Second Asia Pacific Conference on Advanced Research (APCAR, Melbourne, February, 2016)
ISBN:978 0 9943656 37
www.apiar.org.au

LEXICAL SEMANTIC NETWORKING IN BILINGUALS: EVIDENCES FOR ENHANCED DISCOURSE SKILLS IN BILINGUALS

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Abstract

Traditionally, bilingualism has been associated with higher metalinguistic abilities (Hakuta& Diaz, 1985) and divergent thinking capacities (Landry, 1974). Bilinguals integrate and/or organize the information of two languages, and so bilingualism creates advantages in terms of cognitive abilities (Reza, Sadegheh and Lars-Goran,2003). As noted by Kroll (1993), many contradictory findings in early research on the organization of the bilingual language system originated from the fact that researchers of bilingualism did not make a clear distinction between lexical and semantic word representations. Studies that emphasized word meanings mostly produced evidence for a single language system shared by both languages; whereas studies that primarily addressed lexical processes seemed to provide support for two distinct, language-specific systems. The free associative naming paradigm has a rich theoretical history of eliciting the structure and organization of lexical semantic networks in both normal and neurologically-impaired individuals (Nelson, Mc Evoy& Dennis, 2000).

The free associative naming paradigm was employed to compare the lexical semantic organization in both monolinguals and bilinguals, and also to compare the lexical semantic organization of concrete and abstract nouns.

Participants consisted of ten monolinguals and ten early bilinguals, using a non-standardized list of concrete and abstract nouns (five in each) as the stimuli. Participants were instructed to produce as many related words as possible in 1 minute. The responses were recorded and the total associations per target word were calculated by two experienced judges. Associations considered for analysis were either single word productions (e.g. table – chair) or multiword productions (e.g. table – four legs). The total number of associations produced for both concrete and abstract nouns in both groups of subjects was then analysed. For statistical measure, an Independent test was performed on the data obtained.

The comparison between monolingual and bilingual subjects revealed significant differences between means at $p<0.001$. Also, the comparison between concrete and abstract nouns also indicated significant differences between means at $p < 0.001$.

The present study investigated the lexical semantic organization in monolinguals and bilinguals. The results revealed significant differences in the lexical semantic organization between monolinguals and bilinguals, suggesting that bilinguals have a better paradigmatic organization when compared to monolingual subjects, possibly due to the fact that both languages are active and influence each other in bilinguals (Costa, Roelstraete, &Hartsuiker, 2006). Costa and colleagues opine that there is a benefit to cognitive control from language management in bilinguals (Costa et al., 2008), which is evident even in the present study. The Distributed Processing Model does claim the phenomenon that word meanings in bilingual individuals are

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represented as sets of distributed features (de Groot et al., 1997). The overlap in meaning, indexed by the number of shared features in bilingual individuals, explains the higher retrieval in bilinguals, which is highlighted in this study.

Lexical semantic organization was better for concrete nouns than for abstract nouns in this study, suggesting that concrete nouns generally surpass abstract nouns in meaningfulness as well as in rated imagery (Paivio et al., 1968). Abstract and concrete word meanings are based within representational systems that have qualitatively different properties. More specifically, abstract concepts are represented in an associative neural network (Warrington, 1981). The results of this study show a processing advantage for concrete words over abstract words. This superiority has been attributed variously to: (i) abstract words lacking the direct sensory referents of concrete words (Paivio, 1986); (ii) greater availability of contextual information in the knowledge base for concrete words (Schwanenflugel and Shoben, 1983); and (iii) concrete words being supported by more semantic features than abstract words (Plaut and Shallice, 1991; 1993).

The free associative naming paradigm has a rich theoretical background of eliciting the structure and organization of lexical semantic network. Hence, this study compares the lexical semantic organization in monolinguals and bilinguals with the results revealing higher values of retrieval in bilingual individuals compared to monolinguals; and a comparison of retrieval between concrete and abstract nouns revealed higher values for concrete nouns. In the contemporary clinical outlook, even in a country like India, with the majority being bilingual or multilingual, the free associative naming paradigm has been poorly stressed in the literature. The results of this study have a strong clinical implication and give future direction for research to include a larger clinical population and different age groups in order to strengthen the findings.

***Keywords*:** Lexical Semantic Organization, Monolingual and Bilingual