Analysis of Oral and Written Narratives of Children with Language Impaired Learning Disabilities

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Abstract

This study investigated and compared oral and written narratives of children with Language Impaired Learning Disabilities (LILD) and typically growing children as control group using strict reliability measures. The influence of context defined in terms of three narrative elicitation tasks for this study were story retell, story generation and spontaneous narratives.. Three children with LILD subjects aged between 9-12 years were compared to three typically growing children of same age group. The narratives were analysed at a micro-structural level using measures of productivity and form complexity. A specific analysis of writing was also performed. The results of this study indicate that the individuals with LILD did not perform well compared to control group in most of the oral and written task. However, the differences were not found to be statistically significant for oral task. It was also found that oral narrative productions for individuals with LILD were better than their written task

Key words: Oral and written narrative, Discourse productions, Elicitation tasks, Language impaired learning disability.

Narratives are a form of oral or written discourse consisting of extended units of texts (Owens, 1999). The production of narratives is a skill used for communication and children narrate stories to their parents, teachers, and peers every day (Wright & Newhoff, 2001). To produce narratives successfully, children must be able to organize the ideas of their narrative so as to provide an introduction to the story, to maintain the relationship among events or actions of the story, and to present a logical conclusion. Studies investigating the development of narratives indicate that the oral narratives produced by children go from being unstructured sets of utterances to a well-formed narrative. By the age of around six years or by the time children start school they have acquired the basic structure of narratives, which tend to follow a full adult pattern (Applebee, 1976).

In the early school years spoken and written narrative are not so highly differentiated (Gillam and Johnston, 1992). With increased mastery of the mechanical aspects of writing, spoken and written narratives start to become differentiated. This differentiation between oral and written modes starts to emerge between the ages of 9-12 years. Initially oral narratives are superior to written narratives. However as the children gain control over their written productions, written narratives become superior to oral narratives (Gillam and Johnston, 1992). Evidence suggests that the grammatical and syntactical organisation of spoken and written forms is distinct to each other. Written texts contain sentences, whereas spoken texts are typically made up of clausal complexes, which may not have a clear syntactic structure (Kress, 1982).

The study of narrative discourse is becoming popular. This is because many individuals score within normal limits on standardised language tests; nevertheless deficits in language are apparent within discourse production and processing (Van Leer and Turkstra, 1999). Discourse analysis is also useful for both those population groups for whom standardised language tests are not available, for the assessment of language in a naturalistic setting and for the analysis of language beyond the sentence level.

Narrative analysis is an important diagnostic tool for the assessment of language for different

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population groups such as learners with learning disabilities, or who have aphasia. It is observed that narratives produced by different population groups are qualitatively different from each other (Owens, 1999). Narratives allow for the analysis of many different features of language, such as syntax, morphology, pragmatics, phonology as well as word finding difficulties (German and Simon, 1991). These may be assessed from a single elicitation or a compilation of different narratives elicited from an individual.

A large number of researchers have tried to identify the characteristic features of narratives produced by learners with learning disabilities (LD)[1] as well as determine the influence of the nature of the elicitation task or context on the production of narratives. These studies mostly compared story retelling tasks and story generation tasks (Liles, 1993; Ripich and Griffith, 1988). Liles (1993) cited a study carried out by Merritt and Liles (1989). In that study, the authors compared the story retelling tasks to story generation tasks. It was found that for both LILD and control groups, retold stories are longer and contain a greater amount of information.

Spontaneous narratives were less frequently used as a method of data collection. It can be assumed that spontaneous narratives are closer to story generation in genre. However, the difference would lie in the fact that for story generations task one would attempt to produce a literate adult type model, whereas spontaneous narratives task reflect true internalisation of this adult type model.

Newcomer and Barenbaum (1991) provided a review of the different aspects of the written narrative abilities of learners with LD. These studies indicate that learners with LD made more mechanical and spelling mistakes than normal subjects. The essays written by these group of learners were poorly planned and used a fewer number of words than typically developing children. Furthermore, learners with LD used fewer novel words. Despite these deficiencies in the performance of learners with LD, it was also noticed that there was no difference between the complexities of the syntactic constructions used by learners with LD when compared with typically growing children. It was observed that both learners with LD and typically growing children used the same number of T-Units[2] (Newcomer and Barenbaum, 1991). Gillam and Johnston (1992) investigated the relationship between both spoken and written narratives in children with LILD between the ages of 9-12 years. Their findings indicated that spoken narratives contained longer sentences with more linguistic connective devices but written sentences were more complex than spoken sentences. In essence these studies indicate that learners with LD across all grade levels tended to produce less coherent oral and written narratives than typically developing children. In terms of writing it was also observed that learners with LD produce more errors of writing than normal individuals.

