Gestures in Turn Taking in Early Stages of Foreign Language Fluency: Does the Growth Point Explain the Patterns?

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Abstract

The Growth Point Theory (McNeill and Duncan, 2000) posits the unity of gesture and speech. However in Hong Kong students of Spanish as a Foreign Language (FL) there is an observed dearth of gestures when they speak Spanish. The consequences of this are difficulties in conversing with Spanish native speakers, in particular when it comes to turn management. These students fail to use nonverbal cues, despite having been taught them. We believe that this is not only a result of socio-cultural differences but an inability to activate the Growth Point in the early stages of fluency of a FL.

Keywords: Foreign Language Acquisition; gestures; Growth Point theory.

Introduction

Despite Spanish being the second most studied language in the world, as well as the second most spoken, relatively little has been done to understand its biggest potential market: China (Instituto Cervantes, 2013). Some studies have focused on the socio-cultural differences of Chinese learners; So (2010) looked at Mainland Chinese, Chan and Rao (2009) and Watkins and Biggs (2001) looked at the Hong Kong learner, but little mention has been made of differences in non-verbal behavior, including gestures used with speech.

We set off from the idea that gesture (the term is used to encompass all body movements, including those made with the head and face) and speech have equally important roles in the utterance, with gesture and speech together being the thought, as proposed by McNeill and Duncan's Growth Point Theory (GP) (2000). The Growth Point is understood as being gesture-speech unities that are unstable, due to the characteristics of these two different modalities, which become stable on unpacking.

Another key idea of our study is that in Foreign Language (FL) acquisition gesture is important. Natives perceive fluency in a non-native as being higher if the non-native is also using gestures when talking (Neu, 1990). Gestures are an essential part of the face-to-face communication process, and yet they are seldom remembered by FL professionals in the formal context of the classroom. One of their functions is to help manage turns accurately (Sacks, Schegloff and Jefferson, 1974). Turn giving and taking is managed differently in Spanish than in English; it is also different from Chinese in Hong Kong and Chinese in Mainland China. These differences are in part due to personal idiosyncrasies, such as considerateness or involvement styles (Yule, 1996); but also to cultural characteristics, such as high and low contact and context cultures and collective vs. individualistic (Knapp and Hall, 2010). Spanish, from Spain, could be described as an individualistic, high contact culture whilst Chinese, at least Mainland Chinese, would be high context and collective.

Duncan (1972) highlighted a number of cues that are used by interlocutors to manage the turn. Amongst them he mentioned: intonation, lengthening of the last syllable, end of the gesture, lowering of the volume or the tone of voice, relaxation of the foot or the vertebral column. Other cues include moving the head towards the interlocutor (Jokinen, Nishida and Yamamoto, 2011); silences (Heldner and Edlund, 2010); gaze (Bavelas and Gerwing, 2011; Duncan, 1972) and lexical markers (Duncan, 1972; Martinena, 1980). Spanish-specific cues, that might differ from those of English speakers, include a slight preference to use a descending intonation (Amorós, n.d.) and a high hand gesture rate. Commonalities with other Western nationalities include facial gestures comprising movements of the forehead, eyebrows, eyes, nose, mouth, cheeks and chin (Streetck and Knapp, 1992).

In Spanish as a FL (SFL) there have been studies done on the dimension of emblematicity (García García, 2001) and on the relationship between gesture and the type of verb (Duncan, 2006; Negueruela, Lantolf, Rehn & Gelabert, 2004;) but less on how the turn is managed (Cestero Mancera, n.d.; Jordan, 1990). In particular, the interactions between Chinese natives communicating in Spanish have been studied by Cortés Moreno (2004), who has delved into intonation and pronunciation issues, but not much else has been published to-date. Nor has much been published in English on Chinese speakers' non-verbal behavior. Some studies are those of Wu (2004), who talks about the Chinese speaker avoiding visual contact; and Zhao (n.d.) who says that Chinese speakers (nationality not specified) use fewer facial gestures and body movements than other speakers. On the other hand Duncan (2006) and So (2010) observed the same number of gestures between Chinese and Spanish or English, respectively, in using action verbs. It seems that both observations might be correct, reconciled in the study of Jack, Caldara and Schyns (2012), who have found that Chinese process and express emotions differently from Western Caucasians, using the eyes instead of the eyebrows and mouth. Chinese might then gesture at the same rate as Caucasians but a non-Chinese might not be able to process these gestures.

