International Journal of Health Sciences and Research
Vol.10; Issue: 2; February 2020
Website: www.ijhsr.org
Original Research Article *ISSN: 2249-9571*

Profile of Syntactic and Semantic Diversity in Story Retelling and Self Narrative in Native Tamil Speaking Urban Primary School Children

Lakshmisree Ravichandran[1], Usha A. Dalvi[1], Arulmurugan Karuppannan[2]

[1]Department of Audiology and Speech Language Pathology, SRM Medical College Hospital and Research Centre, SRM Institute of Science and Technology, Kattankulathur, Kancheepuram-603203, Tamil Nadu, India.
[2]SRM School of Public Health, SRM Medical College Hospital and Research Centre, SRM Institute of Science and Technology, Kattankulathur, Kancheepuram-603203,Tamil Nadu, India.

Corresponding Author: Arulmurugan Karuppannan

ABSTRACT

Background: Children's native language and culture influences the discourse production particularly narratives. Despite the available data on narrative discourse, a clear understanding of their performance during extensive discourse level is still lacking in children with multilingual exposure. The Present study was aimed to study the syntactic and semantic diversity in the story retelling and Self-Narrative skills in Tamil speaking first and Second standard urban primary school children.
Participants and methods: A total of 60 (30 boys and 30 girls) typically developing urban children having Tamil language (L1) as their mother tongue, studying in first and second standard from the school having Tamil as their medium of instruction participated. They were between the age range of 6 years to 8 years. Story Retelling ability of the child was elicited by using 10 sequenced wordless colorful pictures and for the self- Narration task the participants were asked to describe two themes separately for approximately 10 to 15 minutes. Each child's oral narratives were recorded, transcribed, and then analyzed by using Language Sample Analysis (LSA) which included the syntactic measure and semantic measures Mean Length of Utterance (MLU), Total No. of words (TNW), No. of Different Words (NDW) and Type Token Ratio (TTR) . The data were computed to SPSS Software, version 21 and the Statistical test used were Independent Student T test and Mann Whitney U test for this study.
Results: Results indicated that majority of the participants had clear beginning while using simple and compound narratives except very few has a difficulty in sequencing of events and resolution of problem with clear ending.
Conclusions: This study is providing a baseline data on syntactic and semantic diversity in story retelling and self-narrative task of the urban primary school children. To generalize the findings of this study further research should consider larger number of sample size from both urban and rural area separately, while controlling the socio-economic status of the children and parents. Additionally, the study can be done in bilingual children for L1 and L2 separately.
Key words: Syntactic and semantic diversity, story retelling, self narrative task, Tamil speaking, urban primary school children.

INTRODUCTION

Story retelling is an oral narrative, beyond the level of conversation with social experiences which incorporates the linguistic structures.[1] It is a familiar discourse genre across cultures, includes oral language and it contributes to the early literacy development. Further, a well-formed story also consists of sequenced, grammatical, specific series of casually related propositions about a past event. Specific factors appear to influence the vocabulary children use during storytelling activity like lexical frequency, the

developmental order of concept and majorly the language child is exposed during the conversation.

Story retelling contributes to the early literacy development which incorporates social experience in a familiar discourse across the cultures.[2] and helps in identifying the children at risk for understanding & reading difficulties in later grades which leads to poor academic performance. Narratives come in many genres which include personal narratives which recounts a real past experience of the speaker. Then, fictional narratives are either original or recall a previously heard or read a story in which the speaker was not a participant. A child's ability to produce narratives is related to his or her success in acquisition of literacy.[3]

Most of the research concerned with the narrative abilities of children has focused on story structure, style, and the linguistic complexity of utterance produced in a narrative context. [4] First, narratives are extended units of text. Second, events within narratives are linked with one another temporally or causally in predictable ways. Narratives are organized in a cohesive, predictable, rule governed manner representing temporal and causal patterns not found in conversation. Third, the speaker maintains a social monologue throughout the conversation. Here, speaker must produce language that is relevant to the overall narrative which contains all information needed by the listener. Fourth, narratives have an agentive focus which means agents which includes people, animals or imaginary characters who were engaged in the events over a period of time.

Some research documented the link between memory, knowledge structures and narratives speculated that narratives are more easily remembered, they exist in a format that is already meaningful and familiar. It also plays a major role in our communicative interactions because they have close correspondence to our daily experience in contextually specific situations[5,6].

