

The Use of Metaphoric Gestures by Second Language Learners

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Abstract

In recent years there has been an increasing interest in gesture and metaphor in second language and teaching. Amongst second language users, gesture is employed as a widely used tool which assists the delivery of meaning at a sometimes unconscious level. Although the uses and application of gesture is only beginning to be more fully understood, metaphoric gestures have recently become more comprehensively researched. The taxonomy of the functions of gesture suggested by McNeill (2005) is used as a beginning framework in this project with a particular focus on gestures relating to primary metaphors. This project has been undertaken by analysing videos recordings of metaphoric gestures used by second language learners while talking about familiar and unfamiliar literary texts in paired conversational dyads. The study compares the use of metaphoric gestures in quantity and type when talking about both familiar and unfamiliar texts, and reflect on the role of cognitive processes on the production of meaning in English. Results showed that learners are using gestures frequently, including metaphoric gestures and that the process of categorising gestures in discourse is intensive and presents particular challenges. Learners appear to use primary metaphors in gesture form to assist with communication, although the role of these gestures overall in achieving the goal of aiding understanding may not be fully achieved due to factors such as overall language ability. Some primary findings will be introduced with tentative suggestions for additional research.

Introduction

“We are calling metaphoric gestures the ones which have the potential to engage an active cross-domain mapping, that is the cognitive process of understanding something in terms of something else”

Cienki, 2008, p.486

This project reports on the use of metaphoric gestures by second language learners. The main aim of the study was to learn more about the relationship between language use, language learning, and gesture through observing gesture in a classroom task. Since gesture is used thought to be used as a communication tool which is common to many cultures (see Cienki and Muller, 2008 for a detailed outline of this), it is of particular interest to educators. For teachers and curriculum planners as well as learners themselves, gesture plays a role in building meaning and is socially constructed. Metaphoric gesture used by second language learners are of interest to researchers since they help illuminate the relationship between thought and language, and thereby allow greater understanding of the relationship between them.

Gesture plays an important role in the production of metaphor overall in first and second language use (Cienki and Muller, 2008, Gullberg, 2008, McNeill, 2005). As Cienki and Muller put it:

“Studying metaphor, gesture and speech in relation to thought opens up a range of new phenomena and facets of metaphor for further investigation - making a strong case for the need to incorporate the study of language use (including gesture) into research on metaphor and thought”

2008, p. 498.

The literature shows some agreement about the possible difficulties caused by problems interpreting and using appropriate responses to metaphor, for example in academic settings (Littlemore, and Low 2006a, Littlemore and Low, 2006b). Recent research has also shown

ample support for the suggestion that there are some similarities between first language (L1) language use and second language (L2) use when metaphor is examined (Kida, 2008, Littlemore, 2010), and that these differences can cause confusion and difficulties. These reasons and the potential illumination which further gestural investigations could uncover calls for greater understanding of this issue. Some use of more than one mode can be seen as evidence for gestural use also (Lindstromberg and Boers, 2005). In summary, if gesture and language are to be given more attention in the future, it would be helpful to gather means and methods to pursue metaphor and gesture research, and help add to the growing understanding of this field. Although this project is only a preliminary investigation and found only basic results in its piloting, the results reaffirm the call for increased attention to this subject in the future.

Gesture and language

In this study the taxonomy of gestures proposed by David McNeill (1992, 2005) was used as a starting point for the investigation.

1. Iconic gestures which show the shape or size of something
2. Beat gestures which mark the discourse for emphasis
3. Gestures that are used for cohesiveness
4. Gestures that convey distance in discourse
5. Gestures that correspond to primary metaphors

McNeill (2005)

The straightforward and clear focus of this framework helps illuminate much about the embodied nature of communication. Iconic, beat, cohesiveness, distance and metaphoric gestures all work to assist communication. In particular, the fifth point in the taxonomy is useful

in understanding the theoretical framework in this project, that is the use of gesture which appear to convey primary metaphors. This was done since the taxonomy in complete form would be too broad to investigate in a small-scale project such as this, and also because the use of primary metaphors in gestures could be particularly interesting to analyse when considering the students' thought-processes.

It is of course interesting to know that there are different types of gesture. Important here is the point that these different types will occur at different times together, in combination, and will be used concurrently. This makes interpretation of gesture difficult and can be confusing for the interlocutor also, if used in an unpredictable way. Learners of English as a second language (L2) may have become particularly adept at mimicking the speech of proficient language users, but their use of gesture may not be developed in such a fashion. It is likely that the use of imagery represented by primary metaphors in the gestural use of language learners is developing, changing and can be seen in 'growth points' (McNeill, 2005, 2016).

