CHAPTER 5

DISCUSSION

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5.1 Section A

5.1.1 Sub-section I: Conversation Task.

5.1.1.1 Step I- Comparison between the TBI and NTA groups for propositional and non-propositional aspects.

5.1.1.1.1 Propositional aspects.

As shown in Table 14, the significant differences between the groups (TBI and NTA) for Kannada and English languages are explained under different sections of propositional parameters of conversational discourse. Each of the discourse parameters are profiled and discussed in detail in the following section.

In the discourse structure, for the sub parameters ‘discourse forethought’ and ‘organizational planning’ there was a high significant difference between the groups (TBI and NTA) in the two (Kannada and English) languages. This is most likely an indication of poor organization and planning skills in TBI as compared to NTA in both the languages. Probably the lower mean value among TBI could be attributed to poorer forethoughts in conversation as compared to NTA, thus reflecting their poor discourse structure. Example of poor discourse structure in Kannada and English language is shown in Appendix M1 and Appendix M2.

In communication intent, except the sub parameter ‘greet others in response to others greeting’ all other items like ‘greeting others by themselves’, ‘start conversation’, ‘ask information’, ‘ask assistance in understanding conversation’, ‘criticize conversation by agreeing or disagreeing’, ‘imagines events correctly’ and ‘understands advancers and blockers in conversation’ parameters showed a significant difference between the groups in Kannada language and only ‘ask information’, ‘ask assistance in understanding conversation’ and ‘understands advancers and blockers in conversation’ sub parameters showed a significant difference in English language. Based on these results, discussion can be made with respect to the extent of deviations in terms of communication intent in both the groups in both the languages. Here, compared to NTA participants the TBI participants could not act as an excellent converser and were not able to follow all the manners in conversation, especially when the conversation was a semi-structured one. Since it was a semi-structured
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conversa
tion, the speech act might have taken place for the given topic of conversation. Here the NTA participants might have thought to have a descriptive/explanatory situation, so all have “initiated the conversation” by greeting others by themselves (spontaneously). But the TBI participants did not have a descriptive/explanatory situation so they had ‘greeting others’ in response to others greeting. Another plausible reason could be the personality factor. If a person does not like to contradict others, then he would not show the feelings by disagreement or criticism to the other person and vice versa. Final reason could be the topic of conversation ‘My country India’. Since this topic is very vast (extensive), participants might have been aware of few things and unaware of certain other things. This might have especially created difficulty for the TBI participants to ‘start conversation’, ‘ask information’, ‘ask for assistance in understanding conversation’, ‘criticize conversation by agreeing or disagreeing’, ‘fabricating or imagining events’ and ‘understanding advancers and blockers in conversation’ as shown in the following examples. If an individual considers all the above mentioned reasons, he/she finds ‘greeting others in response to other’s greeting’ to be safe. Thus, all the TBI participants had equivalent findings for this particular parameter alone in both the languages.

Poor communication intent- Example in Kannada language:

I: nimma hesaru ae:nu ? (What is your name?)

P: nanna hesaru participants 1. (My name is Participant 1.)

I: naavu iiga bhaaratada bagge maatanaaDooNa. (Now shall we speak about India?)

P: sari. (K)

I: bhaarata deeshada bagge niivu maatanaaDatiira. (Will you speak about India?)

P: naanu bhaaratatada bagge eenu maatanaaDa beeku anta? (What you want me to say about India.)

I: niivu bhaaratatada samkruti, raajakiiya, shikshaNa mattu prasidda staLagaLa bagge maatanaaDi. (You speak about the culture, politics, education and famous places in India)
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P: Bhaarata adara samkrutige tumbaa hesaruvaaasi. illi janaru hiriyarannu gouravisuttaare. aadare iiigina yuva piLiLe hiriyarannu gouravisuttilla. (India, its culture is very famous, here people respect elderly people. But the present generation does not respect the elderly people.)

I: sari, ivaru yake gouravisuttilla? (K. Why these people are not respecting)

P: houdu, svalpa janaru gouravisuttare aadare svalpa jana gouravisuvudilla. prastuta aadhunikate yuvapiiLige mattu bhaaratada samkrutiyanunu haalLumaaDuttide. shikshaNave idakke kaaraNavaagide. (Ya. Some people respect but some do not. The modernization of the country by the youth has spoiled the culture. Education is the main source for this change)

Poor fabrication of events and poor understanding advancers and blockers of conversation- Example in Kannada language:
I: naavu iiga bhaaratada bagge maataanaaDooNa? Namma deeshada bagge nimma abhipraayaveenu? (Now let us talk about India. What is your opinion about India?)

P: nanage military tumba ishTa. (I like Military)

I: sari, bhaaratavu adara military paDege prasidiyaagideya? bhaarata yavudakke prasidiyaagide? udaharaNege staLagaLu? (Ok. Is India famous for military system? India is famous for what and for example places?)

P: military tumba cannagide. illi tumba deesha bhakti. (Military is too good. There is lots of respect for the country.)

In coherence, for both the sub parameters ‘local coherence’ and ‘global coherence’ there was a high significant difference between the groups in both the languages. This indicates poorer connected discourse in TBI as compared to NTA in both the languages. Example of the same is shown below. Ehrlich and Barry (1989), Glosser and Desser (1990), Hough and Barrow (2003) indicated that global coherence is affected more than local coherence in TBI participants. Among the TBI participants local coherence in terms of relationship of meaning or context of verbalization with that in the immediately preceding utterance produced either by interviewer or subject was relatively better compared to global coherence. Local coherence included
relationship of continuation, repetition, elaboration, subordination, or co-ordination with the topic in the immediate preceding utterance. But these individuals with TBI also had poor global coherence in terms of poor relationship of meaning or content of verbalization with respect to the general topic of conversation.

Poor local coherence- Example in Kannada language:

I: niivu bhaaratada samkruti, raajakiiya, shikshaNa mattu prasidda staLagaLa bagge maatanaaDi. (Can you speak about the culture, politics, education and famous places in India)

P: nanage vimaanadalli pravaasa maaDuva aase tumba ide. Illi samskruti kannagi ide. iiDi bhaaratatavanna sutta beeku aagu nanna henDatiyunnu karedukonDu ella bhaaratada staLagaLanna torisabeku. (I like a lot to travel in aeroplane. Here culture is too good. I like to travel through out the country and I like to take my wife and want to show all the places in India)

Poor local coherence- Example in English language:

I: Can you say something about the culture, politics, education system and famous places in India?

P: I have a dream to travel in aeroplane. I work for a big company. Want to take my wife in aeroplane and show the different places in India.

Poor global coherence- Example in Kannada language:

I: niivu bhaaratada samkruti, raajakiiya, shikshaNa mattu prasidda staLagaLa bagge maatanaaDi. (Can you speak about the culture, politics, education and famous places in India)

P: naamma kelasa tumba kashTavaada kelasa. tumba sahane taLme inda kelasa maaDabeeku. (My nature of work is very tough. I should work with lots of tolerance and patience)

Poor global coherence- Example in English language:

I: I: Can you say something about the culture, politics, education system and famous places in India?
P: I work for a company after completion of my graduation. I want to do my higher studies but my time, situation and the financial status is not permitting me to do my higher studies.

In topic management, the sub parameters ‘topic shift’ and ‘minimal elaboration’ showed a significant difference between the groups in both the languages. It is reported in literature that some individuals with TBI change topics rapidly within few seconds. This finding derives support from the study by Ehrlich and Barry (1989) where they report of rapid topic shift in persons with TBI. But for the sub parameter ‘topic change’ and ‘minimal response’, there was a significant difference between the groups in Kannada and English language respectively. This result is in line with the observation of Mentis and Prutting (1991) and Coehlo, Liles and Duffy (1991) observation, who found that the persons with TBI produce non-coherent topic changes compared to normal speakers. This also derives support from an Indian study done by Tanuja and Manjula (2004) who found that persons with TBI show irrelevant and non-coherent topic changes when compared to normal speakers. The sub parameter ‘perseveration in topic’ and ‘responses which expand topic’ seemed to be equal only in English language for both the groups. The reason here could be the language factor. However, there was a significant difference between the groups for the parameter ‘minimal elaboration’ in both the languages. This result is supported by previous research by Coehlo, Liles and Duffy (1991) where they found that persons with TBI provide shorter, less elaboration of a topic, more often leaving it to the communication partner to introduce and develop.

Rapid topic shift- Example in Kannada language:

I: e ShTu nimiSha pragne iralilla? (For how many minutes you were unconscious?)

