Abstract

Background: The processes involved in language production and language comprehension are greatly dependent on the meanings that the words correspond to. These words are assumed to be stored along with their meaning representation in the mental lexicon. Study of words for their semantic features, which are chunks of information about each word, has been the focus of research as they provide valuable insights about its organization and meaning representation. Hence semantic features have been collected in various languages such as English, Dutch, German, Italian etc. In Indian languages, the semantic features have been studied for developing assessment tools and therapy techniques for rehabilitation of persons with communication disorders. However there is no research study that directly focuses on semantic features itself and its contribution to lexical semantic representation in the mental lexicon. Hence the present research was designed to study semantic features of Kannada nouns and verbs in order to describe semantic representation and organization of the mental lexicon.

Method & Materials: The study involved collecting semantic features for Kannada nouns and verbs. 200 nouns belonging to ten semantic categories and 100 verbs belonging to seven semantic categories formed the stimuli. Written semantic features were obtained for these words from 300 native Kannada speaking adults. In order to study lexical semantic representation the semantic features generated for these words were analyzed for distribution of featural properties namely number of features, featural weight, feature types, distinctive features, shared features and feature correlation for the domain of noun and verb and their semantic categories.

Results & Discussion: The distribution of semantic feature properties varied significantly across the domains of nouns and verbs. With respect to semantic categories of nouns and verbs, differences in the distribution of semantic feature properties were more prominently observed for noun categories than verb categories. The results thus reveal that there is substantial difference in the semantic representation of words belonging to domains of nouns and verbs. The differences noted in the semantic feature properties across each category of nouns and verbs further indicate the difference in the organization of words into categories in the two
domains. With the goal of understanding organization and categorization of words in the mental lexicon of Kannada a framework for a model was proposed based on the semantic similarity among words based on their featural properties. The model was able to group together words into categories that closely resembled the semantic categories intuitively assigned in the present study. The semantic similarity measures obtained for words in the present study were compared to their translational equivalents in English in order to study the influence of language on semantic representation and organization of mental lexicon. The results revealed a statistically significant difference between the two languages despite the words being translational equivalents representing same concepts emphasizing the influence of linguistic and cultural differences.