Focus on primary metaphors

In over 35 years ago George Lakoff and Mark Johnson created a storm of interest in metaphors through the publication of their book *Metaphors We Live By* (1980). In it, they set out a call for a conceptual framework for seeing language and communication with metaphor at the core. A full list of conceptual metaphors is listed at the website created by Osaka University (1994). Although there has been a steady interest in its main drive, that metaphorical thinking is at the heart of language, the principles contained in it have yet to be completely embraced by the second language acquisition (SLA) field. Nevertheless, this continued interest has slowly built up an understanding of metaphor in use, and the original Lakoff and Johnson text is still the main starting point for this type of investigation.

In this report, one particular primary metaphor is identified. This is typically written PROGRESS THROUGH TIME IS FORWARD MOTION, and hereafter is written *progress through time*.

Consider the following examples:

1. We had a meeting about the books for the project last Wednesday.
2. I need to try some new methods in class next semester.

When a speaker tries to add gesture to help meaning for these two examples, they will typically engage strategies which show movement, development, turning or change in a forwardly direction. This is the same for English and Japanese speakers in their L1, but some other languages will reverse the convention. As English and Japanese have the same orientation to progress through time in which the future is in front and there is some movement towards the future to get to it, then the understanding of this metaphoric gesture should transfer well across the languages. Progress through time (an abstract concept) is viewed metaphorically as forward motion (a more concrete entity). Forward motion is the source domain and progress through time constitutes the target domain (Littlemore, 2009, p.96). Therefore, by looking for and identifying this primary metaphor in use, a more detailed view of the language learner's capacity and abilities to complete a language-and-gesture supported task appears.

Aims of the study

This section describes the project design, research questions and procedures. The investigation looked at the use of gesture by a group of advanced learners of English in a content-based class completing a discussion task. The current project was particularly focused on the use of metaphoric gesture to show 'growth points' and how gesture may relate to the developing

language use. The research questions were:

1. Is it possible to identify metaphoric gestures in L2 discourse?
2. Can metaphoric gestures be interpreted with the aim of advising teachers on how to help learners with communication using gesture?
3. What are some challenges associated with data of metaphoric gesture, and how can these be overcome?

The overall aim of the present study was to look at how gesture in discourse is used in a classroom-based discussion which had some relation to real-world task, i.e. discussion of a text and expressing an opinion about it. A second aim of the task was to investigate methods of interpreting gesture in language teaching contexts and comment on its use and frequency. A third aim of this study was to consider ways in which this aspect of communication may be investigated further in the future, given the difficult nature of analysing gesture in discourse.

Participants and task

In this project, dyads of third and fourth year KUIS students in a content-based poetry course volunteered to take part in the study. Four pairs (4 female, 4 male) of students were reimbursed for their time to complete the task, using KUIS guidelines for payment of students. This was made possible by the RILS funding for this project. Student participants were given a prompt for talking about short literary texts. They signed forms giving permission for the data to be used in the study. The participation forms were in English and Japanese. Student participants spoke together for 20 minutes and the conversations were recorded by video. The students were given instructions which clearly stated that the task was not going to be part of their grade for the class and were instructed that they could withdraw participation at any time up to six months after the data were collected. The procedure for the task was as follows:

1. Short texts (poems) selected as talking prompts. One Japanese (familiar) poem in translation, one English poem (unfamiliar).
2. The prompt “read the poem and try to understand what it is about. Say what you liked or didn’t like about the poem” was applied to each poem, familiar and unfamiliar.
3. 10 minutes to talk about each poem.
4. paired dyad conversations on meaning and personal response.
5. Data initially transcribed by students and researcher.
6. Follow up conversations held with students and transcriptions.
7. Gesture analysed over the videos using an adapted version McNeill’s procedure.

Although students gave their permission for the data to be used in this study, the decision was made not to include photographs showing the students’ identities in this report. This was to protect the privacy of the students, although it renders some of the discussion on data such as gestural expressions to some degree less clear. In the RILS bag lunch of July 2016 the data in video and photographic form was used to discuss the project and show points in a more detailed way, though in this report only clipped photographs have been included to show hand directions. Overall, while this limits the report, it was deemed suitable in this case due to privacy issues.

The task was designed to be as close as possible to a real-world activity, a classroom discussion. The poems were selected to be challenging and yet accessible. Content was moderated for the proficiency of the students and dictionaries were allowed to be used in this task, so that students could make use of the talking time as much as possible. The task was made to be a real-world activity so as to avoid one of the pitfalls of previous studies into

metaphor and gesture which make use of laboratory settings and have sometimes been criticised for being artificial. Although there will always be an element of artificiality to a data-collection activity, the balance between authenticity and feasibility is one which was considered carefully in the planning of the task. Finally, for the purpose of having some connection to students' learning, students were given the opportunity to meet with the researcher to discuss the conversations and ask any questions about the poems at the end of the data collection period. These conversations were not recorded.

