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Narrative Discourse of Kannada-English Bilingual Individuals with Traumatic Brain Injury: A Comparative Study

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Abstract

Individuals while speaking in two different languages may essentially have different thought patterns in the languages they use while speaking, this is the linguistic relativity hypothesis. However there is dearth of studies in checking validity of linguistic hypothesis in disordered population (with traumatic brain injury). Thus present study is an attempt in particular to investigate how and when narrating, a bilingual individual with TBI expresses verbal notions through the appropriate use of voices, aspect and tense forms which are accessible in each of their two languages and study tries to inspect the narration ability of 20 bilingual individual with TBI. Participants were required to narrate in English and Kannada languages which were video recorded. Target task of oral narratives was used, where usage of past tense was expected when representing string of events which takes part in a particular sequence. Narrative discourses were quantified separately as fours variables under T-unit analysis. The variables were number of words per clauses and number of clauses, number of words per T unit and number of T units. The statistical results showed significant differences in all parameters and lower mean was obtained in English narrative discourse when compared to Kannada narrative discourse.

Key Words: T-unit, Traumatic brain injury, Linguistic relativity

Introduction

There exist a correlation between the Traumatic Brain Injury (TBI) and the resulting cognitive dysfunctions in adults with traumatic brain injury. Traumatic brain injury (TBI) is a consequence of an external physical trauma to the brain causing permanent or transient neurological dysfunction, with road traffic accidents (RTA) being the major cause and primarily

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among the young group of males in the age range of 15-19 years old. TBI can create wide spread and significant disabilities in terms of emotional, social and physical outcomes. Research studies have stated that, primary disabling factors such as communicative, cognitive, emotional, and psychosocial dysfunctions are seen in survivors of TBI (Johnston, Shawaryn, Malec, Kreutzer & Hammond, 2006). For the rest of their lifetime these survivors often require health, welfare and social services. Hence there is an imperative need for enduring research into outcomes after TBI which is crucial essential.

Cognitive dysfunctions due to traumatic brain injury (TBI) are considerably large source of morbidity for affected individuals, their family members and society they live in. Disturbances in memory, attention and executive functioning are the most wide spreading neuro-cognitive outcomes of TBI (Arciniegas, Held &Wagner, 2002). The individuals with acquired traumatic brain injury differs significantly from that of neuro-typical individuals in terms of their communication skills. Milton, Prutting and Binder (1984) reports that the survivors of traumatic brain injuries "talk better than they communicate", this suggests that their speech is generally fluent and devoid of remarkable number of grammatical errors but their communication intent is not as effective and efficient as it is in neuro-typical individuals. Since communication is regarded as a manifestation of cognition, the ability in processing linguistic information is affected because individuals with TBI have difficulty in planning, organizing ideas and thinking, which may be due to the information-processing abilities at sentence level being affected because of diffuse injury (Cannizzaro & Coelho, 2002). This cognitive communicative ability of TBI population is well assessed using a discourse analysis method.

Discourse analysis method includes different tasks like conversation, narration and picture description to name few. Among these different types of discourse genres, narration plays a significant role in pragmatic, educational and theoretical reasoning. Narration plays a central and crucial role in skills which underlie successful academic outcomes, including writing and reading (Feagans, 1982; Watson, 1989; Snow & Dickinson, 1990; Graesser, Golding & Long, 1991). The research on language aspects involving the association between language and thought

process, analysis of narrative discourse is one of the very old critical debates and is also a source of great curiosity. Hence it leads to a question- how does a speakers' perception of world is influenced by a particular language. For example, representation of past experiences in narrative discourse mainly involves recounting of sequences of events (McCabe, 1995). But Whorf (1965) suggests that according to linguistic relativity hypothesis speakers using different languages tend to think and behave differently depending on the language being used by them. Language influences thought and different language influences thought in different ways. On this topic, significant amount of research has been conducted and these researches have shown strong facts in support of the linguistic relativity hypothesis (Brown & Lenneberg, 1954; Bloom, 1981).Whereas, others have also provided evidence questioning the validity of linguistic relativity (Berlin & Kay, 1969). This hypothesis mainly suggests that bilinguals while speaking in different languages may actually have different thought patterns.

