Chapter 5

General Discussion

The present study analyzed the discourse genre of picture description and conversation and profiled the cognitive abilities in persons with mild dementia. The study was focused on differentiating the discourse abilities in monolingual and bilingual persons in the first acquired language i.e., Kannada. The primary objective was to investigate the quantitative and qualitative discourse production in persons with dementia as compared to normal elderly during picture description and conversational tasks. The second important objective was to investigate the performance of PWD as compared to HE on two tests for cognitive-linguistic abilities (Addenbrooke’s Cognitive Examination Revised and Cognitive Linguistic Assessment Protocol). And finally, the discourse performance of monolingual as against to bilingual persons with dementia in L1 were discussed.

Two major findings of the study has been that a) persons with dementia performed poorer than healthy elderly on discourse and cognitive tasks and b) bilingual persons with dementia had enhanced performance as compared to their monolingual counterparts. The presence of cognitive impairment in persons with dementia reflected in their performances in discourse along with other cognitive tests. It was observed that cognitive-linguistic assessment could clearly differentiate both the groups of participants. These differences were in accordance with the cognitive disturbances expected in PWD.

In the measures of lexical richness of speech, PWD scored lesser than normals suggesting that their discourse contained lesser number of content words and was very simple. They were unable to produce the discourse with rich vocabulary which seemed to highlight decreased episodic memory because of the need to encode new information frequently when experiencing some events (Caseleti & Yangihara, 1991). The measure of lexical richness is based on word frequency features of discourse. The PWD group's inability to produce the discourse with rich vocabulary seemed to highlight decreased in the semantic storage abilities (Cummings, 2000). This was substantiated from the
findings of CLAP. Semantic memory deficits were evidenced in PWD which might have influenced their discourse which was simpler and contained poor lexical words. Also, the reasons or ways in which the discourse measures reflect/ are influenced by cognitive parameters has to be well illustrated. For example, the content or lexical words form lexical-semantic maps are organized through cognitive principles. In persons with dementia cognitive decline occurs with both access and trace limitations at mild stage. Therefore, it may be said that lexical richness was due to memory or word retrieval difficulty. In case of bilinguals, there was a different trend observed. The bilinguals in clinical group were better in providing lexically richer speech. They used both the language maps (L1 and L2) in completing the task which enhanced their performance.

The quantitative measures of conversation samples indicated that the reduced number of clauses and T-units reflected the simple and less complex discourse in PWD. The increased number of words per T-unit and words per clauses reflected their inability to provide appropriate tokens and instead provided broader explanation for the same. This implied that the persons with dementia experienced severe word retrieval problems. This would again be attributed to their poor semantic storage and reduced inhibitory skills. They found difficulty in drawing the appropriate or specific words during conversation from their long term store. As a consequence to this, they used broader term to complete the conversation. Hence, persons with dementia in the mild stage of the disease can attend to conversation which is simpler and which can provide additional prompts.

The results of T-unit showed that the discourse production was cognitively demanding for PWD, because they had difficulty in retrieving words and formulating sentences. The deficits observed with reduced number of T-units depicted the complexity and the quantity of the speech used by persons with dementia. A clear-cut difficulty in connecting the working memory and its related situations to the long term storage was observed. Hence, lexical-grammatical aspects (choosing words, constructing sentences, organizing the discourse) of the cognition was impaired.
Various cognitive processes are required for the quantitative production of the discourse which includes intact working memory, organization, categorization, verbal fluency etc. These processes were impaired in persons with mild dementia which were observed in their performances on ACE-R and CLAP. Overall all these deficits caused reduction in the complexity of discourse in terms of shorter clauses and T-units. But this observation could not be generalized to both the monolinguals and bilingual participants in the present study because there was differential performance in both of these categories.

There was enhanced performance by bilinguals among both clinical and non-clinical participants. They had elaborated speech as compared to monolinguals. Their speech was self stimulatory and helped in gathering better ideas and looking at the topic of discussion in different views. Words per clause did not vary among both the categories suggesting that there was equal length of meaningful units in their speech. On the other hand, the words per T-unit, number of clauses and number of T-units were higher in bilinguals as compared to monolinguals. Unlike picture description task, the conversation was unrestricted and more flexible. This kind of discourse can differentiate the monolinguals from those with bilinguals if the researchers can gather the appropriate/adequate discourse data. This observation found for the persons with mild dementia cannot be generalized to other stages of the disease, however.

Finally, the qualitative aspects of discourse of persons with dementia listed the breakdown in several areas of discourse. The persons with dementia had failure to structure discourse, poor topic management, inadequate information, message inaccuracy, etc. The qualitative reduction in discourse in persons with mild dementia would be due to the disparity in linguistic formulation and inability to draw inferences which are the behaviors reflecting the cognitive flexibility. There was impairment in ability to manage knowledge provided in the context of communication which might be a consequence of inability to sustain the attention and retrieve the information from the long-term storage. The qualitative aspects of discourse also casted their inability to link the perceived events
into the composite narration, leading to incorrect interpretation of the events which is a virtue of defective working memory processes.

The important highlight of the present study was the enhanced performance of bilinguals as compared to monolinguals both in clinical and non-clinical (in certain domains) participants. The differences implied that the spoken discourse is served by a better cognitive reserve and flexibility in bilinguals. The preserved functional abilities and experience in speaking two or more languages might have helped the bilingual participants to perform better on the tasks related to the discourse and the cognitive linguistic assessment. They also had better inhibitory skills for unwanted thoughts as compared to monolinguals (Bialystok, Craik & Luk, 2008; Costa, Hernandez, & Sebastian-Galles, 2008). Another evidence for the better performance of bilingual persons with dementia comes from the research evidence which have proven that being bilingual will result in delay in the progression of the disease (Mendez, Perryman, Ponton & Cummings, 1999; Bialystok et. al, 2007). Though the participants were diagnosed as mild dementia in both the categories (monolingual and bilingual), the bilinguals had better hold on their cognitive-linguistic abilities (as observed from cognitive testing as well as discourse measures) as compared to monolinguals. The interpretation that bilingualism delays the onset of dementia depends on evidence that the monolingual and bilingual groups not only differ in their language abilities but also on their cognitive-linguistic abilities. However, it would be interesting to know whether the discourse variables measured can be directly related to the cognitive flexibility or not.