some studies have emphasized the context-dependency of gestures, suggesting that their meanings should be comprehensively interpreted in conjunction with the teaching context, cultural background, and language content [7]. The same gesture may have different functions in different teaching scenarios.

3 Empirical research on teachers' gestures and teacher-student interaction

3.1 Research contexts

Research on teachers' gestures has demonstrated the diverse characteristics of methods and contexts. Existing research employs observational and experimental methods in the field of teachers' gestures and teacher-student interaction, advancing the exploration of this field from various dimensions. Al-Khresheh conducted a quantitative observational study, systematically cataloging the frequency and perceived effectiveness of gesture types in Saudi Arabian EFL college classrooms, with class sizes ranging from 10 to 30 students [13]. To investigate the causal mechanisms of gestures, Rzayeva employed a factorial experimental design with 60 learners in the context of EFL vocabulary acquisition, focusing on the independent variable of gesture frequency (high vs. low) [3]. Data were collected through pre-tests, immediate and delayed post-tests, questionnaires, and classroom observations. Stam made an experiment where experimental participants were composed of adult learners, including those with different native language backgrounds and varying levels of proficiency in a second language [14]. Tasks such as cartoon narratives, oral ability interviews, vocabulary explanations, and classroom teaching were set for adult learners and teachers. Teachers' verbal expressions and gesture movements were recorded through audio and video. Some naturalistic classroom observations were conducted, and multi-modal annotations were made using tools like ELAN. Variables such as gesture type, task type, and language proficiency were controlled in the study. Some audio groups and audio-visual groups were set for comparison, and based on the coding system proposed by McNeill et al., the forms, functions, synchronicity, and verbal content of gestures were classified and coded.

3.2 Research results

3.2.1 *Frequently used teachers' gestures*

The most commonly used gestures in second language (L2) classrooms include: a) Pointing and Tracing Gestures: They are used to direct students' attention to specific objects, vocabulary on the board, or teaching aids, which play a solid foundation for instructional communication; b) Iconic Gestures: Convey information by simulating the shape of an object, the process of an action, or spatial relationships, whose core functions are to visualize abstract concepts [9,15]. These are frequently employed for vocabulary and grammar instruction. Al-Khresheh' experimental results showed that the tracing and pointing gestures and the iconic gestures are the most frequently used in the EFL classrooms in Saudi Arabia [13]. The former have the strongest correlation with the students' understanding, while the latter have a close correlation with the students' engagement and participation; c) Beat Gestures: These are rhythmic hand movements (e.g., up/down taps) aligned with speech prosody, used to emphasize key points or structure discourse, facilitating vocabulary memory and comprehension of the text [13]. Stam proposed that iconic gestures and beat gestures can assist in vocabulary retrieval and reduce expression barriers [14]. Specifically, gestures consistent with the target language culture can improve the score of oral proficiency.

In addition to the above classifications, from the perspective of multimodal discourse analysis, Lim presented another framework. Gestures are categorized into Communicative Gestures and Performative Gestures [16]. Among them, Communicative Gestures are further divided into i) Language Corresponding Gestures whose meaning can be understood independent of the language, ii) Language Independent Gestures that have the ability to express full sense on its own even in absence of accompanying language, and iii) Language Dependent Gestures, which need to be paired up with language for an explanation on their meaning [16]; Performative Gestures are gestures used as a means to literally accomplish some sort of task and they don't primarily transmit semantic information [16]. For instance, an action describing that a teacher is picking up a chalk, turning pages in his handout, or wiping the blackboard does not provide extra teaching meaning or any semantic information

as it was just done for completing a teaching task. In addition, some feedback and management gestures such as thumbs-up and clapping are often used for praise, or correction. Although these gestures do not directly relate to the language content, they affect the classroom atmosphere and the learners' participation, exerting an indirect influence on the process of second language acquisition.