Focus of the Present Study

The present study is an attempt to combine studies on bilingualism and few view points of narrative discourse genre against the backdrop of the linguistic relativity hypothesis on individuals with TBI. According to Peterson (1990) and Reilly (1992) structural aspects of narrative discourse are the main focus of studies for language development and language acquisition. For bilinguals learning the skills that are required for narrative genre is extremely complicated. The extent that the schema, which serves as a structural framework of events and actions, affects several processes such as memory retrieval and encoding, this differs for each of the language being used. The schema of prepacked interpretations or expectations and also the usage of specific linguistic system can influence the human mind greatly.

The same was assessed with reference to the bilingual individuals in a study on linguistic relativity hypothesis by Hema and Shyamala (2011) and reported the mean length of 73.5 in English language narration and of 76.5 clauses in the Kannada language narration of neuro-typical adults. The findings indicated that an adult bilinguals' narration are correlated with

richness and sophistication of vocabulary, appropriate use of pronouns and nouns as referencing devices under cohesive devices, as well as T-unit analysis.

Similarly, the current study is an attempt in particular to understand how and when narrating, a bilingual individual with TBI expresses verbal ideas through the appropriate voice use, aspects and tense forms which are available in each of their two languages. For instance, present tense is usually used in script narratives which includes identifying typical series of events taking place in particular activity, whereas the past tense may be largely used in the picture book narrations or for the tasks relating to a narrative activity, and it is frequently used in narratives of oral type, indicating the distinctive series of events taking part in a particular order sequence.

Review

According to the set of authors like Labov (1972), Karmiloff-Smith (1980), Hickman (1990), Bamberg and Damrad-Frye (1991), and Berman and Slobin (1994), the systematic use of tense forms is adopted by the narrator when he refers to the events or situations which are temporally related. Any narration requires few most complicated and sophisticated linguistic skills of the persons' repertoire. To mention few are the use of array of logical, spatial and temporal relationships which further includes the use of complex linguistic elements while referring to situations, items and characters already mentioned or newly occurring in the story and the appropriate use of varied linguistic mechanism that reveals the narrator's individual view point. Whereas the discourse which is expressed by individuals with TBI has been defined in wide variety of terms, which includes their discourse being referred as tangential, off-target, confabulatory, confused, disorganized, irrelevant, inefficient, unclear, and self focused and has demonstrated a challenge when evaluating communication deficits. Thus, the narratives of those with TBI have a diverse array of deficits which has been noticed and documented (Cannizzaro & Coelho, 2002). The produced narratives have revealed increased errors of coherence and cohesion which occur due to the recurrent disruption in flow of ongoing utterances, derailments and extraneous utterances that results in their discourse being ambiguous and vague. But, in their

narratives TBI individuals produced a normal amount of thematic units (i.e. concepts). On the other hand, this information shows inappropriate organization at macro- and micro levels of linguistic processing (Marini, et al 2011).

With reference to syntactic complexity, which is an important area in narration, has been long used to examine the micro linguistic levels of processing. The measure considered for analyzing syntactic complexity could be the total number of single syntactic units. According to Norbury and Bishop (2003) it is further categorized as a full main clause and any subordinate clauses belonging to it. One syntactic unit consists of simple and complex sentences. The two syntactic units consists only the compound sentences. The sum of complex sentences thus consists of complement clauses, subordinate clauses, passive construction and verbal complements. The present study examines narratives of Kannada-English bilingual individuals with TBI in particular. Since English and Kannada are distantly different language this comparison offers an interesting platform for the study of cross linguistic analysis. The major Dravidian language of India which is used predominantly in the state of Karnataka is Kannada language and roughly 38 million speakers use this language and in the world this is the 27th most spoken language. Kannada language has a script of its own which has two numbers (plural and singular) and a highly inflected three genders (feminine, masculine, common or neutral). According to Prakash and Joshi (1995), it is also inflected for number, tense and gender.