P: ondhu ganTe irabeku anta na:nu andukonDidi:ni aShTe.. illi nam mane alinda bandi manege bandi amele aspeTalge hogad mele gottagiddu. Nam mane viShweShwara nagar....... (I guess it was one hour that’s it, here my home, from there we came to home then later after going to hospital I came to know... My house is in Vishweshwara Nagar)
Rapid topic shift- Example in English language:
I: Shall we start speaking on the topic- Our country India? Can you tell me little in detail about the politics, culture, education, and famous places in India?

P: I don’t like political system of India…. Presently it is worst…… Culture! Off course India is rich in culture. There is variety of culture, available in various states. And off course, each state is having its own culture and language. And you can find only this, and but the only pain we can see is, it is all these culture has been replaced with foreign culture, these days.

Non-coherent topic change- Example in Kannada language:
I: naavu bhaaratada raajakiiyada bagge maatanaaDoNa. (Shall we speak about the political system in India)

P: nanage raajakiiyada bagge svalpaanu ishTa illa. iigina stiti tumba keTTide. (I don’t like politics. Present condition is very bad)

I: svalpa vivaravaagi heLtiira? (Can you tell me little in brief)

P: niivu ii handy kemara dina baLastiira. tumba dubaari annisutte. Tumba cennagi ide. nimma swantaddu irabeku. (You use this handy cam everyday is it? I think it is very costly. It is very good. I guess it is our personal one)

Minimal response- Example in English language:
I: Did you visit the famous place of our country - Delhi, to see Taj Mahal recently?

P: No.

I: How is it?

P: Good.

I: It is beautiful right. Can you tell me for what it is famous for?

P: Yes. It is very beautiful.

I: You don’t know anything else about it?

P: no no……..
Minimal Elaboration- Example in Kannada language:
I: bhaarata yavudakke prassidiyaagide? (India is famous for what?)

P: niimage gottiro aage bhaaratada samkruti, raajakiiya, shikshaNa mattu prasidda staLagaLige prasiddiyaagide. (As you know India is famous for its culture, politics, education and different places)

I: samkruti yaava riiti swalpa vivaristiira? (Culture... How it is famous? Can you expand on this?)

P: aacaara vicaara dalli naDe nuDili cannagide. (It is good in its tradition and custom)

Minimal Elaboration- Example in English language:
I: India is famous for?

P: India is famous for its culture, heritage, education and IT field.

I: IT field like how?

P: Actually its my profession, in that it can be technical, information science and hard ware and software.

Finally, in other discourse parameters, the sub parameter ‘message accuracy’ showed a significant difference between the groups only in Kannada language. This suggests TBI had inaccurate message in their conversation compared to NTA. But, the sub parameter ‘information content’ and ‘response time’ showed a significant difference between the groups in both the languages. This result derives support from earlier studies which have shown reduced informational content in persons with TBI (Ehrlich, 1988; Mentis & Prutting, 1991 and Chapman et al, 1992). Another study done by Tanuja and Manjula (2004) suggests that information content was more affected in right hemisphere damage group and was less affected in left hemisphere damage and bilateral hemisphere damage group compared to normal group. Thus, it is implied that TBI participants might have redundancy, incoherence and ambiguity in their speech. The scores on the perceptual rating scale for the sub parameter ‘speech style’ seemed to be equal in both the groups in both the languages and also for the sub parameter ‘linguistic fluency’ and ‘gaze efficiency’ the scores seemed to be equal in
both the groups only for English language. This suggests that the TBI group did not show any speech fluency related disturbances.

Poor information content- Example in Kannada language:
I: illina raajakiyyada vyavaste hegide? (How is the political system?)

P: namma deesha tumba baDa deesha. illi ella vyavasthegaLu tumba keTTadaagide. (Our country is a poor country. Here all the system is very bad.)

Poor information content- Example in English language:
I: What do you say about the education system in India?

P: Higher and lower differentiation is more. Totally it is K.

Inaccurate message - Example in Kannada language:
I: namma deeshada shikshaNada vyavaste hegide? (How is the education system in our country?)

P: ii vishaya tumba cannaagide. idarabagge tumba maataNaDabahudu. nimige ennenu heLabeku heLi. illi kannagi illa. (This topic is too good. We can speak a lot about this topic. What you want to say, you say. It is not good here.)

Inaccurate message- Example in English language:
I: What are the famous places in India?

P: India is our country. Nice to speak on a topic called India. K what you want me to say. Can you repeat and explain the question once again to me.

5.1.1.1.2 Non propositional aspects.

In contrast to the neuro-typical adults who were able to initiate many turns in a conversation, the TBI participants were seen to take more time to start a turn. This is in support with studies which suggest that individuals with TBI initiate very few turns and at most they take time to initiate turn in conversation (Milton, Prutting, & Binder, 1984). According to Schegloff (1987), normal individuals are reported to take contingent turns in conversation. The performance of TBI group on non-contingent turns could be attributed to the lack of perception of flow of conversation. Consequent to which they concentrated on one particular word and started speaking in relation to that word in a non-coherent way. Thus, the TBI participants could not perceive the meaning of the preceding turn due to lack of concentration. Another plausible reason
could be the problem at local coherence in persons with TBI. In normal conversation, it is expected that only when one communication partner stops, the other partner initiates the turn. Here, the TBI participants started speaking abruptly without letting the other person (listener) finish his turn and used to stay either in listener’s mode or speaker’s mode. This result is in support with a study by Mc Tear and Conti Ramsden (1992), who have found similar findings in persons with TBI where in they persist longer in either speaking or listening mode. This conversation behaviour can be attributed to ‘shifting attention’ seen in persons with TBI. It seems like TBI individuals were unable to focus on a particular sentence and hence were unable to comprehend some meanings of the sentence and in the same state started speaking on the topic. The statistical results for the other sub parameter of turn taking ‘mode of conversation’ and the parameter revision behaviour seemed to be equal in both the groups in both the languages. Both TBI and NTA participants used only verbal mode to communicate and did not shift to any non-verbal mode.

Non-contingent turn- Example in Kannada language:

I: illina raajakiiyada vyavaste bagge maataDaNa, hegide anta heeLi? (K will speak about the political system, tell me how it is?)

P: No no..... beere vishayada bagge maataDoNa. naavu prassiumaada staLagaLa bagge maataDoNa. (No no..... will talk about other topic. Let us talk about the famous places)

I: svalpa eenaadru heeLi? (Tell me little about something)

P: illa naniige gottilla. (No, I don’t know)

Non- contingent turn- Example in English language:

I: What about education system in India?

P: Education system is good in India. In Karnataka many new schemes are present. Example is Sarva Shikshana Abhiyana.

I: K can you tell me something about this schemes?

P: Sarva Shikshana Abhiyana. I don’t know much about this.

I: K
P: Education system is very good so many people from India go to abroad for their work in expectation of high salary. India had good man power in terms of education.

For the parameter of conversation repair, there was a significant difference between the two groups for the sub parameter ‘use of self repair through repetition’ and ‘use of revision through clarification’ only in Kannada language. Use of self repair through repetition and use of revision through clarification was seen in persons with TBI because they failed to convey the message and the partner had to ask for more clarification. Presumably, this could be due to the fact that the persons with TBI had a lesser perception of their own speech and they did not make an effort to use self initiated repair. Other reasons could be the increased redundancy, incoherence and reduced information in their speech leading to inability of the conversation partner to understand the message conveyed by them. But the statistical results for the sub parameter ‘use of self repair through repetition’ and ‘use of other initiated repair’ of conversation repair seemed to be equal in English and Kannada language respectively.

Conversation repair- use of repair through repetition- Example in Kannada language:
I: oogaTTu iddaru jana heegiddaare illi bhaaratadalli? (Even in spite of good unity, how are people in India?)

P: aa bhaaratadalli a obbara kanDare obbarige aagalla. (aa.. in India some people don’t like some other people.)

I: aagalla antha iddaaroo athavaa ooggaTTininda iddaroo? (They don’t like each other or are they staying in unity)

P: a ooggaTTininda ella ooggaTTininda illa andre ooggaTTininda illa. (a.. they are not in unity. They are not in unity means they are not in unity.

I: houdaa! (Is it?)

P: obbarannu kanDare obbaru ooggaTTininda illa. ondu kaDe nooDidare hindhu muslim galaaTe. (If you see one person and then the other person there is no unity. If you see one side there is Hindu-Muslim fight.)
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Conversation repair- use of other initiated correction- Example in Kannada language:

I: samskrutiya bagge innenu heLa bahudu? (What else you can say about the culture?)