3.2.2 Effects of teachers' gestures on teacher-student interaction

Teachers' gestures are used for explaining languages clearly. Rzayeva's study showed that learners with high exposure to teacher's gesturing performed higher in post-test of vocabulary as well as one-week recall test than others [3]. The scores obtained by them were 18.5 on the immediate post-test while 70 percent were recalled after one week. Meanwhile, students who did not view the gestures performed worse, scoring only 15.0 points on the first test and only remembered 55 percent of the vocabulary a week later. Classroom observations revealed that students in the high gesture condition were more likely to mimic the teachers' gestures, and reported greater levels of enjoyment, while those in the low gesture condition were more likely to appear confused and distracted. Of these top three gestures, pointing and tracing gestures aid learners in locating the target words rapidly to avoid confusions of input [15]. Iconic and beat gestures visually ground abstract language to help improve word learning.

Besides, gestures boost learning motivation. Encouraging gestures (e.g., thumbs-up, open-palm gestures) foster a friendly classroom climate, increasing student confidence and willingness to participate. In addition, gestures support communication. Gestures accompany verbal input for conveying meaning where students are not very good at speaking a language. For instance, pointing and beat gestures as means of initiating conversations, ensuring that all students have the opportunity to speak. In this way, gestures can effectively break the passive situation of one-way teaching-learning at the interaction activation level, enhance the learners' participation, and thereby stimulate their motivation for active learning. In the classroom scenario, the gestures of the teacher are an efficient trigger of interaction. If a teacher indicates with his finger towards one of its students or shows him/her how to work in group, the learners are focused and less distracted. In cooperative learning, gestures also become an effective means of communication facilitation. With no need for awkward words, one hand motion may express an idea in seconds, lowering the cost of group interaction, and avoiding learners from retreating because of language barrier. Students are more willing to actively share their opinions and cooperate with their partners. In such a manner, during two-directional communication and effective cooperation, the desire to learn actively is constantly kindled.

Yet for all this work done on teachers' gestures, one important issue that remains to be explored is how different cultures interpret gestures differently: What effect does difference in the meaning of gestures have on college learners' L2 acquisition if their teachers use gestures with meanings different from those used by native speakers in the culture where they grew up? Inappropriate gestures will interfere with the communication, since superfluous and non-related gestures are harmful in this respect (e.g. frequent table-knocking) which may distract students' attention from L2 content [15]. What is more, punishing movements (e.g. hitting the white board) or perfunctory gestures (e.g. casual waving) may cause students to feel disrespected or ignored and lower their motivation to participate [15].

4 Conclusion

This review looks at existing studies on gesturing from teachers in L2 university classes that have been found to be an aiding factor for students' understanding and classroom interaction. There are three broad types of gestures witnessed in these environments covered in this paper:

pointing and tracing gestures, iconic gestures and beat gestures. A clear issue of the gesture literature is that researchers tend to refer to gestures with identical primary meaning using distinct terms. The distinction between “pointing and tracing gestures” versus “deictic gestures” illustrates such an issue well, as it has mostly arisen due to divergent views on gestures held by researchers. Some authors label gestures according to how they appear physically. For example, they use labels such as “pointing and tracing gestures”, since those are the words that literally mean pointing and tracing respectively. Other authors, on the other hand, focus on what gestures are used for. These authors employ the term “deictic gestures” in describing gestures whose purpose is to indicate or refer. Although these two groups use different words, they are actually talking about the same kind of gestures.

The core significance of studying gestures in second language acquisition lies in addressing a longstanding gap in language teaching. For years, the focus has been overwhelmingly on words and sentences, often overlooking the vital role of nonverbal communication. Teachers’ gestures serve as a bridge that integrates different modes of expression, allowing learners to move beyond verbal language alone and align their learning with real-life conversational dynamics. These gestures reflect the essence of multimodal communication, helping second language acquisition escape the constraints of purely linguistic symbols and better adapt to real-world contexts where language and gesture work together. Gestures prove particularly useful especially when teachers introduce new concepts or when students practice what they’ve learned. Classroom observations show that when instructors incorporate more gestures, students tend to grasp lessons more effectively and participate more actively. Beyond immediate comprehension, understanding the role of gestures also deepens academic and educational insight into how “language and non-language” are acquired together. This perspective enriches multi-dimensional evaluation systems in second language education and encourages a shift from purely verbal input toward an integrated “language and gesture” approach.