In the following report the conversation of one pair of learners will be described in detail, for the purpose of focusing closely on particular instances of metaphorical gesture in their discourse.

McNeill (2016) suggests some detailed processes for analysing gesture, which were adapted for a moderated or simplified version to analyse gesture in student talk. For the purposes of practical analysis and due to limited resources for detailed interpretation, this report only uses a modified version of his process. Instead of frame-by-frame analysis which is suggested by McNeill, instead a simplified slow-motion interpretation strategy was involved in selecting points of interest. All research of this type must be selective and in being selective of course lose some scope of possible overarching interpretation although this was unavoidable given the limited resources for the project itself. Thus we look at the results of the study and discussion.

Results of the study

The findings of the study showed that there is frequent use of gesture while speaking. Much of this is to support comprehension and helps a co-constructed version of the discourse which both interlocutors assist with. There were some specific cases of metaphoric gesture, some of which

were easy to identify but others were difficult. This is in line with the thinking of McNeill who has argued for comprehensive and detailed analyses of gesture in use, and of other research into language learners and gesture suggesting that there is still much to be learned about this aspect of communication. Below are some findings of the study and notes on their significance.

Two measures of data area commented on here, with reference to one dyad of students. The first measure is talk time and total gesture use. The students talked together for 10 minutes about each poem, that is 20 minutes in total. The data was created by watching the video of the conversation without sound, and measuring using a slow-motion replay the time of gestures in the entire conversation. This was then repeated with sound and timed once more. The process was repeated twice for greater accuracy. This was done by one researcher with a timer. Effort was made to be accurate as to the beginning of the gesture stroke (McNeill, 2016) and at times a freeze-frame approach was used to confirm the beginning and end of the gesture. Table one shows the use of gesture in the overall conversation. As may have been expected, both students spoke more in reference to the familiar poem which was also given in translation. It had a closer relation to their general experience and both students talked together with a lot of gesture use and quick dialogue. The second poem, a new and unfamiliar poem was more difficult, and had not been seen before. Students talked less and gestured less overall. We can see from this data that student A spoke more than student K in both conversations, although student K used gesture more than student A in the first conversation.

Table 1

Students A and K and their use of gesture and talk

Student	Poem	Total time spent talking %	Total time spent using gesture %	Gesture as a % of individual talk time
A	Familiar	48	27	56
K	Familiar	42	28	67
A	Unfamiliar	30	10	33
K	Unfamiliar	31	7	22

The second measure of gesture use in the study was to look at metaphoric gestures specifically, of which there were a number of instances. Because of the difficulty of identifying the metaphors themselves from other types of metaphor, such as iconic metaphor and beat metaphor, then only a few examples are introduced here as a sample, selected by the researcher. The caveats and limitations of this approach are mentioned in the final section of the paper.

Examples of metaphoric gesture using progress through time metaphor

Learners of English may be “appearing to use gesture to help them find their words” (Littlemore and Kwong, in press, p.8), and that looking at the use of gestures while communicating, it can be possible to see the beginning of ideas turning into speech and communication. As in the report by Littlemore and Kwong, the part of speech accompanied by a gesture is highlighted in bold or indicated by ** if no actual words were spoken at the same time as the gesture.

The use of metaphoric gesture to assist in communication

In these two examples, students A and K used the metaphoric primary metaphor *progress*

through time to show meaning of time passing.

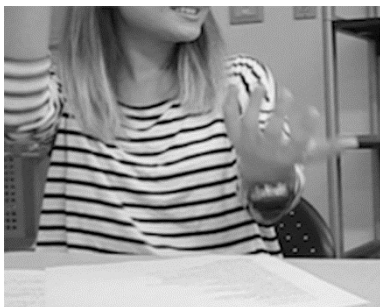


Figure 1: Student A uses backwards motion to show metaphoric gesture

*It's like **the old story***

Both hands waving backwards direction, right most strongly

In the case of student A there was an exaggerated use of gesture to explain time which had already passed. Student A may have been expecting student K to have difficulty in understanding this idea, and therefore made the accompanying gesture very exaggerated or over-pronounced. It seemed to be too much explained, and perhaps not natural for a more proficient user. This could be evidence for novice use of control in the target language, and could seem too much over-use in a range of settings which require more formal and less casual use of language.