The study of narrative abilities provides valuable information on the linguistic, cognitive, and social developmental aspects of children with typical language development. It can be organized on two levels: Level 1 Macrostructure refers to the overall content and organization of a narrative, whereas Level 2 Microstructure is concerned with the internal linguistic structures (e.g. embedded clauses, conjunctions, and noun phrases). It begins to develop during preschool years and continue to be refined throughout the period of childhood and school age.

As children begins to use different language format i.e. Discourse encompassing complex language units, by around 3 to 4 years of age, narratives serves as a sensitive tool for assessment. Several studies have shown that by the age of five, children have generally attained a basic oral narrative capacity, both referring to narrative structure and to the distinction of background / foreground events, etc., though not all of their linguistic knowledge is adequately used at discourse level[7] .A narrative task thus provides insight of grammatical as well as pragmatic knowledge of the child.

Most literature has emphasized on narrative ability of the children because it helps in acquisition of linguistic as well as cognitive abilities. Research stated that as the children chronological age increased their narratives skills also increased. Majority of the study had explained the oral narratives based on semantic and syntactic skills namely, number of words, number of different words, Mean Length of Utterance, Type Token Ratio, C- Units and T – units based on picture description task while controlling the socio economic status in monolingual as well as in bilingual children.

There is a limited baseline data available on story retelling and self narrative abilities ~~in~~ of children in country like India where the urban population is exposed to more than one language. Therefore, it becomes important to explore the pattern of

development indifferent age groups and diverse populations like monolinguals and bilinguals to better understand the further effects on their language characteristics.

So the present study is focused on studying the complexity of language used in story retelling and narrative of the Native Tamil speakers

Aim: The Present study was aimed to study the syntactic and semantic diversity in the story retelling and Self-Narrative task of Tamil speaking first and Second standard urban primary school children.

Objectives:

a) To study the syntactic and semantic diversity by the measures of Mean Length of Utterance (MLU), Total No. of words (TNW), No. of Different Words (NDW) and Type Token Ratio (TTR) in First and Second Standard Tamil speaking Urban Preschool school children.

b) To find if there is any gender differences noticed in syntactic and semantic diversity in Mean Length of Utterance (MLU), Total No. of words (TNW), No. of Different Words (NDW) and Type Token Ratio (TTR) in Story retelling and Self Narrative between First and Second Standard children.

c) To compare the measures of syntactic and semantic diversity across story retelling and Self- Narrative between the standards.

METHODOLOGY

A total of 60 typically developing urban Tamil speaking children (30 boys and 30 girls) from first standard (15 boys and 15 girls) and second standard (15 boys and 15 girls), between age range of 6 years to 8 years participated from Chennai city. Assent forms were obtained from each participant. These children were selected based on convenient sampling. The participants were screened for speech, language skills and hearing ability. The demographic / personnel data were collected from these participants individually. Speech samples of both the tasks, for the selected participants were audio recorded individually, through SONY ICD- UX560F Digital voice recorder, kept at a distance of 5 inches from the speaker‘s mouth. The data was collected in a relatively quiet room in the school. An initial general rapport was established with each participant before commencement of task.

For story retelling task initially three stories namely Thirsty crow, Hare & Tortoise & Fox and Grapes and for self-narrative task four pictures were selected and field tested for familiarity and ease of description and illustrations of story and pictures. Based on the analysis, the story of “Thirsty crow” was selected for story retelling ability and “Birthday celebration and Park theme” for the self- narration tasks were selected. First the participants were instructed to look at the story chart with 10 sequential colorful pictures and listen to the researcher narrating the story of “Thirsty crow” carefully and repeat the same when requested. A gap of 2 minutes was given to them to retell the same story viewing the story chart. To elicit the sample for self-narration two flash cards of “Birthday celebration’ and “Children playing in the park” were provided. During both the tasks maximum of 5 neutral prompts such as “afterwards, yes, anything more, like, that is” were provided, if the child had difficulty in expressing. They were provided a reinforce after the completion of the task.

The audio recorded samples were transcribed. For the calculation (analysis) of syntactic and semantic diversity all the utterances were included, excluding the examiner’s neutral prompts. For both story retelling and Self Narrative ability, the syntactic and semantic measures of MLU, TNW, NDW and TTR were derived individually as well as compared between first and second standard school children.