P: samskruti bagge andare, samskruti eeno sariyaagi ide. tumba deevastaanagaLu ive, tumba haLee kaaladdu idu ella ive. (With respect to culture means, culture is good. There are lots of temples. The olden days this all is there.

I: aacaara vicaara ellaa anusarisikonDu banddiddivaa?(Are we following the custom and tradition?)

P: haage namma samskruti cannaagi ide. Niivu heeLida haage aacaara vicaara ellaa anusarisikonDu banddiddivi. (Like that, our culture is good. Like you said we are following the custom and traditions.)

5.1.1.2 Step II- Comparison of discourse for Kannada and English language within the group.

5.1.1.2.1 Individuals with Traumatic Brain Injury group (TBI).

The first reason for all the differences between the languages could be due to the domain chosen for conversation “My country India”. This might have served as anchor point for distinct value systems embodied in the use of Kannada rather than English. This hypothetical topic of conversation would have likely perceived as congruent while speaking in English or incongruent while speaking in Kannada language. For example, a highly congruent configuration would be with a priest, in church, about how to be a good Christian. A highly incongruent one would be a discussion with one’s employer at the park about how to be a good son or daughter. Thus, while speaking in Kannada the topic of conversation ‘My country India’ was incongruent for the TBI group so they had to greet others by themselves. And while speaking in English the same topic of conversation was congruent. Since this (English) language exposure and use was less during the post morbid condition of trauma, they tend to inquire information and ask assistance in understanding conversation. The topic management was poor in terms of non-coherent topic change and poor informational content with minimal response and minimal elaboration. Thus,
all these above mentioned parameters resulted in poor global coherence of a given topic. Second reason is with respect to proficiency, even though the issue of proficiency is closely related to that of L2 when compared with L1 use. An assessment of the effective use of L2 and of daily exposure to it should be a fundamental concern (Abutalebi, Cappa & Perani, 2001; Byalistok et al., 2005). The frequency of the use of a language in daily situations (at home and/or in an academic or professional environment) will be directly related to the automaticity obtained, which, in turn, will be linked to the ability in producing and understanding messages in the L2. For example, the L2 structures and vocabulary which are frequently accessed are more easily processed than those rarely utilized (Green, 1998). In other words, a language and/or its components remain with a high proficiency if it is frequently accessed. In the other way round, L2 retrieval and production processes may become a more effortful task if it is not frequently accessed. Similar factor would have contributed for individuals with TBI while speaking in English (less frequently accessed) when compared to Kannada (more frequently accessed) language. Finally in case of any bilinguals, exposure to the second language (English) through formal instructions like attending academic courses will manifest the L2 usage to a larger extent which in turn will be a follower at the professional field. Thus, making English language, the most frequently accessed language for any neuro-typical adults or any bilingual individuals. Since the TBI participants lack this English language exposure during their post morbid trauma duration, these TBI participants acted as a persistent listener/speaker by using self repair through repetition while speaking in English language when compared to Kannada language. In the following example, the conversational discourse in English language is poorer than the Kannada language.

Conversational discourse sample in Kannada language- Example from Participant 3: Appendix M1 holds good for the same.

Conversational discourse sample in English language- Example from Participant 10: Appendix M2 holds good for the same.

5.1.1.2.2 Neuro-typical adult group.
There was no significant difference between the two languages for all the parameters of propositional and non-propositional aspects of conversational discourse analysis.
scale as shown in Table 18 and Table 19. The reason for these results could be the participant’s language proficiency, which was same in both the languages. Thus, we can suspect the participants of NTA group to be balanced bilinguals at conversational discourse level.

5.1.1.3 Step III- Summary.

There is a dearth of studies which finds difference between propositional and non-propositional aspects of discourse. But, there have been a few studies in the past by Allen and Brown (1976), Milton (1984), Mentis and Prutting (1991), where TBI patients were found to be lacking in many areas of conversational discourse like interactional aspects and propositional aspects of conversation when compared to normal individuals.

Since, there is no literature which finds the difference between propositional and non-propositional (total) aspects of discourse, the discussion done before at the level of all the individual parameters under qualitative “Discourse Analysis Scale-conversation” holds good for the same context. Finally, there was a significant interaction between languages and groups for the sub level propositional aspect of DAS.

The TBI group performed poorer than NTA group. Since a variety of deficits in cognitive functions like attention, memory, visual-spatial perception, reasoning, executive control like organization, and planning etc, are seen after TBI leading to this type of communication impairment. Attention impairment causes inability to focus on, filter relevant versus irrelevant stimuli, organize, retain and retrieve the stimuli in a conversation, thus resulting in impaired comprehension of discourse or social interaction (Hagen and Malkmus, 1979). Memory problems impair comprehension and retention, reflecting inability to retain what was said at the beginning of a conversation or remembering the topic or remembering who said what and in which order. Slow processing of information causes difficulty in shifting between speaking and listening roles. Thus, they exhibit problem at both propositional and non-propositional aspects of discourse when compared to NTA group.
5.1.2 Sub section II: Narration Task.

5.1.2.1 Step I- Comparison between the TBI and NTA groups.

5.1.2.1.1 Propositional aspects.

5.1.2.1.2 Non-propositional aspects.

5.1.2.2 Step II- Comparison of discourse for Kannada and English language within the group.

5.1.2.2.1 Individuals with Traumatic Brain Injury group (TBI).

5.1.2.2.2 Neuro-typical adult group (NTA).

5.1.2.3 Step III- Summary.
5.1.2 Sub-section II: Narration Task.

5.1.2.1 Step I- Comparison between the TBI and NTA groups for propositional and non-propositional aspects.

5.1.2.1.1 Propositional aspects.

As shown in Table 25, the significant differences between the groups (TBI and NTA) for Kannada and English languages are explained under different sections of propositional parameters of narrative discourse. Each of the discourse parameters are profiled and discussed in detail in the following section.

In the discourse structure, for the sub parameters ‘discourse forethought’ and ‘organizational planning’ there was a high significant difference between the groups (TBI and NTA) in Kannada and English languages. This was most likely an indication of poor organization and planning skills in TBI as compared to NTA in both the languages. Probably the lower mean value among TBI could be attributed to poor forethoughts in narration as compared to NTA, thus reflecting their poor discourse structure. This result is in support with a study as for narrative production, persons with RHD have often been described as impaired in dealing with the coherent organization of a discourse. They tend to introduce irrelevant comments and tangential utterances in their narratives, focus on irrelevant details (Ferre’, Ska, Lajoie, Bleau, Joanette, 2011; Lehman, 2006), produce fewer target concepts (Uryase, Duffy, Liles, 1991) and be unable to generate (Brownell, Gardner, Prather, Martino, 1995) and/or modify (Stemmer & Joanette, 1998; Marini, Carlomagno, Caltagirone & Nocentini, 2005) appropriate mental models during a description and/or conversation. It has been suggested that these difficulties may rely on a general impairment in the integration of ongoing information with the inferential cues derived from the situational context. Another pioneering study by Kaczmerek (1984), on the analysis of narratives produced by participants with focal lesions in different portions of the brain showed that those with both right and left frontal damage had the greatest difficulties in the organization of the information they wished to communicate. Furthermore, they could not refrain from producing tangential and irrelevant digressions as well as stereotyped phrases and sentential fillers. Example of poor discourse structure in Kannada and English language is shown in Appendix N1 and Appendix N2.
Discussion

In the communication intent, there was no significant difference between the groups for the all sub parameters in the Kannada and English languages. Here all the participants in both the groups were able to initiate the narration in Kannada language compared to English language. Few TBI participants requested some prompts to initiate narration in English language.