While in India, Indian English is a result of evolution during and after the British colonial rule and it comprises several numbers of dialects. According to 1991 Census of India, English is used as an official language since there are about ninety million speakers using it. In English, clauses consist of a verb and a subject. Dependent clauses are of three types, which include adverb, adjective and noun clauses, called so for their syntactic resemblance to adverbs, adjectives, and nouns respectively. Where, a noun is the head of the phrase. At syntax level these variances in language make comparison of Kannada and English of great potential interest for those who research cross- linguistic development.

Bilingualism

A variety of factors like proficiency, social interaction etc are related to predominant phenomena called bilingualism. Thus, it is really complex to give a precise definition which covers and includes all these aspects. Bilingualism as defined by Bialystok (2001) is the ability to use two or more languages in proficient conversation with native speakers of each language. Not only are bilingual speakers able to use linguistic structures of their two languages, they also master pragmatic and sociolinguistic norms of the culture surrounding each languages. Right from earliest times, India has been a multilingual country. English is one language which has become an integral part within bilingualism. This necessitates the study of first language along with the proficient second language in the clinical population too. Literature in the Indian context regarding aspects of discourse processing that are preserved in individuals with TBI and those that are impaired is limited.

Degree of linguistic competency is critical requirement in the bilingual studies. Majority of the bilinguals are generally more fluent in one language compared to the other. This difference is based on the degree of proficiency which often leads to confused results. This study aims to identify the features of a good narration specific to cross linguistically common, possible quasi-universal or universal features and linguistic/cultural aspects of narration. From a cognitive-communicative disorder perspective the present study is an attempt to study the validity of this hypothesis. Among bilinguals, the ability to speak two languages may be acquired early in critical age or during school years. Language representation in bilingual individuals may have formulator and even a separate lexicon for each one of the known languages or a unique large system storing all the data regarding the different languages. Organization of the formulator and the lexicon are affected by factors such as age, method of language acquisition, use of language. Early acquisition of language other than L1 usually results in formulator for both the language being represented in common cerebral structures. If L2 acquired after 10 years, neuro-functional systems responsible for phonology and grammar are also expected to be separate at the level of neuro anatomy (Fabbro, 1996; Kim et al, 1997). In fluent bilinguals, the representation of lexicon occurs in a common neural structure. Whereas neuro-functional separation depends on word -

use relationships. With regard to set of syllables and prosodic aspects, the independent storage areas for each of the language may be usually present in late bilinguals (some bilinguals); whereas in early bilinguals (other bilinguals) they have only one store containing all elements of both languages (Flege & Fletcher, 1992).

Bilinguals loose one of their languages if they experience TBI, this may be because majority of both languages being housed in the same area of the brain, it is likely for both languages would be impacted if there was damage to that general region (Ojemann &Whitaker, 1978). However, the effect on each language may differ. About the recovery process earlier studies has showed that, language will return more quickly for a bilingual over a monolingual because they have double the language. Bilinguals have beneficial dimensions in cognitive performance (De Bleser, et al, 2003) and it also has been suggested that bilingualism may be factor that aids in cognitive rehabilitation following head injury (Marrero, Golden & Espe-pfeifer, 2002). Review suggest, TBI adults have impaired thought process (Grzankowski, 1997), language (Murdoch & Theodros, 2000) and cognition (Arciniegas, Held & Wagner, 2002). These three are interconnected; thought can be described as human mental activity and conceptual products of mental activity which includes emotion, conation and cognition. Language can be viewed as representation of particular system of thought (David, 1996). But in TBI individuals these three domains are frequently affected and this combination can be ideally assessed using narrative discourse genres which also explore the linguistic relativity hypothesis in bilingual adults with traumatic brain injury at two different languages. Further, there is dearth of studies in checking validity of linguistic relativity hypothesis and exploring more about this principle among TBI individuals may help in rehabilitative procedures.