In majorities previous studies failed to find significant differences between the performances of LILD and control groups (Ripich and Griffith, 1998 cited in Henshilwood, 1998). Strong and Shaver (1991) suggested that these conflicting findings on narrative productions might be due to the unreliability of results. Therefore caution must be taken when interpreting data from these studies, as strict reliability measures were not always employed (Henshilwood & Ogilvy, 1999; Strong & Shaver, 1991). Present study aimed to assess the microstructure parameters of narratives and compared the performance of LILD children and typically growing children in oral and written narratives across three narrative tasks: story retell, story generation and spontaneous narratives whilst employing strict reliability measures. Furthermore, this study aimed to assess whether single-task narratives assessment was clinically more useful compared to multi-task narrative assessments.

[1]Children with learning disabilities are defined as those with normal intelligence, intact sensory and emotional functioning but who exhibit a disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written (Donahue, Pearl and Bryan, 1982, p.397). The learning disabled group is diverse and their difficulties are not necessarily obvious on standardised test.

[2]T-unit is a main clause and any other subordinate clause that may be attached to it or embedded in it. For written narratives punctuation and capitalisation were ignored when calculating T-units (Paul and Smith, 1993; Houck and Billingsly, 1989). Segmentation into T-units was done according to the procedure outlined by Vorster (1980) for the Test for Oral Language Production (TOLP). This form of segmentation is required for the micro-structural analysis of transcriptions. T-units were judged to be complex if they were grammatically complete and correct and contained a main clause together with one or more additional coordinating, subordinating, complementing or relative clauses' (Gillam and Johnston, 1992: p.35).

Method

Research Design

A multiple case study design was used. This increased the reliability of the data obtained and also controlled for the heterogeneity in the LILD population. Three narratives elicited using three different narrative elicitation tasks were used over two sessions to ensure that the narratives were representative of the subject's true ability, thereby increasing the internal reliability of the data.

Participants

Three male children with known LILD and three aged matched typically growing male children without learning disabilities from the Cape Town, South Africa participated in this study. Table 2.1 provides a summary description of the subjects and controls.

	LILD1	NLD1	LILD2	NLD2	LILD3	NLD3
Chronological age at time of testing (yrs)	11.11	11.10	10.3	10.5	10.8	10.6
IQ	Below Average	With in normal range	Below Average	With in normal range	Above Average	With in normal range
Grade	4	6	4	5	4	5
Medication	Fixonase (for hayfever)	None	None	None	Ritalin	None
Previous Therapy	Regular school with Remedial Teaching	Regular school	Regular school Remedial Teaching	Regular school	Regular school Remedial Teaching Occupational Therapy (2 yrs)	Regular school
Current Therapy and Years in Therapy	Speech Therapy- 2.6 Occupational Therapy-2.0		Speech Therapy-2.0 Occupational Therapy-4.0		Speech Therapy 4.0	

Table 2.1: Biological and Educational Information of LILD and NLD subjects.

Procedure

Each participant was individually assessed across two sessions. This was to increase reliability of the samples and to rule out performance differences arising from subject variables. Context defined as three different narrative tasks: story telling, story generation, and spontaneous speech were used to analyse micro-structural features of narratives produced under different contexts. Each subject was required to produce both oral and written narratives in the same session on the same task. That is if they retold a story orally they were required to retell the same story in writing. Data on oral narratives were obtained first for all types of narrative tasks.

Narrative elicitation task

Story retell task was elicited by using 'Frog Story'. This story was specifically constructed for story grammar research. It consists of seventeen events and thirteen story grammar events (Ripich and Griffith, 1988). For *story generation task*, a single picture was shown to the children. This picture depicts a scene of a lion and a lioness fighting viciously. The child was expected to generate a story around this event. The child and one of the researchers were both engaged in a drawing activity for eliciting *spontaneous narrative* task. Whilst the researcher drew a picture she related one of her own narratives. The child was encouraged to do the same by asking him/her if anything like that has ever happened to him/her.

Environment and recording

Session one consisted of story retelling and session two included story generation and spontaneous narratives. No time limits were imposed for any task. Subjects were to write the written narratives on lined paper with a pen and

erasing equipment such as tippex was not provided. Oral narratives were video and audio taped. Both types of recording were used to reduce transcription errors due to recording variables. Each subject was required to read the written narratives aloud so that misspelled or illegible words could be resolved. In this study the protocol of Gillam and Johnston, (1992), was strictly used.

Transcription and treatment of narrative samples

Oral narratives were transcribed verbatim and then treated by excluding pauses and fillers such as "uhm" and "yeah". Unintelligible utterances were transcribed phonetically and included as one word. Written narratives were typed without alteration to their content, spelling punctuation, capitals, paragraph structure and format. Crossed out words were ignored. Illegible words were verified from the video recording of the subject reading the narrative. Treated narratives were reformatted according to the transcription format used in the Computerised Profiling (Long, Fey, Chanelle, 2000) computer program.