In coherence, for both the sub parameters ‘local coherence’ and ‘global coherence’ there was a high significant difference between the groups in the Kannada and English languages. This indicates poorer connected discourse in TBI as compared to NTA in both the languages. This result is in support with a study on RHD patients by Mar (2004). He concluded by suggesting that damage to the frontal lobe of the right hemisphere may “not only obliterate broad semantic networks” as suggested by Beeman (1998) but also “impair inhibition processes proposed to take place while the left hemisphere engages in selection.” According to his observations, then, he hypothesized that the majority of individuals with RHD showing narrative disturbances should have frontal damage causing difficulties in the integration of the complex information manipulated in a narrative. His hypothesis is important and it is coherent with recent studies reporting a frontal involvement in the organization of information and production of global coherence errors in different population of patients (e.g., persons with schizophrenia Marini, Spoletini, Rubino, et al. 2008; Spalletta, Spoletini, Cherubini, et al. 2010) and traumatic brain injury (Marini, Galetto, Zampieri, Vorano, Zettin and Carlomagno, 2011) involved in the narrative form of story description tasks. This finding is in support with a study by Ferre´, Ska, Lajoie, Bleau and Joanette (2011), as persons with RHD are often described as impaired in dealing with the coherent organization of discourse. However, in this study the production of global coherence errors correlated significantly with the reduced percentage of informational content. This confirms that the lowered production of words that were perceived as informative was not due to microlinguistic deficits but was the epiphenomenon of a macrolinguistic impairment. Thus, these individuals with TBI also had poor global coherence in terms of poor relationship of meaning or content of verbalization with respect to the general topic of conversation. From the results of the present study it can be hypothesized that these TBI participants had varied (greater) involvement of left hemisphere region compared to right
hemisphere region which could be due to varied impact of trauma. This hypothesis can be proved with further neuroimaging studies.

Poor local coherence- Example in Kannada language:
I: prayaaNakke modalu bere ella eenu tayyari maaDikonDri? (Before your journey what all preparations you have made?)

P: nammadu ide kiT ella tayyari maaDi matte 4:30 ashTTu hottige horaTvi. Kocinalli tumba sheke ide. sheke keTTadaagi ide. tumba bejaaru aahitu. (I have that. Made the kit ready and we left at 4:30. It is very hot in Cochin. It is very bad hot season. I felt very bad.)

Poor local coherence- Example in English language:
I: Imagine your past/future journey to a place and narrate the same in past or future tense?

P: I am working as a politician. Mysore Milk Federation is providing many facilities to the village people. My colleagues and other people, joining together we are planning to do few things. It is very difficult to fulfil any individuals need. I hope things go on in a nice pace.

Poor global coherence- Example in Kannada language:
I: niiu ondu uurige prayaaNa maaDiroddanna nanige vivaravaagi tiLisi. (Can you narrate your past journey to a place in detail?)

P: naau ooda vaara naalku jana ella hoogadu antaa andukonDvi. sari ilinda nanjana guuDige hoogi alli deevastaanadalli puuje mugisidvi. hodvi alli ondu cekpoosT. cekpoosTalli mugisidvi nammadu alli ondu koyambatturnalli nammade ondu bahaLa ishTavaada ondu pub ide. nanige tumba ishTa. (We all four of us taught to go out for one week. K we left to Nanjanagud from here and did pooja there. We went to a check post there. We completed in that check post. Our own one favourite pub is there is Coimbatore. I like that a lot.

Poor global coherence- Example in English language:
I: Imagine your past/future journey to a place and narrate the same in past or future tense?
P: This Saturday and Sunday we are planning to do something. I like spending time with friends having party and want to spend time just relaxing. After this incident I have lost contact with my friends and they don’t call me or meet me. I feel very bad about this situation.

In topic management, the sub parameters ‘topic shift’ and ‘minimal elaboration’ showed a significant difference between the groups in Kannada and English languages. It is reported in literature that some individuals with TBI change topics rapidly within few seconds.

Rapid topic shift with minimal elaboration- Example in Kannada language:
I: uuTa elli mugisidri? (Where you had your lunch?)
P: hodvi alli ondu cekpoosT. cekpoosTalli mugisidvi nammdu alli ondu koyambatturaralli nammade aada ondu bahaLa ishTavaada ondu pub ide. allige hoogidvi alli nanige tumba ishaTa pub ondu ganTe kaala kaLedvi. (We went there one check post. We completed in that Check post. Our own one favourite pub is there is Coimbatore. We went there. I like that a lot. We spent one hour there.)

I: sari innu yaavatara samaya kaladri nimma prayaanadalli? (In your journey in what other ways did you spend you time?)
P: ange DVD nooDikonDu Taim kaladvi. (We spent our time by watching DVD’s)

Rapid topic shift with minimal elaboration - Example in English language:
I: Which seat you preferred in your bus journey?
P: Seat, I have a big car, I enjoy driving my car. I love it from my heart. It is my soul. I have a passion towards car.
I: How did you spend your time in your journey to Bangalore?
P: Just watching the sceneries in Bangalore- Mysore road.

In other discourse parameters, the sub parameters ‘information content’, message accuracy’, and ‘temporal causal relation’ showed a significant difference between the groups in the Kannada and English languages. The TBI participants
showed reduced ‘information content’ in their narrative discourse. For this particular result there is a supporting study by Marini, Carlomagno, Caltagirone and Nocentini (2005). They compared the narrative performance of persons with RHD with a group of persons with left hemisphere damage who did not develop aphasia and a group of healthy control participants. The three groups were administered three story description tasks. In the first condition, they were asked to retell previously read stories. In the second, they described what was going on in a set of cartoon picture stories. In the third condition, they had to arrange a set of pictures to reconstruct a well-formed story. In the first condition, all groups performed quite well on both within- and between-sentence measures. In the two picture description tasks, however, the performance of the persons with RHD were poorer than those of the other two groups when examined in terms of information content and coherent aspects of narrative production. Similar to this, the TBI participants of the present study have also shown poor information content and poor message accuracy since the narrative discourse task of this study involved the verbal sequential arrangement of events in an organized manner. It is reported in literature that some individuals with TBI have difficulty in producing a narrative that is temporally anchored in a dominant tense, as well showing their pragmatically-motivated tense shifting, a kind of rhetorical flexibility is absent in their overall narration. These considerations provide evidence for the claim that individuals with TBI lack a consistent temporal perspective in their second language. This might have been caused by their limited cognitive abilities rather than by their language proficiency. Thus, they did not have any information about the correct description of people, location, objects, activities and attributes that played a role in the event being narrated.

Poor information content- Example in Kannada language:
*I: niiu ondu uurige prayaaNa maaDiroddanna nanige vivaravaagi tiLisi. (Can you narrate your past journey to a place in detail?)*

*P: naanu nanna kaaranna togonDe amele naanu bengaLuurige gaDi hoodisikonDu hoode. (I took my car then I drew car and went to Bangalore.)*

Poor information content- Example in English language:
*I: K like this you reached Bangalore?*
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P: We travelled in a car. My brother was driving and my mom and sister was sleeping at the back seat. I was in the front seat. My brother felt sleepy so I started driving and like this we reached Mangalore.

Inaccurate message- Example in Kannada language:
I: sari samaya yaava riiti kaLadri prayaaNadalli? (K how did you spend your time in your journey?)

P: samaya ange nidde maaDadvi. ashTe innu eenu maDtaare. naanu malagde. nidde kannagi banthu. tumba kaDime samaya togotu. (Time.. Like that only we slept. That is all. What else we do. I slept. I got a nice sleep. We took very less time.)

Inaccurate message- Example in English language:
I: What preparation you made to start the journey?

P: Preparation nothing one kit with my cloths and belongings. That is all I do. I don’t have patience to do anything extra. This is enough right.

Temporal and causal relation- Example in Kannada and English language:
The TBI participants did not use any temporal terms like then, and then, first, next, before, and after. And they did not use any causal terms like because, when, if, while, and until throughout their narrative samples (Appendix- N1 and Appendix- N2).

In speech related parameters, there was no significant difference between the groups in the Kannada and English languages. All the participants of both the groups used specific vocabulary in specific situation and did not exhibit any linguistic non fluencies and abnormal speech style in terms of inappropriate dialectal structural forms, code switching, style-shifting. But, only one participant among the TBI group had a flat intonation with respect to the particular context of narration.

5.1.2.1.2 Non- Propositional aspects.
For the parameter of repair strategy, there was a significant difference between the two groups for the sub parameter ‘use of self correction’, ‘use of self repair through repetition or revision’ only in English language and ‘use of other initiated correction’ in Kannada and English language. Use of repair strategy was seen more in persons with TBI compared to NTA group. In particular ‘use of self correction’ and ‘use of
self repair through repetition or revision’ sub parameters were seen in NTA compared to persons with TBI because it was a prestigious issue for them to use English language since the task was a constrained narrative task where these participants had to talk only in one particular language (Kannada or English language). For the TBI participants it was not the prestigious issue instead effective communication in any of the residual language. Thus, they had to use other initiated correction in Kannada as well as in English language compared to NTA group. Thus, on an observation it can be seen that the availability of Kannada language was comparatively better compared to English language in majority of the TBI participants.