Aim

The aim of the present study is to compare the narrative discourse abilities of English (L2) and Kannada (L1) speaking (adults) bilingual individuals with traumatic brain injury.

Method

A total of 20 individuals with traumatic brain injury (TBI) in the age range of 25 to 48 (mean age - 32.5 years) diagnosed by a neurologist were selected. These participants were confirmed to fit and belong to a high/middle socioeconomic status on administration of National Institute of Mental Health Socioeconomic Status Scale (Venkatesan, 2009). Further they were screened for neuropsychological aspects and visual perceptual deficits using Mini Mental Status Examination. Wylie and Ingram (2006), International Second Language Proficiency Rating Scale (ISLPR) was administration for all the participants. The L2 (English) and L1 (Kannada) proficiency was closely described as vocational proficiency.

The target task of the participants' was to orally narrate for a specified duration of 3-5 minutes on a topic "Journey to a place" using only one language (for example - L1), following this the verbatim transciption was done. Later subsequent to 15 days, the other language (for example - L2) was used by the same participants to repeat the same task. To achieve counterbalance and to reduce any effects of order of presentation, one half (10) of the participants were made to narrate in English first and then in Kannada (Group A) and the other half (10) was made to narrate in Kannada first and then in English (Group B). This narration samples were videotaped using a digital handy cam DCR-DVD 908 in a sound treated and well lighted room with no and/or very minimal distraction during the processing of recording. Written informed consent was obtained from the participants. International Phonetic Alphabet (2007) was used to carry out verbatim transcription of all the recorded narrative discourse samples of each participant and for syntactic measures the T-unit analysis was applied. The T unit analysis further consisted of sub -section like number of clauses (NC), number of words per clauses (NWPC), number of T-units (NTU) and number of words per T-unit (NWPTU).

Results

The study was among the bilingual individuals with TBI and the aim was to compare the narrative discourse across English (L2) and Kannada (L1) language. The total participants were divided into two groups, the Group A and Group B. The language samples of these participants in Group A and Group B was collected separately to achieve counter balancing. Descriptive

statistics was carried out for each parameter of discourse in two different languages among the total participants, Group A and Group B. The Table 1 depicts the results in terms of the mean and standard deviation for the total population, the two groups and the two languages for the parameters separately: number of clauses (NC), number of words per clauses (NWPC), number of T- units (NTU) and number of words per T-unit (NWPTU).

The foremost result of the present study is as following: the Kannada language narrative samples of total participants (Group A plus Group B) showed higher mean for the parameter, number of clauses, number of T-unit and the number of words per T-unit. But English language narrative samples of total participants showed higher mean for the parameter, number of words per clauses when compared to Kannada language narrative samples. Same trend was observed in Group A and Group B also.

Table 1. *Mean and Standard Deviations of narrative discourse parameters in Kannada and English for Total participants, Group A and Group B.*

Parameters	**Total** (20 Participants)		**Group A** (10 Participants)		**Group B** (10 Participants)	
	Mean	SD	Mean	SD	Mean	SD
Number of Clauses - K	53.75	16.98	52.3	21.33	55.2	12.2
Number of Clauses - E	34.9	15.00	25.1	8.84	44.7	13.55
Number of Words per Clauses - K	6.3	0.47	6.15	0.41	6.45	0.49
Number of Words per Clauses - E	6.7	0.76	6.3	0.67	7.1	0.65
Number of T-unit - K	6	0.17	5.9	0.99	6.1	0.87
Number of T-unit - E	5.2	1.16	4.5	1.08	5.9	0.87
Words / T-unit - K	66.2	10.98	63.7	12.67	68.7	8.96
Words / T-unit - E	44.55	13.14	35.95	11.25	53.15	8.58

Note: *K- Kannada, E-English, SD- Standard Deviation*

The statistical significance of above parameters was evaluated using one way repeated measure ANOVA for language with group as between subject factor (mixed ANOVA) to study the effect of group and language (Kannada and English) with each parameters of T-unit analysis of narrative discourse. The results of mixed ANOVA revealed significant interaction, hence there was a need to study these interactions in detail, and hence MANOVA was administered to evaluate the effect of group within each language and each parameter. Subsequent to this paired t-test was done to compare language within each group.