STATISTICAL ANALYSIS

The collected data were analyzed using SPSS software version 21 (Statistical Program for Social Sciences). Numerical data were expressed as mean and standard deviation. Comparison between two

standards was carried out using Independent Student's' test and Mann Whitney U test (nonparametric test). A p value less than 0.05 was considered as significant with 95% confidence interval

RESULTS

Mean age differences (6 years to 8 years) of both gender in first standard and second standard was calculated and was found that there was not much variability among the participants (Table1).

Table1: Mean age differences of males and females in First and Second standard

Standards	Gender	Mean (Age in months)	Standard Deviation
First n=30	Males	77.07	3.91
	Females	72.56	3.37
Second n=30	Males	88.87	3.37
	Females	90.87	3.99

Table 2: Comparisons of syntactic and semantic measures of story retelling ability in First and Second standard children.

Measures	Standard	Mean	Standard Deviation	t value	p value
TNW	First	38.76	7.60	-0.991	0.477
	Second	40.66	7.24		
MLU	First	8.58	1.81	-1.007	0.653
	Second	9.05	1.80		
NDW	First	21.06	2.59	-0.655	0.693
	Second	22.43	3.42		
TTR	First	67.88	8.01	-1.706	0.015*
	Second	72.44	10.18		

Table 2 indicates that for story retelling task there was no significant mean difference observed in the syntactic measures of Mean Length of Utterance (MLU) and in the semantic measures of Total no of words (TNW) , No of Different Words (NDW) except for the Type Token Ratio (TTR) between First and Second standard school children.. So, the results in story retelling ability indicates that there was a statistically significant differences observed only in the measures of Type Token Ratio (TTR) (0.015, p<0.05) between the standards.

Table3: Comparisons of syntactic and semantic measures of self-narration task in First and Second Standard children

Standard	Measures	Mean	Standard Deviation	t value	p value
First	TNW	27.53	7.7	0.434	0.383
Second		28.46	8.8		
First	MLU	5.13	0.9	-0.07	0.368
Second		6.71	1.41		
First	NDW	21.00	4.51	-1.24	0.042*
Second		23.33	3.42		
First	TTR	68.70	11.71	-2.95	0.047*
Second		75.64	9.5		

Above table indicates that there is a significant difference observed in the semantic measures of No. of Different Words (NDW) and Type Token Ratio (TTR) (0.04, p <0.05) between First and Second Standard in Self narration skills.

Table 4: Gender difference in syntactic and semantic measures between First and Second standard children in story retelling Task

Measures	Standards	Gender	Mean	Standard Deviation	P Value
TNW	First	Males	38.13	8.16	0.653
		Females	39.26	7.23	
	Second	Males	42.06	7.18	
		Females	39.40	7.18	
MLU	First	Males	9.01	1.87	0.967
		Females	8.60	1.80	
	Second	Males	9.50	1.89	
		Females	8.62	1.75	
NDW	First	Males	20.46	2.7	0.161
		Females	21.08	3.44	
	Second	Males	23.06	3.30	
		Females	21.08	3.44	
TTR	First	Males	67.02	8.08	0.367
		Females	71.46	11.98	
	Second	Males	71.53	0.63	
		Females	73.43	8.81	

Table 5. Gender difference in syntactic and semantic measures between First and Second Standard children in self- narrative Task

Standards	Gender	Measures	Mean	Standard Deviation	P value
First	Males	TNW	25.13	5.04	0.967
	Females		28.20	9.36	
Second	Males		28.73	9.29	
	Females		29..93	8.66	
First	Males	MLU	5.01	1.27	0.806
	Females		5.23	1.48	
Second	Males		6.69	1.34	
	Females		6.7	1.52	
First	Males	NDW	20.87	3.41	0.436
	Females		21.46	3.21	
Second	Males		23.4	4.01	
	Females		23.26	2.86	
First	Males	TTR	67.22	10.12	0.148
	Females		69.44	7.81	
Second	Males		76.40	1.10	
	Females		74.88	7.96	

Gender difference for Story Retelling and Self Narration was analyzed for both standards separately. Table 4 and 5 revealed that there were no significant mean differences noticed between both the gender for self-narrative ability in all these syntactic and semantic measures.

In both the tasks the mean scores for the syntactic measure of Mean Length of Utterance (MLU) and for the semantic measures of Total no of words (TNW), No of Different Words (NDW),Type Token Ratio (TTR) obtained a minimal differences between males and females of First and Second standard children.

Table 6: Comparisons of story retelling and self-narrative task across syntactic and semantic measures between First and Second standard children.