Repair strategy- use of self correction- Example in English language:
I: Imagine your past/future journey to a place and narrate the same in past or future tense.

P: I will have to travel to Bangalore tomorrow, so I have to take permission for that. I mean, I have to take leave.

Repair strategy- use of repair through repetition or revision- Example in English language:
I: K you went through Chamarajanagar road?

P: Ya we went through this road. There one check post check post is there. We finished checking and everything. Next we had our lunch.

Repair strategy- use of other initiated correction- Example in Kannada language:
I: alli modalu allinda yaavatara hoodri? (First from there how did you people go?)

P: gaaDi maaDidvi ondu miini bassu. miini bassu maaDi. (We had booked a vehicle, mini bus. We booked a mini bus.)

I: K ToorisT bassu? (K tourist bus.)

P: ToorisT bassu maaDi namma saamaanu ella adara hoLage aakikonDu hoodvi. (We had booked a tourist bus and we kept our entire luggage inside that and we left.

Repair strategy- use of other initiated correction- Example in English language:
I: How did you go from Nanjanagud to Shabarimale?
5.1.2.2 Step II- Comparison of discourse for Kannada and English language within the group.

5.1.2.2.1 Individuals with Traumatic Brain Injury group (TBI).
Bilingual Kannada and English narration showed more similarities than differences with respect to all the parameters of propositional and non-propositional aspects of narration except for the sub parameter ‘use of self correction’ under repair strategy of non propositional aspects. These bilinguals seem to attempt to produce in their second language (English) which was very similar to the ones they produce in their native Kannada language. Despite this attempt, bilingual narrators seem to find themselves limited by their lower command of the vocabulary and grammar of the second language, English. Thus, few participants made an attempt to use self corrections while narrating in English language compared to Kannada language since the vocabulary in this language was spontaneously generated and adequate to the context of verbalization. Few other reasons for similarities between the language usage and/or the mild differences could be due to the prestigious issue of English language usage compared to Kannada language. Narrative production is a cultural activity with respect to first language. Children growing up in different communities learn to organize their narrative experiences in ways that respond to their community’s cultural expectations. According to Wang and Leichtman (2000), Americans and Chinese differ with respect to their thinking and reasoning patterns. Americans generally attend to the internal attributes of a person or object, analyze individual components in isolation and succession, and decontextualize a behavior from its environment while making dispositional judgments. In contrast, the situational context plays a significant role in how Chinese people think and reason, and they tend to focus on relations between a person or an object and the environment as the antecedent of a behavior. This cultural variation may have led Chinese young children
to be more sensitive to others’ emotional states and make references to the feeling states of story characters and other people’s emotions in their stories than their American peers. Appendix N1 and Appendix N2 shows the examples of narrative discourse samples by an individual with TBI where there is over use of self correction in English language compared to Kannada language.

5.1.2.2.2 Neuro-typical adult group.

There was no significant difference between the two languages for all the parameters of propositional and non-propositional aspects of discourse analysis scale of narration as shown in Table 29 and Table 30. The reason for these results could be the participant’s language proficiency, which was same in both the languages. Thus, we can suspect the participants of NTA group to be balanced bilinguals at narrative discourse level.

5.1.2.3 Step III- Summary.

There is a dearth of studies which finds difference between propositional and non-propositional aspects of discourse. Since, this is an initial attempt in literature which finds the difference between propositional and non-propositional (total) aspects of discourse, the discussion done before at the level of all the individual parameters under qualitative “Discourse Analysis Scale-narration” holds good for the same context. Finally, there was a significant interaction between groups for the sub level propositional and non-propositional aspects of DAS and between languages there was interaction only for the sub level propositional aspect of DAS. By considering the mean scores of discourse in Kannada and English language, the TBI group performed poorer than NTA group in these two languages. Hence this can be used as a reference to differentiate TBI group from the NTA group and infer better performance in English language compared to Kannada language.
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5.1.3 Sub section III: Picture Description Task.

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5.1.3.2 Step II- Comparison of discourse for Kannada and English language within the group.

5.1.3.2.1 Individuals with Traumatic Brain Injury group (TBI).

5.1.3.2.2 Neuro-typical adult group (NTA).

5.1.3.3 Step III- Summary.
5.1.3 Sub-section III: Picture Description Task.

5.1.3.1 Step I- Comparison between the NTA and TBI groups for propositional and non-propositional aspects.

As shown in Table 36, the significant differences between the groups for both Kannada and English languages are explained under different sections of propositional parameters of picture description discourse. Each of the discourse parameters are profiled and discussed in detail in the following section.

Failure to structure discourse occurs when the discourse of the speaker lacks forethought and organizational planning. Due to these characteristics, the discourse will be confusing, even if all of the propositional content is present. As shown in Table 36 under discourse structure, for the sub parameter ‘discourse forethought’ there was a highly significant difference between the groups only in English language. Thus, the TBI participants showed poor discourse forethought by supporting Zalla, Phipps and Grafman (2002), where they found certain characteristics associated with Pre Frontal Cortex Damage (PFCD) patients’ discourse production specifically in the context of story-telling, include difficulty recalling narrative components of a story, processing inference and appreciating the story’s thematic aspects or gist. But for the sub parameter ‘organizational planning’ there was a significant difference between the groups in the two languages.

Poor discourse structure- Example in Kannada language:

I: Show the picture (Shyamala & Ravikumar, 2008), of a picnic spot.

P: ondhu samudra ide........ pakka uDuga nintidaane.... Ondu kuri ide.... alli ondu beTTa ide mate ondu karu ide....illa ondu shale tara makLu horagaDe a:Ta aDtidaare.. shaantawaada waatavarna iro hange ide.. ondu hengasu kaafi berastaidLe.... Ondu aDagu ide.. ivaru vishranti madtidare......ondu uDuga gaLi paTa harastaiddane...ellaru ondu picnic tara oragaDe bandidare.. ondu karu ide.. ondu doDa mara ide.. ondu mane ide.....

(One ocean is there. Next to it one boy is standing. One goat is there. There is one hill and one car is there. No it is one school, children are playing outside. It seems to be a
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peaceful place. One lady is preparing coffee. One ship is there. These people are taking rest. One boy is playing with a kite. It seems like all have come out for a picnic. One car is there. One big tree is there, one house is there)

Poor discourse structure - Example in English language:
I: Show the picture (Shyamala & Ravikumar, 2008), of a picnic spot.

P: One goat is standing. Tree is there and mountains are present. Car is parked and boy is playing with something. One man and women is sitting and doing something or selling some things. One school or village house is located here. It looks like there are relaxing at the evening time. In the river one man or boy is going in a boat.

In communication intent, only the sub parameter ‘imagines events correctly’ showed a significant difference between the groups in both the languages. This is because; few (four out of twenty) TBI participants imagined the picture to be a ‘school setup’ and ‘village scene’. This result derives support from few literature findings where the discourse production deficits associated with RHD show difficulties in integrating information for generating some types of inferences (Rehak, Kaplan, Weylman, Kelly & Brownell, 1992; Myers & Brookshire, 1996), revising interpretations (Brownell, Potter, Bihlr & Gardner, 1986; Tompkins, Bloise, Timko & Baumgaertner, 1994), or selecting the most plausible meaning of a passage (Tompkins, Baumgaertner, Lehman & Fassbinder, 2000; Tompkins, Lehman-Blake, Baumgaertner & Fassbinder, 2001; Tompkins, Fassbinder, Blake, Baumgaertner & Jayaram, 2004). The statistical results for the sub parameter ‘initiation of picture description’ seemed to be equal only in Kannada language for both the groups. The reason could be that Kannada being their native language, they would have been exposed to Kannada language immediately after the trauma when compared to English exposure happening at a later duration of time. This influence might have taken place even in spite of equal proficiency in both Kannada and English languages.

Imagines events incorrectly - Example in Kannada language:
P: puurti citra nooDidre, puurti ondu ondu haLLi, ondu haLLinalli eenenu beeku yaava tara baduka beeku anta andare ondu uurrall badukallike ondu kelasa, ondu mane ede, svayam uddyogagaLu irtavalla aage ide. (If I see the complete picture, Completely one one village. What is needed in a village? How to lead a life means in
a village to lead a life one requires a job and one house is there. It depicts like a self employment place.

Imagines events incorrectly- Example in English language:
P: It looks like a village scene. Here typical village activities are going on. Like one lady is making a garland. The man or a cobbler is occupied with his job keeping the box in front of him and one pair of chappals are left beside him. There is a house. All are occupied with their routine day to day activities. Like a boy is playing with a kite and a man is washing something near the river bank. One boat is sailing.