Analysis of Data

Frequency counts and the percentages were made for all the tasks across all the six subjects and displayed in the tables for planned comparisons across the tasks and within the subjects (see table 3.1; 3.2; 3.3) and later on analysed statistically. This involved scrutiny at the word and sentence level. The focus was to scrutinise language at the level of syntax, semantics, phonology or spelling in written narratives. The measures give an indication of the complexity and depth of the narrative produced. Productivity and form complexity were measure for oral narratives and specific analyses of writing were performed.

- Productivity: The total number of words and number of different types of words per t-unit[3] were calculated (Vorster, 1980)
- Form Complexity: The number of adverbs, prepositions and co-verbs[4] per t-unit were calculated as outlined in Test of Oral Language Production (Vorster, 1980)
- For Written narratives a specific analysis of writing was performed. Mechanical aspects of writing productivity, syntactic maturity, vocabulary and mechanics were analysed based on the scoring procedures used by Houck and Billingsley (1989).

Reliability

In order to determine the reliability, inter-rater and intra-rater reliability as well as coder reliability were used. The intra-rater and inter-rater transcription and coder reliability are presented in Table 2.2. Liles (1993) indicated that conflicting findings in many previous studies may be influenced by poor reliability. An arbitrary value of 90% reliability suggested by Strong and Shaver (1991) was decided as being the minimum acceptable reliability for the present study. Both transcription and coder reliability were calculated for the narrative to ensure that the results obtained for the analysis were valid. According to this criterion both intra-rater and inter-rater measures of reliability met the criterion, implying the results' accuracy.

	Intra-rater	Inter-rater
Transcription	96.2 %	94.9%
Coder	94.0%	91.2%

Table 2.2: Inter-rater and intra-rater transcription and coder reliability for narratives.

Results and Discussion

Productivity analysis

Productivity analysis was carried out for both children with and without LILD. Table 3.1 displays the productivity analysis. It was found that oral and written narratives of LILD subjects contained fewer t-units than controls' narratives. The number of words used by children with LILD and the control group in oral narratives were equally distributed. In the written narratives children with LILD used fewer numbers of words compared to typically growing children. Oral narratives of children with LILD had a higher number of words per t-unit than the oral narrative of controls groups. But written narratives of children LILD have a lower number of words per t-unit than the written narratives of controls groups. The type-token ratios (TTR) for oral and written narratives were lower for children with

[3] *The following formula was used:*

$$\frac{\text{The number of complex, grammatically correct T-units}}{\text{Total number of T-units}} \times 100$$

(Gillam and Johnston, 1992)

[4] *Co-verb indicates relationships between noun and the main verb and forms a setting for action of the main verb for this research. [E.g. Lions* are *fighting outside; [*are*] was considered as co-verb for this research].*

Participants	Narrative Types	T-units		Words		Word/ t-unit		Type-Token Ratio	
		Oral	Written	Oral	Written	Oral	Written	Oral	Written
LILD1	T1	10	7	77	57	7.7	8.1	3.6	2.8
	T2	4	5	39	31	9.8	6.2	3.1	2.2
	T3	16	5	167	45	10.4	9	4.7	3.1
LILD 2	T1	10	7	65	46	6.5	6.6	3.4	2.6
	T2	30	12	213	74	7.1	6.2	3.5	3.3
	T3	11	4	76	27	6.9	6.8	3.8	2.6
LILD 3	T1	6	6	66	43	11	7.2	3.8	2.7
	T2	5	4	37	29	7.4	7.3	3.0	2.6
	T3	7	3	87	19	12.4	6.3	3.6	2.4
Control 1	T1	12	10	82	75	6.8	7.5	3.3	3.8
	T2	8	6	75	66	9.4	11	4.3	3.7
	T3	25	12	220	97	8.8	8.1	5.4	4.2
Control 2	T1	8	8	58	64	7.3	8	3.9	3.8
	T2	5	6	54	48	10.8	8	3.0	3.6
	T3	7	2	43	32	6.1	10.7	3.7	3.5
Control 3	T1	10	6	73	55	7.3	11	4.1	3.5
	T2	13	10	86	87	6.6	8.7	4.0	4.2
	T3	14	10	128	83	9.1	8.3	4.4	4.2

Key: T1-Task 1 (story retell); T2-Task 2 (story generation); T3-Task 3 (spontaneous narrative); T-units- number of t-units; Words- number of words; Word/ t-unit- number of words per t-unit (one decimal place).

Table 3.1: Productivity analysis of oral and written narratives for three different narrative types for all participants.

LILD than for control groups. Mann-Whitney U test was used to check if these differences were statistically significant. It was observed that the differences between children with and without LILD in oral and written task were not statistically significant.

Analysis across oral and written tasks was also carried out. It was observed that the number of t-units and the number of words in the written narratives were lower for the children with LILD, but a similar trend was not observed for the control participants. