Anti-Transfer in L3A of Portuguese

Xiao Yang; Stephen Matthews; Peter Crosthwaite

The University of Hong Kong

 A growing body of research in third language acquisition has demonstrated the possibility of backward cross-linguistic transfer, specifically L3→L2 transfer (Hui, 2010; Cheung, Matthews & Tsang, 2011; Tsang, 2014). Among these studies, Matthews et al. (2014) suggest that L3→L2 transfer could actually counterbalance previous transfer from L1 to L2, which they referred to as "anti-transfer effect". In their study, L3 German learners (L1-Chinese and L2-English), compared to L2 English learners (L1-Chinese), used significantly fewer uninflected verb forms to describe past events in their L2 English, a type of error attributed to negative transfer from their L1 Chinese which lacks tense markers. In light of this "anti-transfer effect", this project sets out to investigate the influence of L3 on previous L1→L2 transfer in the domain of English third person singular agreement by looking at L3 learners of Portuguese (L1-Chinese and L2-English) at two Universities in Macau: The University of Macau and Macau University of Science and Technology. Adopting longitudinal and cross-sectional methods, it is hypothesized that after one year of Portuguese learning, learners' use of uninflected verb for third person singular in English will be reduced and this effect will increase in proportion to learners' L3 proficiency. In a pilot study comparing a L3 group with 2 years of Portuguese learning experience and a L2 group with no learning experience in Portuguese (both groups showed comparable English proficiency level after an English placement test), it is found that numerically, the L3 group showed an advantage of the use in English third person singular over the L2 group, in both the writing task and the grammaticality judgment task. The result from the pilot suggests L3 influence in accordance with our hypothesis. A DST approach (Jessner, 2008) will be discussed, focusing on the role of metalinguistic awareness in the development of multilingualism.

Age of acquisition of the second language modulates structural and functional dynamics of bilingual reading

Myriam Oliver[1], Manuel Carreiras[1,2,] Yasser Iturria-Medina[3], & Pedro M. Paz-Alonso[1]

[1] BCBL. Basque Center on Cognition, Brain and Language, Donostia-San Sebastian, Spain.
[2]IKERBASQUE, Basque Foundation for Science, Bilbao, Spain. [3]Montreal Neurological Institute, Montreal, Canada.

Neuroimaging evidence has suggested the involvement of left-lateralized perisylvian regions in reading processes (Turkeltaub et al., 2002). In contrast, research on bilingualism has showed contradictory evidence in regard to the differential involvement of language-related brain regions and networks for reading in the native (L1) and second language (L2) (Hernandez et al., 2015). This highlights the relevance of investigating in a systematic manner the main factors modulating the differential involvement of reading regions and networks in bilinguals, while controlling other potential sources of variance. The age-of-acquisition(AoA) of the L2 and language proficiency have been pointed out as critical variables that can determine potential differences in brain function and structure among bilingual readers (Klein et al., 2014). Here, we sought to investigate the effects of the L2 AoA on the function and structure of language-related regions associated with L1 and L2 reading, while controlling language proficiency and exposition to L1 and L2. To this end, we followed a multimodal neuroimaging approach examining fMRI, cortical thickness and tractography measures in a sample of early and late bilinguals. Thirty-six bilinguals with Spanish as their L1, who learned Basque as their L2 before age 3 (early bilinguals) or after age 6 (late bilinguals), participated. All participants were high-proficient in both languages. In the scanner, they performed two separate tasks during which they were asked to press a button when they saw a colored letter within a given string (perceptual-task) or when they saw an animal word (semantic-task). Whole-brain fMRI analysis reveals no differences between groups. Region-of-interest analysis revealed a similar recruitment of

left and right language-related regions in both early and late bilinguals except for the left and right pars triangularis. As compared to late bilinguals, early bilinguals exhibited a different pattern of left triangularis engagement in the interaction between task and language effects. Similarly, early bilinguals showed a more selective recruitment for word versus pseudoword reading in right triangularis. Moreover, functional connectivity analyses confirmed a tighter coactivation among left and right pars triangularis in early, but not in late, bilinguals for reading in L1 relative to reading in L2. Importantly, structural analysis revealed increased cortical thickness in right pars triangularis for early relative to late bilinguals. Additionally, enhanced functional activation for L2-L1 language effects in the left triangularis predicted cortical thinning in their right triangularis counterpart only in early bilinguals. Finally, diffusion MR tractography of the connecting left and right pars triangularis also revealed differences between early and late bilinguals. In sum, our results indicate that the early exposure to two languages led to a more distributed involvement of regions beyond the classical left perisylvian areas in reading. Our findings provide the strongest converging evidence so far of structural and functional changes involving left and right triangularis as a result of L2 AoA in bilingual readers.

Corpus-based Study of Collocation Acquisition for L3 Spanish Learners

Hui-Chuan Lu, An-Chung Cheng and Tsai-Yu Song

NCKU, Taiwan & U of Toledo, USA
Huichuanlu1@gmail.com

This corpus-based research aims to explore new insights for learning collocations of a foreign language other than English by multilingual learners. The two research questions of the study are: (1) What are the usage and error tendency in the acquisition of Spanish combinations by learners of L3 Spanish at different proficiency levels? (2) Do Taiwanese learners' L1 Chinese and L2 English play any role in the acquisition of Spanish collocation? The data source of this research is a learner corpus, the "Taiwanese Learners' Written Corpus of Spanish" and a trilingual corpus, the "Parallel Corpus of Spanish, English, and Chinese". For research question 1, the results show that learners' collocation usage order from high to low frequency is VP>NJ>JN>VN. Compared to natives' usage order, learners underused VN collocations. Also, the developmental sequence moves from JN to NJ and then again JN construction. With respect to learner errors, learners of all proficiency levels made more grammatical than lexical types of errors in the NJ and VN combinations. The answer to research question 2 is positive from the following perspectives. Firstly, learners used less collocations than natives, which could be explained by the language differences in which there are more collocations in learners' L3 (Spanish) than in their L1 (Chinese) and L2 (English). Secondly, results of error analysis indicated that learners of higher proficiency level were affected more by the L2, whereas L1 seemed to play a more essential role in the acquisition of the Spanish collocations in the beginning level. Thirdly, the results of contrastive analysis indicated that the learning difficulties might be associated with the differences among languages. Finally, the pedagogical implication of this study will be presented, using collocation lists of top 10 Spanish verbs according to usage frequency based on the results of analyzing data extracted from Spanish Corpus of BYU.