In coherence, for both the sub parameters ‘local coherence’ and ‘global coherence’ there was a high significant difference between the groups in both the languages. This was more affected in TBI participants because the literature reports that these individuals have poor ability in structuring discourse. In another study, one approach of discourse analysis involving examination of the cognitive functions distinguishing macrostructural and microstructural discourse processing have revealed that TBI participants demonstrates greater difficulty with global than local coherence and showed more performance variability among participants in global as compared to local coherence (Van Dijk & Kintsch, 1983; Glosser, 1993; Myers, 1999; Hough & Barrow, 2003).

Poor local coherence- Example in Kannada language:
P: pravasakke bandidaare. ondu naayi ide. matte ella avara kelasaddali toDagiddare. idu ondu citra asTe. adu huDuga nintidaane. naahi nintide. (They have come for a picnic. One dog is there. All are busy in their own work. This is one picture that is all. That boy is standing. Dog is standing.)

Poor local coherence- Example in English language:
P: It is a picnic spot scene. One tree is there. One boy is playing with a kite. It is a pleasant place. Lady is busy preparing coffee. One boat is sailing in the river. Here a family has come for a picnic and they are occupied with their own jobs. There is a river. A man is busy reading a book. One man is watching his cloths.
Poor global coherence- Example in Kannada language:
P: ondu shaale vaatavaraNa.... makkaLu shaale munde aaTa aaDutta iddare. ondu kaaru ide, mara aide, shaale munde kuutidaare jana. (One school setup, children are playing in front of the school, one car is there, tree is there, people are sitting in front of the school.)

Poor global coherence: Example in English language:
P: It looks like a school scene. Here some school activities are going on. Like one man is reading a book. The man has parked the car. All are occupied with their activities. Like a boy is playing with a kite and a man is washing something near the river bank. One boat is sailing. Overall it is in a village.

In topic management, the sub parameter ‘introducing topic’ and ‘minimal elaboration’ there was a significant difference between the groups in both the languages. These results were seen because few (four out of twenty) TBI participants irrelevantly initiated the topic to be as ‘school situation’ or ‘village scene’. This is in support with the study by Mentis and Prutting, (1991) and Coelho, Liles and Duffy, (1991) who found that TBI individuals produced unrelated topic changes in their discourse associated with minimal elaboration. But the results of the statistical analysis for the sub parameter ‘perseveration in topic’ and ‘elaboration of topic’ seemed to be equal in both the languages for both the groups. These two parameters were negative behaviours which were not present in both the groups.

Irrelevantly initiating topic with minimal elaboration- Example in Kannada language:
P: ii citra... ii citra nooDidare ondu haLLiyalli jana jiivan naDesuta iirodu. ondu mane ide, samudrada pakka ide. ondu huDuga, hengasu, ganDasu, naayi, kaaru ede. ivaru avara kelasadalli toDagiddare. elaaru vishranti togotaa iiddare. pravasakke bandiddare. (This picture.. This picture depicts a village scene where people are leading their life. One house is there. It is next to the ocean, one boy, women, men, dog, car is there. These people are involved in their work. All are taking rest. They have come for a picnic.)
Irrelevantly initiating topic with minimal elaboration- Example in English language:

P: This picture is like a village scene. Here these village people are leading a peaceful life. One lady is there. One man is reading a book. One car, boy, dog, house and boat is there in this picture. There is a ocean and a boat is sailing. They all are resting under a tree.

Finally in other discourse parameters, the sub parameter ‘information content’, ‘message accuracy’ and ‘gist of information’ showed a significant difference between the groups only in Kannada language. Here, the TBI participants showed poor information content because there was an inappropriate topic shift which was non-coherent (inaccurate message) with the main topic (gist of information). This result is in support with the findings of Zalla, Phipps and Grafman (2002); Frattali and Grafman, (2005) who reported that subjects with RHD having difficulty in recalling narrative components of a story, processing inference and appreciating the story’s thematic aspects or gist specifically in the context of story-telling task. There is no literature based on single picture description task which can support the present finding. But the sub parameter ‘response time’ showed a significant difference between the groups only in English language. The reason could be that Kannada being their native language the participants might have been exposed immediately to Kannada after the trauma when compared to English exposure which might have happened at a later duration of time. Thus, the TBI participants might have taken more time to start picture description in English language when compared to neurotypical adults. The results of the statistical analysis for the sub parameter ‘vocabulary specificity’ seemed to be equal only in Kannada language for both the groups but for the sub parameter ‘linguistic fluency’ and ‘speech style’ the results seemed to be equal in both the languages for both the groups. In total all these three parameters were negative behaviours which were not present in both the groups in both the languages.

Poor information content and message inaccuracy- Example in Kannada language:

P: appa amma avara kelasa maaDataa iddare. ondu magu malagide, ondu huDuga gaaLi paTa haarisutta iddane. (Dad and mom, they are doing their work. One baby is sleeping. One boy is playing with kite.)
Participants in both the groups showed the presence of revision behaviour in both the languages. But there was a high significant difference between the groups for the sub parameter ‘use of self correction’ and ‘use of repair through repetition or clarification’ of repair strategy only in Kannada language. The TBI participants showed this feature to a greater extent compared to NHT group. This result for ‘use of self correction’ is supported by a study by Tanuja and Manjula (2004), who found that within TBI group RHD subjects showed more of self repair than LHD subjects. The possible reasons for use of too much self correction could be due to confusion, which was the result of poor ability in structuring discourse. This result for ‘use of repair through repetition or clarification’ contradicts with the result found by Marsh and Knight, (1991) where the TBI individuals do not ask for clarification even if they do not understand the conversation. Literature on the basis of picture description task is not available. The reason for the presence of excessive use of repair strategies in the speech of TBI group in the present study can be reasoned on the basis of their inability to add on further information in speech in terms of giving clarification. Few participants while using self correction as a repair strategy used more repetitions and few participants made an effort to use clarifications given by the investigator and tried using the same as revisions.

Repair strategy- use of self correction- Example in Kannada language:

P: appa amma avara kelasaa maaDatta iddar. ondu huduga gaaLi paTa haarisutta iddan. ondu magu malagide, illa adu magu alla......... aa ganDasu appa avana cappal biTTu caape mele kuuttiddare. (Dad and mom are doing their job. One boy is playing with kite. One baby is sleeping, no that is not a baby...... aa... that men has left his chappal and is sitting on a mat.)
Repair strategy- use of repair through repetition or revision- Example in Kannada language:

P: ondu mane ide. ondu manetara athiti gruha ide. (One house is there. Like one house guest house is there.)

5.1.3.2 Step II- Comparison of discourse for Kannada and English language within the group.

5.1.3.2.1 Individuals with traumatic brain injury group.
Few (four out of twenty) TBI participants had interpreted the gist of the picture wrongly due to poor global coherence during the first session of recording, where they used one language (example - L1) with very few correct information content due to good local coherence. In the second session, participants had interpreted correctly in other language (example - L2) with few correct information content. While interpreting at second time, the participants had asked assistance in understanding the picture and had a delayed response time, but there was a correct response. They also had to use more self correction repair strategies. Thus, there was a difference between the L1 and L2 for the sub parameters- ‘information content’, message accuracy’ and ‘use of self correction’.

Discourse sample of picture description in English language: Example from Participant 1

P: It is a family, who has come for a picnic. It is some particular place. In this place, there is a guest place. In front of guest house, car will be parked. In front of that, one tree will be there. Under the tree they are sitting, may be husband and wife. Husband is reading, and wife is pouring the coffee or milk into the cup. There is one baby sleeping beside them. No it is the chappals of that man. The child is flying..... the kite. There will be a lake or pond. In that pond, the yacht will be moving, and also beside that child, one dog will be there. Two members are washing their cloths. And also one flag is there like in school....... No one lady she is pouring the coffee or tea into the cup so it is a picnic spot, she is listening to music also. In between them one bag/basket is there.
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Discourse sample of picture description in Kannada language: Example from Participant 1

P: pravasakke bandidaare. ondu naayi ide. matte ella avara kelasaddali toDagiddare. appa amma avara kelasa maaDataa iddare. ondu huDuga gaaLi paTa haarisutta iddane. idu ondu citra ashTe. naahi nintide. ondu dvajaaroohaNa naDedide. aa pravasi taaNada munde ondu dvaja ide. aa ganDasu appa avana cappal biTTu caape mele kuuttiddare. hengasu kaafi baeraesutta iddare. ondu buTTi ide avara munde, ivaru ondu doDDa marada keLagaDe kuLitu vishranti paDedu koLLutta iddare. alli haaDu keLutta iddare. ivaru kaarinalli bandu kaarannu pravaasi gruhadalli nillisiddare. pakkadalli ondu samudra atava nadi ide. alli ondu dooNi ide. pakkadali jana eno baTTe hogeyutta kelasa maaDutta iddare. (They have come for a picnic. One dog is there and all are involved in their work. Dad and mom are doing their work. One boy is playing with kite. This is one picture that is all. Dog is standing. One flag hoisting is done. aa.. in front of the guest house flag is there. That men dad has left his chappal and is sitting on the mat. A woman is preparing coffee. One basket is there in front of them. They are sitting under a big tree and taking rest. There they are listening to music. They have come by a car and car is parked in the guest house. Near by there is sea or river. There one boat is there. Near by some people are washing their cloths and doing some work.)