Standard	Measures	Story retelling ability		Self-Narration		t value	p value
		Mean	S. D	Mean	S. D		
First	TNW	38.76	7.60	27.53	7.7	8.167	0.000 *
Second		40.66	7.24	28.46	8.8		
First	MLU	8.58	1.81	5.13	0.9	7.562	0.000 *
Second		9.05	1.8	6.71	1.41		
First	NDW	21.06	2.59	21.00	4.51	1.003	0.318
Second		22.43	3.42	23.33	3.42		
First	TTR	67.88	8.01	68.70	11.71	-1.631	0.106
Second		72.44	10.18	75.64	9.5		

Comparative measures across the Story Retelling and Self Narrative task between the standards in table 6 indicates that there is a significant mean differences only in the semantic measure of Total no of words (TNW) and in the syntactic measure of Mean Length of Utterance (MLU) (0.000, $p<0.05$) and there is no significant mean difference in the semantic measures of No of Different Words (NDW) and Type Token Ratio (TTR) across both tasks.

DISCUSSION

The present study aimed at studying the syntactic and semantic diversity of story retelling ability and Self narrative skills in children from first standard through second standard. The Language Sample Analysis which includes syntactic and semantic measures of oral narratives was considered. Irrespective of both tasks the results of this study reflect only a minimal difference in the measures of TNW, MLU, NDW and TTR in both standards.

Comparison of story retelling ability shows that syntactic measure of MLU and the semantic measures of TNW, NDW in both first and second standard children are almost similar but the semantic measure of TTR indicated significant difference in their performance. One of the reasons for no difference in MLU in this study can be attributed to minimal age differences between the standards. The MLU - morphemes and MLU - words did not show corresponding variation with increase in age. Similar findings were reported in Miller and Chapman (1981)[8]. According to them the variability in MLU increases after 5 years of age.

In pictorial narratives, the child's linguistic structure complexity develops with their increase in age because the older children verbalize longer narratives with more different words than the younger children. The results of this current study did not supports the study done by Khurana and Prema (2009) which indicated that narrative measures such as NDW, MLU and TTR of story retelling of bilingual children are not sensitive to the developmental progression in bilingual children.[9] Westerville et al. (2004) stated that the 6-year-old children has greater MLU (morphemes) than the 4- year-old children[10].

Westerveld et al. (2004) and Muñoz et al. (2003) study observed the similar narrative productivity in four-year olds as well as in five-year-old children. Due to their minimal differences in their age groups, there was no differences is observed either in the measures of Number of Different Words (NDW) or in the Total Number of Words (TNW) which is in

concurrence with the present study results.[10, 11] Another possible explanation may be the repetitive use of same words for connecting sentences referring to the character's name for starting each event. This may have decreased (or) reduced the diversity in the vocabulary used and thus there is not much change in NDW in both the standards. Bishop (2004) and Schneider et al(2006) stated that as child's age increases, the story content and the accuracy of the information in the story content increases. But for the young children the narrative tasks are still difficult.[12, 13]

In self narration task both semantic measures of NDW and TTR were significantly different when compared between first and second standard children. Overall the second standard children performed better. However, it was observed they were also using only simple sentences and were using less adjectives, adverbs, compound and complex sentences. Additionally, it was also noted that in self-narration tasks needed more prompts. There were also poor referential adequacy and coherence in narration.

The reason for this may be basically the story generation task / picture description is more difficult for younger children due to their poor referential adequacy, because they find difficulty in constructing the story by sequence without any given schema. [14] Another reason may be that story generation task requires more cognitive loading than story telling task. Therefore, story retelling is based on precise linguistic model with a given verbal schema. While picture description is not guided by an exact model as stated by Schneider (1996).

The comparisons of performance between story retelling and self-narration tasks indicated that both first and second standard children used more number of words and increased mean length of utterance in story retelling , while there were more number of different words and increased type token ratio for self- narration task between standards.