Language – Group and Their Interaction

Mixed ANOVA was administered to compare languages with group as independent variable. Irrespective of the group, there was a need to study the significant differences between the Kannada and English language narrative samples and also find the differences between the groups and check the interaction between language and the group. Initially for between language comparisons the results of statistical analysis showed a significant main effect of language for all the parameter of T-unit analysis (NC, NWPC, NTU and NWPTU). Later for comparison between groups there was a significant main effect of group for the parameter NWPC and NWPTU. Finally, there was a significant interaction between languages and groups for the parameter NC, NTU and NWPTU of T-unit based analysis.

Table 2. *Results of mixed ANOVA.*

Source	*Parameters of T-unit*	F(1,18)	*p* value
Language	Number of clauses	24.915	0.000 *
	Number of words per clause	9.521	0.006 *
	Number of T-units.	23.040	0.000 *
	Number of words per T-unit	80.839	0.000 *
Group	Number of clauses	4.353	0.051
	Number of words per clause	6.241	0.022 *
	Number of T-units	4.085	0.058

	Number of words per T-unit	7.570	0.013 *
Language*Group	Number of clauses	4.889	0.040 *
	Number of words per clause	3.719	0.070
	Number of T-units.	12.60	0.002 *
	Number of words per T-unit	6.418	0.021 *

Effect of Group within Kannada and English Language for Each Parameter

Here MANOVA was administered because there was significant interaction between group and language. This evaluated the difference between the languages (Kannada and English) over the dependent variables (NC, NWPC, NTU and NWPTU) within the groups. The results of statistical analysis revealed a significant main effect of English language for the parameters NC, NWPC, NTU and NWPTU. But there was no significant main effect for none of the parameters in Kannada languages.

Table 3. *Results of MANOVA.*

Languages	Parameters of T-unit	F (1,18)	*p* value
Kannada	Number of Clauses	0.139	0.714
	Number of Words per Clauses	2.16	0.159
	Number of T-unit	0.228	0.639
	Number of Words per T-unit	1.037	0.322
English	Number of Clauses	14.656	0.001 *
	Number of Words per Clauses	7.2	0.015 *
	Number of T-unit	10.138	0.005 *
	Number of Words per T-unit	14.761	0.001 *

Difference between Languages in Group A and Group B

Since there was significant interaction between language and group, paired t-test was administered to study the effect of group over the dependent variables NC, NWPC, NTU and NWPTU within each language (Kannada and English). The results of the statistical analysis for

Group A (K1E2) showed a high significant difference for all the parameters (NC, NTU and NWPTU) of T- unit analysis except NWPC. In case of Group B (E1K2) there was a significant difference for the parameter NC, NWPC and NWPTU of T-unit analysis.

Table 4. *Group A and Group B results of paired t-test.*

Groups	Parameters of T-unit	t (19)	*p* value
Group A	Number of clauses	3.654	0.005 *
	Number of words per clause	-0.709	0.496
	Number of T-units.	5.250	0.001 *
	Number of words per T-unit	5.902	0.000 *
Group B	Number of clauses	8.230	0.000 *
	Number of words per clause	-4.333	0.0002*
	Number of T-units.	1	0.343
	Number of words per T-unit	14.923	0.000 *

Discussion

TBI adults have impaired thought process, language and cognition, these three are interconnected and their combination can be ideally assessed in narrative discourse genre and also explore linguistic relativity hypothesis. Further exploring linguistic relativity hypothesis in individuals with TBI may serve as a foundation for their rehabilitative procedures. Thus, the present study compared the narrative discourse abilities in Kannada and English languages of bilingual individuals with traumatic brain injury.