5.1.3.2 Neurotypical adult group.

There was no significant difference between L1 and L2 for all the sub parameters of propositional and non-propositional aspects. But, based on the observation of raw scores the sub parameter ‘extra elaboration of topic’ only showed a difference between (Kannada and English) languages. Only two participants showed this particular parameter in their discourse of Kannada language compared to English language. The reason for this could be the influence of Kannada as their native language.

5.1.3.3 Step III- Summary.

There is a dearth of studies which finds difference between propositional and non-propositional aspects of discourse. Since, this is an initial attempt in literature which
finds the difference between propositional and non-propositional (total) aspects of discourse, the discussion done before at the level of all the individual parameters under qualitative “Discourse Analysis Scale-picture description” holds good for the same context. Finally, there was a significant interaction between groups for the sub level propositional and non-propositional aspects of DAS and between languages there was interaction only for the sub level non-propositional aspect of DAS and there was interaction between groups and languages only for the sub level non-propositional aspects of DAS. By considering the mean scores of discourse in Kannada and English language, the TBI group performed poorer than NTA group in these two languages. Hence this can be used as a reference to differentiate TBI group from the NTA group and infer better performance in English language compared to Kannada language.
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5.2 Section B

5.2.1 Sub-section I: Conversation.

5.2.2 Sub-section II: Narration.

5.2.3 Sub-section III: Picture Description.

5.2.4 Overall discussion of sub section I, II and III.
5.2 Section B

5.2.1 Sub-section I- Conversation.
The conversational discourse abilities of all the participants were quantitatively analyzed using T-unit analysis. The results suggested that Group I (TBI) made significantly more discourse deficits than Group II (NTA). The conversational measures selected for sentence production were the total number of clauses and subordinate clauses. The use of T-unit based analysis permitted the experimenter to assess the thematic level of a given topic and the sentence-level grammatical ability as well as intersentential cohesion. Thus, one can infer the cognitive abilities underlying the organization and production of utterances in various tasks. All the parameters (NTU, NWPTU, NC and NWPC) of T-units were calculated from the conversation genre of about 10-15 minutes duration. The two groups, TBI and NTA were compared between each other on Kannada and English language discourse samples on all the parameters (NTU, NWPTU, NC and NWPC) of T-unit based analysis.

The between group comparison revealed poor performance of TBI as compared to NTA in both Kannada and English languages. The results of the statistical analysis showed a significant difference for the parameter NWPTU and NC suggesting the inadequate representation of discourse in the TBI compared to NTA. TBI participants used lesser number of words as compared to participants in the neuro-typical adult group.

All the participants used the same number of T-units (NTU) during their discourse elicitation time. Thus, the T-unit analysis at thematic level inferred that all the participants were within the given topic during the conversation and could maintain the theme. But all the TBI participants used a lesser number of propositions in their discourse in English language compared to Kannada language. This accounted for less discourse output in TBI as compared to NTA in both the languages. Although there was some content in their speech, they lacked the ability to produce adequate information in terms of better planning and organization required to complete the topic of conversation. This is in agreement with Wyckoff’s (1984) study on the CHI subjects. These subjects were noted to use significantly fewer cohesive ties per communication unit (roughly equivalent to a T-unit) than the normal controls in both
the narrative and procedural discourse tasks. This finding was felt to provide evidence that their discourse lacked continuity. However, Liles, Coelho, Duffy and Zalagens (1989) had reported that the number of cohesive ties (per T-unit) produced by their CHI subjects was same as the normal subjects for both story generation and story retelling. Thus, both the groups were able to talk at sentential level and intersentential level on all the sub-topics related to the conversation which was provided by the experimenter.

The between language comparisons revealed that both TBI and NTA participants performed poorer in English language compared to Kannada language on all the measures of T-unit analysis and there was a significant difference for the parameter NC and NWPC. There were a few incomplete sentences in TBI participants’ speech. Unlike English, while dividing clauses in Kannada, each sentence represented a clause in most of the conversation sample. But in English, some sentences were independent clauses and others dependent clauses. Thus, relatively there could be a difference in dividing clauses in each language itself. So the decreased statistical (mean) values for the parameters (NWPTU, NC and NWPC) at sentence level analysis of T-units in English language of TBI reflect their inability to convey the information in their speech. Finally, there was no significant interaction between languages and groups for any of the parameter of T-unit based analysis.

The better performance in Kannada language in both the groups may be because of the higher exposure to the topic of conversation (due to native language exposure, environmental factors like family and society) or simply the easy availability of immediately retrieved linguistic items after the trauma. The complexity, abstractness, and monitoring of the discourse are controlled centrally and may be impaired in individuals with brain damage. Coelho, Liles and Duffy (1995) and Godefroy (2003) linked these deficits to poor executive control suggesting a relationship between components of discourse and other aspects of resultant linguistic-cognitive functioning. Thus, the results of T-unit showed that the discourse production was more cognitively demanding for TBI, consequent to which they exhibited difficulty in formulating and sequencing sentences appropriate to the topic of conversation in comparison with NTA.
5.2.2 Sub section II- Narration.

The narrative discourse abilities of all the participants were quantitatively analyzed using T-unit analysis. The two groups, TBI and NTA were compared within, and between each other on all the parameters of T-unit based analysis (NTU, NWPTU, NC and NWPC).

The between group comparison revealed poorer performance of TBI as compared to NTA in both Kannada and English languages. The differences were noted at both thematic level (NTU) and the sentential level (NWPTU, NC and NWPC) of T-unit analysis. This indicates that TBI participants were not able to maintain the theme, but were able to talk on the sub-topics related to the narration which was provided by the experimenter. Thus, they had extra elaboration in their talk which was non cohesive. In both the groups, Kannada language performance was better compared to English language as per the statistical (mean) values for the parameters NTU, NWPTU and NC and not for NWPC. Thus, the measure selected for sentence production was the total number of words per clauses, where this did not show any significant differences between the groups. This justification is in support with the between language comparison, where it was found that the differences were only at the sentential level and not at the thematic level of T-unit analysis.

The comparison between the groups within each Kannada and English language showed a significant difference for the parameters NTU, NWPTU, and NC in common. There is very little literature support, mainly done on children. Spontaneous narrative productions elicited from bilingual Spanish- and English speaking second-grade children using a wordless picture book were compared in each language for their proportion of grammatical T-units (Gutierrez-Clellen, 2002). Children demonstrated comparable grammaticality in both their Spanish and their English stories. Another study compared bilingual Spanish- and English-speaking 9-to 11-year-old children’s linguistic encoding of mental states in their narrative retellings (Silliman, Huntley, Brea, Hnath-Chisolm & Mahecha, 2002). A variation in the amount and type of clauses used in encoding the mental states was attributed to the language of story retelling. Children used more clauses in Spanish, with more adverbial than nominal clauses. In English, children used more nominal clauses than adverbials, and children used relative clauses the least in both the languages. Evidence
from these studies demonstrate that bilingual children employ language-specific linguistic devices to formulate narratives in each of their languages, but are grammatical in each of their languages. So the diffuse injury to the brain areas controlling the thematic coherence in the TBI participants may have led to the differences in the parameters NTU, NWPTU and NC compared to the neuro-typical adult group in both the languages.

