

Verbal Working Memory in Sequential and Simultaneous Bilinguals: An Exploratory Study

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Abstract : Cognitive abilities in bilinguals have been widely studied over the last few decades. Bilingualism has been found to extensively facilitate the ability to store and manipulate information in Working Memory (WM). The mechanism of WM includes primary memory, attentional control, and secondary memory, each of which makes a contribution to WM. Many researches have been done in an attempt to measure WM capabilities through both verbal (phonological) and nonverbal tasks (visuospatial). Since there is a lot of speculations regarding the relationship between WM and bilingualism, further investigation is required to understand the nature of WM in bilinguals, i.e., with respect to sequential and simultaneous bilinguals. Hence the present study aimed to highlight the verbal working memory abilities in sequential and simultaneous bilinguals with respect to the processing and recall abilities of nouns and verbs. Two groups of bilinguals aged between 18-30 years were considered for the study. Group 1 consisted of 20 (10 males and 10 females) sequential bilinguals who had acquired L1 (Kannada) before the age of 3 and had exposure to L2 (English) for a period of 8-10 years. Group 2 consisted of 20 (10 males and 10 females) simultaneous bilinguals who have acquired both L1 and L2 before the age of 3. Working memory abilities were assessed using two tasks, and a set of stimuli which was presented in gradation of complexity and the stimuli was inclusive of frequent and infrequent nouns and verbs. The tasks involved the participants to judge the correctness of the sentence and simultaneously remember the last word of each sentence and the participants are instructed to recall the words at the end of each set. The results indicated no significant difference between sequential and simultaneous bilinguals in processing the nouns and verbs, and this could be attributed to the proficiency level of the participants in L1 and the alike cognitive abilities between the groups. And recall of nouns was better compared to verbs, maybe because of the complex argument structure involved in verbs. Similarly, authors found a frequency of occurrence of nouns and verbs also had an effect on WM abilities. The difference was also found across gradation due to the load imposed on the central executive function and phonological loop.

Keywords : bilinguals, nouns, verbs, working memory

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