There are no conclusive studies on the use of gestures by non-native speakers, with results showing varying rates of gestures in non-native speakers of various languages and of different fluency levels, including bilinguals (Gullberg, 2011; Gregersen, Olicaroes-Cuhat and Storm, 2009; Nicoladis, Pika, Hoi and Marentette, 2007; So, 2010; Zhao, n.d.; also see McCafferty and Stam, 2008, for reviews of studies). Many believe that proficiency/fluency and lexical ability, are not always good indicators of gesture rate, there is something else at play. Nagpal, Nicoladis and Marentette, (2011) list a number of explanations but they conclude that differences, at least when narrating, might be due to different mother tongue (L1) storytelling styles; Nicoladis (n.d.), in a different study, talks about the bilingual speaker having a wider choice when putting words together. We believe that gesturing by non-natives depends on individual and sociolinguistic factors, culture, their L1 and other languages they know, context and of course on the content of the utterance, which shape their thinking process, how their GPs are formed.

Casual observations of adult Hong Kong students of Spanish as a FL indicated that their nonverbal communication differed from those of Spanish native speakers: facial gestures seemed to be almost non-existent, there were few hand gestures and eye contact wasn't always obvious. This apparent lack of nonverbal behavior interferes with successful turn management when speaking with native Spanish speakers, but if it is just due to differences in socio-cultural factors it should be possible to teach some of the cues used by native speakers and so to improve turn management, however this is not always the case. We propose that the level of proficiency/fluency also plays a key role in the link gesture-speech, because the GP might not be formed in the FL in speakers of lower fluency levels. In order to corroborate the casual observations it was decided to systematically analyze some of the nonverbal behaviors of these Hong Kong students during turn changes, when conversing in Spanish.

Methodology

The study analyzed the data obtained from a micro-observation of random extracts, one from each of 30 dialogues of 22 Hong Kong students of Spanish as a FL. Each extract, 90 seconds long, was taken from recordings of 20 minute long conversations between two students. Ten of the extracts were from conversations that took place by Skype between a Hong Kong student and a Spanish native (19 native students from Málaga, Spain, also participated). The other twenty were either based on joint descriptions of a photograph or a conversation about a familiar topic, all done in Spanish, between the Hong Kong students. All conversations took place in a tertiary education setting, as part of a formal SFL programme. The students gave their consent to being video recorded, although they did not know what aspect of their conversations was to be analyzed. The extracts were observed for non-verbal cues used to give the turn, which had been taught in the formal context of the classroom. These included: changes in intonation; eye contact with the interlocutor; head movement ending with the turn; hand gesturing as the turn was ending and its synchronicity with the turn end. Facial gestures were not analyzed due to time constraints.

All extracts were transcribed and later analyzed (using *Videopad* software by *NCH*) by slowing down the video during the frames at the end of the turns. The various cues were noted when appearing at the end of each successful turn. Interruptions and cases when lexical difficulties caused long pauses were not counted as successful. In order to improve the accuracy of the observations these were done twice, with a period of 4-8 weeks in between. When discrepancies were found a third and even fourth observation was conducted. If no consensus was found the data was discarded.

The hypothesis to be tested was whether the Hong Kong students of SFL showed cues to give the turn that could be understood by a Spanish interlocutor, with a null hypothesis stating that there was no relationship between the change of turn and the various independent variables analyzed. Spearman coefficient calculations (calculated using *SPSS*) were used to establish whether there was a linear correlation between the dependent variable (the number of turns) and the independent ones (the various cues). To limit the number of external variables the subjects were only females (no gender differences) of a similar age (in their early 20s) and their level was the same (A2, according to the Common European Framework of Reference for Languages). As some of the speakers participated in more than one conversation it was necessary to divide them into three scenarios, depending on the type of conversation held, to ensure independence amongst the variables (Skype conversations; photo descriptions and dialogues). The calculations were tested with a significance level of 0.1% and 0.05%.