The effect of languages (Kannada vs English) within each group showed a significant difference for the parameters NTU, NWPTU, NC and NWPC in the TBI group and only NWPTU in the NTA group. In the TBI group, the parameter NTU, the thematic level of T-units analysis was more in Kannada language compared to English language. This was because, the Kannada language exposure and use is longer in duration (the frequency of use at residence or hospital and or/ intervention centres) compared to English. Although the L2 structures and vocabulary which are frequently accessed are more easily processed than those rarely utilized (Green, 1998), but these TBI participants were more comfortable with their L1. It might also be possible that they were exposed to either L1 or L2 residual after the trauma for easy communication. Since there will be a gap in usage of two languages immediately after the trauma or they might have used either one language which had made them to perform better in the more exposed language even though they had equal proficiency in both. Thus, in the present study it was observed that the maximum usage was Kannada compared to English language in spite of equal proficiency in both the languages. The TBI group produced a greater number of incomplete and inaccurate clauses, and less number of responses (in English compared to Kannada) that did not led to the expansion of the topics. They had very poor initiation skills. The narration task almost resembled an event related task because the experimenter had to prompt in sequences for organized responses on several instances and individuals with TBI answered to that particular sequence of event, lacking relevant elaborations. Another possible reason for the differences documented in discourse across languages may be due to both cultural and linguistic differences. For example, cultural differences in the expectation of performance may play a large role in the types of narratives that children produce because children learn from the narrative examples produced by their families and their culture (Gutierrez-Clellen, Peña, & Quinn, 1995; Minami &
Discussion

McCabe, 1995; Melzi, 2000). In a study comparing the narrative elicitation style of Central American and European American mothers and their preschool children, Melzi (2000) found that the Central American mothers focused more on the conversational aspects of narration, whereas the European American mothers focused more on the structural and organizational aspects of their children’s stories. The sociocultural role of stories and narrative style in U.S. Latino culture may vary from mainstream American culture, thereby influencing the kinds of stories children learn to tell.

The present study reports an average length of 36.8 and 29.1 clauses in the Kannada narration and 28.7 and 24.9 in English narration of NTA and TBI groups respectively. This result is in support with Hema and Shyamala (2011), where they found increased number of clauses in Kannada language compared to English language narration of normal adult bilinguals. Thus, the results indicate that the adult bilingual narrations are correlated with T-unit analysis, as well as richness and sophistication of vocabulary, narrative marking such as the use of the past tense in a sequence of individual events, cohesive devices such as the appropriate use of nouns and pronouns as referencing devices. The study identifies cross-linguistically common, possibly universal or quasi-universal features and linguistically or culturally specific features of good narration. It has been shown that in both Kannada and English, narrating an event is expected to be told in the past tense, and should be extensive and use a large number and variety of words.

In NTA group, the significant difference was seen only for the parameter NWPTU. This was because, the English language exposure and use is longer in duration (the frequency of use at residence or academic and/or professional environment) compared to Kannada. The L2 structures and vocabulary which are frequently accessed are more easily processed than those rarely utilized (Green, 1998). Thus, in the present situation the maximum usage is English compared to Kannada language.

On observation of the narrative task of the TBI groups. They had problem with the component functional elements of a narrative, which can be analyzed into two basic ones: referential are those elements that relate events to the listener and orient
him/her as to who and what was involved in those events and when and where they occurred; and the evaluative elements are those that demonstrate the specific perspective the narrator takes on the events. The other is referential elements provide the basic organizational structure of the narrative, in the form of different types of appendages introducing and ending the stories, complicating action and resolution (composed of the basic sequence of events that makes up the story), and orientation to characters, place and time. Thus, the TBI group did not follow the same pattern of narrative elements when compared to NTA group in both Kannada and English languages. It can be concluded that the problem could be only at the narrative element level and not at the language level. This could be probably because of equal language proficiency in the two languages in NTA and TBI group. However, it would be interesting to study these in bilingual speakers with unequal proficiency in the two languages.

Thus, to conclude about the selection of this particular task, a study by Griffith, Ripich and Dastoli (1986) reports that, static pictures used to elicit narration were not effective in eliciting information regarding a character’s internal responses or intentions, and the information told to the listener will be limited. Personal narratives elicited as spontaneous stories yielded more clauses and subordination than did picture sequences (Klecan-Aker, Mc Ingvale & Swank, 1987). Therefore, one elicitation methodology may be better suited than another to provide an optimal context for particular features of narration. The topics of personal narratives may also have an effect on narrative performance. For instance, Peterson and McCabe (1983) examined length and complexity of personal narratives as related to the topic. Stories about trips, car accidents, hospitalizations, and pets yielded the longest and most complex narratives, whereas doctor visits and accidents in the home, such as spilling or breaking, yielded shorter and less complex stories. These studies demonstrate that the amount of contextual support provided by the elicitation procedure and the previous knowledge and experience with a topic will affect the complexity of the individual’s narration. Any task should be of a timed and with standard stimulus (picture) may possibly rule out the extraneous variables and have predictable contents to make the task more equivalent among different participants with less transcription time. Thus, it may help in making differential diagnosis among the clinical population.
and also to establish the normative data in discourse. All these possibilities are present in a picture description task. In the following section an attempt has been made to study the same.

5.2.3 Sub-section III- Picture description.
The discourse abilities of all the participants were quantitatively analyzed using T-unit analysis. In this picture description task, there was a single theme “picnic spot scene”. This was inferred from the parameter NTU of T-unit based analysis. The two groups, TBI and NTA were compared within, and between each other on all the propositional parameters of T-unit based analysis (NWPTU, NC and NWPC). The between group comparison revealed poor performance of TBI as compared to NTA in both Kannada and English languages. The differences were noted at both thematic level (NTU) and the sentential level (NWPTU, NC and NWPC) of T-unit analysis. This indicates that TBI participants were not able to maintain the theme, but were able to talk on the items related to the picture stimuli, which was provided by the experimenter. Thus, they had incorrect information and related extra elaboration in their talk which was non cohesive to the main theme. This was only an observation made. At thematic level (parameter NTU) few (four participants) individuals with TBI had wrong interpretation of the picture stimulus as ‘village scene’, ‘school scene’ and ‘forest area’. Thus, only sentential level of T-unit analysis was considered and the objective value for the parameter NWPTU, NC and NWPC was considered for the statistical analysis to see the differences between the languages. In both the groups Kannada language performance was better compared to English language on the parameters NWPTU and NC and not for NWPC. Thus, the measure selected for sentence production was the total number of words per clauses, where this did not show any significant difference between the groups. This could be justified with the between language comparison, where it reveals that the differences were at the sentential level of T-unit analysis. But the extra observation suggests that the individuals with TBI exhibit difficulty primarily at the thematic level of T-unit analysis followed by sentential level.

5.2.4 Overall discussion of sub section I, II and III.
Along with conversation task, narrative production tasks also tap the ability to integrate cues underlying the macrostructure (Tucker & Hanlon, 1998). Ulatowska,
Freedman-Stern, Doyle and Macaluso-Haynes (1983) noted that narration is a complex and critical communicative event. Narrative task is considered to fit within the realm of discourse, its monologue format does not allow for a re-creation of the conventions and subtleties of conversational exchange (Snow, Douglas, & Ponsford, 1999). Narration includes a different set of demands. As such, competences on a narration task do not imply competence in conversation. However, examining discourse production, especially through narrative production tasks, have shown to be especially sensitive to subtle language deficits (Tucker & Hanlon, 1998). In addition, Snow, Douglas and Ponsford (1999) have suggested that persons who demonstrate difficulty using the narrative genre will have difficulty reconstructing their own life experiences in order to share with others. Clark (1994) suggests that discourse, when viewed as a joint activity, also applies to single narration told to others by single narrators. Finally, narration tasks provide a controlled environment. As opposed to a more open-ended conversational analyses of discourse, an event narrative task is structured enough to sample the behaviours of interest and yet similar enough to discourse that takes place on a daily basis to elude the difficulties brought about by the use of more artificial tasks.

As mentioned earlier picture description remains one of the interesting and simplest of tasks to elicit a discourse sample that remains as a most commonly used task during diagnostic assessment. The brevity of discourse typically generated through picture descriptions has led to answer some research questions, whether such tasks elicit sufficient language and present great enough cognitive-linguistic challenges to reveal the language production abnormalities of adults with acquired brain injury. This has been justified, considering that the picture description task is having the added benefit of predictable content that yields relatively brief language samples within short duration and later it requires little time to transcribe, assess and infer the abstract information and efficiency of coherence among concrete items in the stimuli. Other way is use of a timed, standard picture stimulus, which may possibly rule out these extraneous variables and make the task more equivalent among different participants. Thus, it may help in making differential diagnosis among the clinical population and also to establish the normative data in discourse.