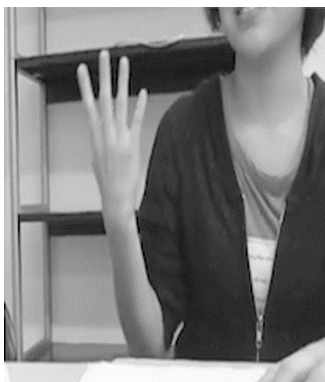


Figure 2: Student K uses backwards motion to show metaphoric gesture

K: So, this means **not, not now...****..not like the twenty...

Right hand waving, then cutting horizontally, then palm up

Student K uses gesture here exactly as she pauses and thinks of what to say next. The idea of time passing and being passed was also important in the explanation, and resulted in her use of a movement backwards, drawing the eyes towards her action and helping support her language when needed. Again, this use of the method to support communication with metaphoric gestures is being used by student K, although it seem to show a use of gesture to support or provide scaffolding for language use as she searched for meaning.

Caveats

There are a number of caveats to mention in the reporting on results from this study. One was the design of the task itself. Firstly, the task was in a staged context and was not entirely authentic. The task design strived to achieve common or natural talk but still seemed task-

based. Second, individual difference and student personalities are not accounted for here, which is a limitation of using only one source of data for the project. An additional caveat is that the paired speakers are friends, so their intuition and urge to communicate effectively is different from that between a learner and an expert user of English, or another type of pairing. This relationship between register mode could be investigated further with a different project design. The final caveat is to do with the limited precision of the method of investigation. In a more precise project, greater technological tools and time to analyse efficiently would be required for detailed annotation of data and further conclusions to be drawn. While the field of gesture and metaphor studies is of interest to researchers and teachers, this type of data collection does require a considerable time commitment to suitably investigate the use of gesture amongst speakers in real time.

In summary, this project and the close study of metaphoric gestures in use helped reveal several important areas for future study. First, gesture study offers a window into thought processes, and it is clear that metaphoric gestures are frequent and dynamically used by language learners. In response to the first research question, *Is possible to identify metaphoric gestures in L2 discourse?* Evidence from this project would say that yes, it is possible, but it is extremely difficult to isolate particular metaphoric gestures while students are engaged in lively discussions. The use of gestures may be frequent, but this does not always correspond to clarity of meaning. To answer the second question *Can metaphoric gestures be interpreted with the aim of advising teachers on how to help learners with communication using gesture?* The answer would be that further research is required before this can be realised and understood. L2 users may benefit from coaching and development of skills to enable clear communication using gesture. Finally, *What are some challenges associated with data of metaphoric gesture, and how can these be overcome?* One issue would again be with the use of particular methods

to analyse gesture analysis, and the feasibility of using exhaustive processes to analyse gestural use outside of a language laboratory. One method for teachers could be to find existing video data such as TED talks or online speeches and look at good examples of clearly expressed metaphoric gestures, and then use those to help guide students towards coherent use of gesture. The problems of over-using gesture as a kind of support for weaker areas of expression such as discourse which includes vague or unclear expressions in speech could be limited by the inclusion of gesture-building strategies for learners of English in speaking and discussion classes.

Conclusion

This project aimed to add to the growing support for the claim that metaphoric gestures play an important role in communicating in an L2. The data gathered in this pilot study appears to suggest that analysis of the use of metaphoric gestures amongst language learners has the potential to provide useful information about thought processes and is therefore of interest to educators. The underlying argument here is that the use of gesture is online, dynamic and partially hidden, some of which has been investigated during this project. In this project in particular, the data appears to show support for previous claims that language learners attempt to package their ideas into ideas which can be abstract in nature, such as time and movement. The data collected here supports the claim by McNeill that if we look at gesture and language in real time during communication we can see how gestures aide the creation of understanding, and imagery and language join together (McNeill, 1991, 2005) in so-called 'growth points'.

The study does have several limitations which should be reported here also. Firstly, the analysis of gesture was done by an individual researcher. This creates issues of reliability, as more than one researcher or a team of investigators would be preferable for developing more

consensus or understanding the meanings of gesture. Due to the limited resources available for the project overall, this was one limitation of the investigation. This is one main drawback of the investigation. Secondly, the participants were not involved in the analysis of their own gestures. That is to say the attributed meanings reported here have been assigned in an artificial way which may or may not have met the same understandings of the speakers themselves. This raises the issue of validity in the sense that we can never be entirely sure of what the speakers themselves intended to say. It may add another level of difficulty to ask learners what exactly they meant during a particular discourse act, but follow-up interviews could themselves serve as useful feedback in a research cycle and provide further rich data for considering the role of gesture.

Bio

Tara McIlroy is currently an Associate Professor in the school of Global Japanese Studies, Meiji University, Tokyo. Previously she was an ELI lecturer, and from 2009-2015 completed three previous RILS projects at KUIS. She is interested in reading research with a focus on motivation and engagement.

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