In the sentences of second standard children there was more referential accuracy and event content. Similar findings have been reported that the typically developing children used more references in their narrative content and the in formativeness in the story content also increased with increase in the child's age. [13, 15]

Even though the results of present study indicates that there is no significant difference in terms of the narrative structures of the male and female participants, it was interesting to note that more male participants required prompts when compared to female participants to make up a story or self - narration based on the pictures. This slight difference in the results confirms the findings of past studies on gender differences in narratives that females are more expressive and are more capable of telling complete and elaborate stories as compared to males [16]. The study Sarfwat et al (2013) supports the present study which reported that they did not find statistically differences between boys and girls in terms of narrative skills.[17]

Therefore from this study we can conclude that the measure of syntactic (MLU) and semantic measures (TNW, NDW, TTR) of first and second standard in typically developing children are almost similar for both story retelling and self-narrative task. Moreover, children learn narrative performance produced by their family and their culture. Additionally, it showed no gender difference. However, this study is providing a baseline data on syntactic and semantic measures of story retelling ability and Self Narrative skills of the primary school children and will aid development of the structured program for enhancing the narrative skills for typically developing children and children with special needs.

Limitations of This Study

The current study has certain limitations which includes Limited availability of sample size with the selected Participants chosen only from the state board schools as per the study. However, due to no – availability of suitable standardized

test, the analysis between the high achievers and poor achievers was not considered. Furthermore, the Socio-economic status was not also considered in this present study as the details are not provided from the schools due to ethical issues.

Future Directions:

To generalize the findings of this study furthermore similar study could be conducted on large number of sample size from both urban and rural area separately, while controlling the socio-economic status of the children and parents. Additionally, the study can be done in bilingual children for L1 and L2 separately.

REFERENCES

1. Mallan KM. Children as storytellers. Primary English Teaching Association; 1991. [Cited 2017 Sep 14].
2. Hirsh-Pasek K, Kochanoff A, Newcombe NS, De Villiers J. Using Scientific Knowledge to Inform Preschool Assessment: Making the Case for" Empirical Validity". Social Policy Report. Volume 19, Number 1. Society for Research in Child Development. 2005.
3. Catts HW, Hogan TP, Fey ME. Sub grouping poor readers on the basis of individual differences in reading-related abilities. Journal of learning Disabilities. 2003 Mar;36(2):151-64.
4. Price JR, Roberts JE, Jackson SC. Structural development of the fictional narratives of African American preschoolers. Language, Speech, and Hearing Services in Schools. 2006.
5. Brown AL. Recognition, reconstruction, and recall of narrative sequences by preoperational children. Child Development. 1975 Mar 1:156-66.
6. Nelson CA. Minnesota symposia on child psychology. Vol. 26, Memory and affect in development. L. Erlbaum Associates; 1993.
7. Berman RA, Slobin DI. Relating events in narrative: A cross linguistic developmental study. Psychology Press; 2013 June 17.
8. Miller BS. Presidential Address: Contending Narratives- The Political Life of the Indian Epics. The Journal of Asian Studies. 1991 Nov;50(4):783-92.
9. Sarika Khurrana & Prema K. S. Story retelling abilities in pre-schooler development in Kannada speaking English language learners. Journal of All India Institute of speech & Hearing. 2009; 28(1): 104- 115.
10. Westerveld MF, Gillon GT, Miller JF. Spoken language samples of New Zealand children in conversation and narration. Advances in Speech Language Pathology. 2004 Jan 1;6(4):195-208.
11. Munnoz et al. Measures of language development in frictional narratives of latino children. Journal of speech and hearing services.2003;34(3):332.
12. Bishop DV. Expression, Reception and Recall of Narrative Instrument: ERRNI. Harcourt assessment; 2004.
13. Schneider P, Hayward D, Dubé RV. Storytelling from pictures using the Edmonton narrative norms instrument. Journal of speech language pathology and audiology. 2006;30(4):224.
14. Schneider P. Effects of pictures versus orally presented stories on story retellings by children with language impairment. American Journal of Speech-Language Pathology. 1996 Feb;5(1):86-96.
15. To CK, Stokes SF, Cheung HT, T'sou B. Narrative assessment for Cantonese-speaking children. Journal of Speech, Language, and Hearing Research. 2010.
16. Grysman A, Hudson JA. Gender differences in autobiographical memory: Developmental and methodological considerations. Developmental Review. 2013 Sep 1;33(3):239-72.
17. Safwat RF, EL-Dessouky HM, Shohdi SS, Hussien IA. Assessment of narrative skills in preschool children. The Egyptian Journal of Otolaryngology. 2013 Apr 1;29(2):130.

How to cite this article: Ravichandran L, Dalvi UA, Karuppannan A. Profile of syntactic and semantic diversity in story retelling and self narrative in native Tamil speaking urban primary school children. Int J Health Sci Res. 2020; 10(2):175-181.

******