Results and Discussion

A total of 223 turns were analyzed from 28 conversations (two sets of observations were dropped from the initial 30 due to fluency problems that impaired successful turns – usually due to long pauses). During the conversation scenario there were 103 turns, an average of 5.1 turns per speaker per extract; in the description of the photographs 75 turns were recorded, an average of 4.2 turns per speaker per extract; and during the Skype conversations only those turns made by Hong Kong speakers were observed, a total of 45, an average of 5 turns per speaker per extract. Phonological, semantic and lexical issues corresponding to this level were recorded in all cases but they weren't considered to affect the turn management process.

Once divided according to the three types of scenario, the results (summarized in Table 1) show a pattern which can, partly, be explained by the characteristics of each scenario. Overall we can observe that there aren't many significant cues being used. Only two cues are shown as being significant in more than one scenario: a descending

intonation at the end of the sentence and eye contact with the interlocutor when giving the turn. As many of the utterances were adjacent pairs, of the type question-answer, an ascending intonation had been expected. However the results could be due to L1 interference rather than an imitation of Spanish native cues (Cortés Moreno, 2004). Eye contact on the other hand could be more significant, as these Hong Kong speakers have been observed to often eschew direct eye contact when conversing in their mother tongue.

Table 1: Results[1]

Relation with turns	Dialogue(N=10)		Photo (N=9)		Skype (N=9)	
	Correlation coefficient	Sig. (one tail)	Correlation coefficient	Sig. (one tail)	Correlation coefficient	Sig. (one tail)
Eye contact with interlocutor on turn giving	0.951**	0	0.522	0.075	0.852**	0.002
Intonation: ascending	0.700*	0.012	0.423	0.129	0.153	0.347
Intonation: descending	0.754**	0.006	0.809**	0.004	0.581	0.05
Head movement on turn giving	0.28	0.216	0.423	0.128	-0.077	0.422
Hand gesture during the ending of the turn	-0.214	0.276	0.940**	0	-0.297	0.219
Gesture ends with turn	-0.331	0.175	0.248	0.26	0.52	0.076

If the speakers were using gestures to aid lexical retrieval (Krauss, Chen and Gottesman, 2000) or resolve production issues (Feyereisen, 1997), we would expect to see a significant number of gestures during the turn and yet this is not the case. The exception is during conversations describing photographs, where hand gestures are used often to point to the photo, but even here we do not see synchronicity of gesture ending with the end of the turn. This suggests that, either the speakers could not use these cues, or chose not to do so. The latter could be explained by socio-cultural habits that lead the speakers to be moderate in their gestures, especially in the formal context of the learning place. The former could be related to their inability to combine speech and gesture at the lower levels of fluency. The socio-cultural scenario would not explain why eye contact does occur but gestures don't. Both are cues not much used by these speakers in their mother tongue and so taught in the classroom context. The question then arises - why would they remember to use one but not the other?

Conclusions

We believe that the strain imposed by the context and the need to communicate with a stranger (in particular the Skype conversations), might be impairing spontaneous production in the FL and therefore development of the Growth Point in Spanish. The thought exists, but in the L1,

and the gestures used and their timing are associated with that language.

In non-native learners with low levels of fluency the speakers' cognitive resources are focused on the linguistic-verbal elements, which have to be processed consciously, probably following a translation process, as suggested by McNeill (personal correspondence). This doesn't allow for the use of prosody (so the default descending intonation is used most frequently) or for the formation of the Growth Point, that would naturally result in a gesture-speech unit.

To rule out the socio-cultural argument we have begun observations of Chinese from Taiwan and China learning Spanish. The data has not been fully analyzed yet but it seems that the observations of this study will be replicated.

We are aware that this study poses more questions than answers; in particular it would be necessary to repeat the study with a larger data set, and compare the results not with casual observations but with analyzed data from these speakers conversing in their L1. Finally these results should be compared to those obtained from non-native speakers of different levels, in an informal context, to be able to conclude how gesture use develops with fluency and whether the speech-gesture synchronicity improves, suggesting the emergence of the GP in the FL.

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[1] Sig. refers to significance (s) and N to the number of pairs of variables

**significant correlation at 0.01 (99%); * significant correlation at 0.05 (95%)

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