THE EFFECTS OF MODALITIES ON LANGUAGE SWITCHING

Abstract

Language control is important for bilinguals to produce correct words in a target language. While most previous studies investigated language control using visual stimuli with vocal responses, language control regarding auditory stimuli and manual responses was rarely examined. In the present study, an alternating language switching paradigm was used to investigate language control mechanism under two input modalities (visual and auditory) and two output modalities (manual and vocal) by measuring switch cost, a marker for language control, in terms of error percentage and reaction time (RT). Thirty-two Hong Kong early bilinguals, whose first language (L1) and second language (L2) were Cantonese and English respectively, participated in the experiment. Results have shown that switch costs in terms of RT can be obtained in every input and output modality, except in the auditory-vocal combination, while switch costs in error percentage existed in auditory conditions but not in visual conditions. Switch cost symmetry, or no difference on switch cost between language directions, was found in every modality combination with switch costs and it may be explained by the high proficiency of both Cantonese and English of participants. In addition, no significant switch cost difference was found between modalities, indicating the inhibitory mechanism of language switching required for writing and speaking may be similar. Furthermore, the RT differences between manual and vocal responses offer insights into the phonological and orthographic processing of word production.

Keywords: Language control, input modality, output modality, language switching