Comparison of Languages in TBI Individuals

The present study reveals that the parameters such as number of clauses (NC), number of T-unit (NTU), number of words per T-unit (NWPT) was more in Kannada language on comparison with English. This may be attributed to the longer exposure and use of Kannada language with reference to the individuals residence or hospital and or/ intervention centers in comparison with the English language being used less frequently. According to Green (1998),

even though the L2 vocabulary and structures are accessed frequently and are processed more effortlessly than those rarely utilized, fortunately the individuals with TBI were more comfortable with their L1. Similar trend was also observed in the present study. Other feasible reason could be that after trauma individual may be exposed to either first or second language for ease of communication. Because of this difference in exposure immediately after the trauma, there would be a gap between the usages of two languages or usage of either one language, the more exposed language has made them to execute better compared to less exposed language in spite of having equal proficiency in the two languages. Thus, on observation it was noticed that the Kannada language had maximum usage compared to English language. The TBI group produced a higher number of complete and accurate clauses, and more number of responses (in Kannada language compared to English language) that resulted in the expansion of the topics. They had very good initiation skills while speaking in Kannada language. But while speaking in English language, the narration task approximately resembled an event related task. On several instances the experimenter had to prompt in sequences to elicit an organized response. And individuals with TBI answered to that particular sequence of event, lacking relevant elaborations.

The other contributing factor could be the cultural and linguistic differences. This might have influenced to document the differences in discourse across languages. For example, children learn the examples of narrative produced by their families are always influenced by the culture they are exposed too (Gutierrez-Clellen, Peña, & Quinn, 1995; Minami & McCabe, 1995; Melzi, 2000). Thus, the expected performance is a resultant of cultural influence and it may play a large role in the types of narratives that children produce. According to Melzi (2000) study, the comparison between the narrative elicitation style of European American verse Central American mothers and their preschool children. It was observed that the European American mothers paid attention more on the structural and organizational aspects of their children's stories, whereas the Central American mothers paid more attention on the conversational aspects of narration. From the mainstream American culture the narrative style in U. S. Latino culture and socio-cultural role of stories may vary, thus influence the kinds of stories children learn to tell. Similarly, in the present study, the TBI population was divided into two separate groups

based on the time scheduled for discourse elicitation task and the language to be used to executive the narration task. There was no difference found for the Kannada language compared to English language. This differences in discourse aspects between the languages could be contributed to the fact that, discourse in Kannada language had good information content, information adequacy, maintained the topic with adequate temporal causal relationship and accurate message without any consciousness effort towards the discourse structure. On the other hand a conscious effort was seen towards the discourse structure while speaking in English language. This could have contributed for the differences in the narrative discourse of Kannada and English language among the total twenty individuals with TBI.

Comparison of Languages within Groups (Group A and Group B)

With reference to the sub groups among the total twenty individuals with TBI, there were significant differences for the parameters NC, NWPC, NTU and NWPTU, in English language when comparison was statistically studied between languages within each group [Group A (K1E2) and Group B (K2E1)]. But there were no significant differences for none of the parameters in Kannada languages. There is very little literature support, mainly done on children. Gutierrez-Clellen (2002) studied second-grade children's spontaneous narrative productions elicited in English (L2) and Spanish (L1) speaking bilinguals for their proportion of grammatical T-units. In both their English and Spanish stories, these children demonstrated comparable grammaticality. This study is in parallel with another study by Silliman, Huntley, Brea, Hnath-Chisolm & Mahecha (2002), these authors considered 9-to 11 year old bilingual children's linguistic encoding of mental states in their narrative retellings in English (L2) and Spanish (L1).

There was a discrepancy in the type and amount of clauses used in encoding the mental states. This was attributed to the language used for story retelling. In English language, children used less adverbials clauses and more of nominal clauses. Whereas, in Spanish language, children used more clauses, with less nominal clauses and more adverbial. Overall in both the languages the children used relative clauses the least. These studies express the evidence that

bilingual children make use of language-specific linguistic devices in each of their languages to formulate narratives that are grammatical too.