However, while most studies concentrate on short-term learning outcomes, people still know little about how gestures support long-term retention in second language acquisition. There is also a noticeable disconnect between research and classroom practice: despite evidence supporting the benefits of gestures, no systematic teaching guidelines have been established. Teachers lack clear and practical strategies for selecting gestures based on lesson objectives, and they rarely receive formal training in using them effectively. Furthermore, as online teaching becomes widespread, technology is rapidly transforming instructional methods, yet many teachers have not kept pace with these changes. This creates a gap between what digital environments and traditional gesture practices.

Looking ahead, future research should focus on several key areas. First, people need to better understand cross-cultural differences in how gestures are interpreted and used, and establish clearer boundaries and norms for classroom application. Second, rather than limiting studies to immediate effects, people should investigate how gestures contribute to long-term memory and clarify their sustained impact on language acquisition. Third, it is essential to develop systematic classroom guidelines that help teachers choose appropriate gestures according to their teaching goals and content. Finally, research must keep up with technological advances in online teaching, ensuring that understanding of gestures evolves alongside new digital learning environments.

References

1. T. Ismayilli, K. Mammadova, N. Ibrahimli, & N. Heyderova, Confirmation gestures, mimics and their effects on foreign language learning: Examples of EFL students. *Pegem J. of Educ. and Instr.*, **15**(2), 198-206, (2025).

2. Z. Peng, Z. Yang, J. Xiahou, & T. Xie, Recognizing teachers' hand gestures for effective non-verbal interaction. *Appl. Sci.*, **12**(22), 11717, (2022).
3. E. Rzaeva, The Impact of Gestures and Facial Expressions in Language Acquisition. *Acta Glob. Humanit. et Linguar.*, **2**(2), 203-214, (2025).
4. M. Ehrman and D. Zoltan, *Interpersonal Dynamics in Second Language Education: The Visible and Invisible Classroom*. Thousand Oaks, CA: Sage, (1998).
5. J.P. Lantolf, (ed.), *Sociocultural theory and second language learning: Special Issue. Mod. Lang. J.* 4, (1994).
6. G. Stam, Speech and gesture: What changes first in L2 acquisition. Paper presented at Second Language Research Forum, 19, University of Minneapolis, (1999).
7. M. Gullberg, Methodological reflections on gesture analysis in second language acquisition and bilingualism research. *Second lang. Res.*, **26**(1), 75-102, (2010).
8. M. Macedonia, Your Body as a Tool to Learn Second Language Vocabulary. *Behav. Sci.*, **15**(8), 997, (2025).
9. R. B. Church, M. Perry, M. A. Singer, S. W. Cook, & M. W. Alibali, Teachers' gestures and how they matter. *Topics in cognitive science*, **17**(3), 545-568, (2025).
10. M.A. Novack, E. M. Wakefield, & S. Goldin-Meadow, What makes a movement a gesture?. *Cognition*, 146, 339-348, (2016).
11. N. Afdaliah, Teachers' gestures in EFL classroom. *Al-Lisan: J B (e-Journal)*, **7**(2), 182-197, (2022).
12. A. Mehrabian, *Nonverbal communication*. Chicago: Aldin Atherton, (1972).
13. M. Al-khreshah, The Subtle Power of Nonverbal Communication in English as a Foreign Language Classrooms: An Observational Study on Teachers' Gestures and Students' Comprehension. *Aust. J. of Appl. Linguist.*, **8**(5), 102643, (2025).
14. G. Stam, & M. Tellier, Gesture helps second and foreign language learning and teaching, (2022)
15. L. Valenzano, M. W. Alibali, & R. Klatzky, Teachers' gestures facilitate students' learning: A lesson in symmetry. *Contemporary Educational Psychology*, **28**(2), 187-204, (2003).
16. V. F. Lim, Analysing the teachers' use of gestures in the classroom: A systemic functional multimodal discourse analysis approach. *Soc. Semiot.*, **29**(1), 83-111, (2019).