Comparison of Groups within Languages

The between group comparison revealed poorer performance of Group B (E1K2) when compared to Group A (K1E2) for the parameter NTU. This indicates that TBI participant's were able to say more number of thematic units when narrated first in Kannada language followed by English compared to English narration first followed by Kannada. Suggesting that order of elicitation of narration samples in bilingual TBI adults does influence the results and differences were seen only at thematic level of T unit analysis and not at the sentential level, since both the groups performed similarly in parameters NC, NWPC and NWPTU.

The research in English language on the acquisition of linguistic skills and its evaluation using T unit analysis addresses evidence on the basic analysis of narrative discourse. This is an objective measure of individual's narrative discourse to ensure the developmental changes if any. In the present study, the results in terms of the average length of clauses in Kannada and English narration used by a group of individuals with TBI is reported to be 53.75 and 34.9 respectively. This result is in support with Hema and Shyamala (2011, 2013), where they found increased number of clauses in Kannada language compared to English language narration of normal adult bilinguals and individuals with TBI. Thus, the results specify that the narration of adult bilingual individual are correlated with various aspects and types of analysis like T-unit analysis, richness and sophistication of vocabulary, narrative markers where the individuals use past tense in a sequence of specific individual events, appropriate use of pronouns and nouns as referencing device which is called as cohesive devices. Thus, the present study identifies the specific features of a good narration in terms of cross-linguistically common, possibly universal or quasi-universal features and linguistically or culturally specified features of any narrative discourse. On observation, narrating an event is expected to be told in past tense, and is supposed to be extensive with large number of variety of words in both Kannada and English.

To be more specific, according to Clark (1994) discourse applies to single narration told to others by single narrators, it is a complex and critical communicative event as stated by Ulatowska, Freedman-Stern, Doyle and Macaluso-Haynes (1983). Snow, Douglas and Ponsford, (1999) reported that, narrative genre is considered as one among the different discourse genres. The various conventional aspects and subtleties of conversational exchange are not possible in narration since it holds a monologue format including a different set of demands. However, according to Tucker and Hanlon (1998) investigating discourse production specifically at narrative discourse genre is particularly sensitive to subtle language deficits. For example, studies have suggested that individuals will exhibit difficulty reconstructing their own life experiences while sharing with others; the difficulty is demonstrated by Snow, Douglas and Ponsford (1999) while using the narrative discourse genre. Finally, the narrative discourse genre provides a controlled environment and can sample the behaviors of interest in a structured manner and however similar discourse aspects are demonstrated on a daily basis. This facilitates to avoid the difficulties brought about by the use of more artificial tasks.

Conclusion

In the T-unit based analysis there was a significant difference in two languages (Kannada-L1 and English-L2) at the syntactic level (NWPTU, NC and NWPC). But at the thematic level (NTU) there was no difference at this language level. These differences attributing in TBI individual are due to the primary factors like the use of instantly available language and the native language exposure facilitating immediate retrieval of the linguistic items in the exposed language after the trauma, which was in support with the environmental factors such as social milieu and supportive family. The secondary factor could be with the structure rules of each language, the “agglutinative nature”. Here each word of Kannada language is a combination of several morphemes. This might have led participants to produce and use more frequently since communication is the major priority for any individuals with TBI during their post morbid condition. This resulted in an increased number of words in Kannada on comparison with English language. Thus, same principle was used to carry out the narration task in Kannada language, where the narrative information of these TBI individuals was conveyed with increased

number of clauses, increased number of words per clauses and increased number of words per T-unit. But while speaking in English language, the TBI individuals used lesser number of clauses, lesser number of words per clauses and lesser number of words per T-unit because of their poor discourse structure. Thus, the discourse analysis should be performed distinctly in both the languages. Since the communication intent is more while speaking in Kannada (L1) language compared to English (L2) language during their post morbid condition.

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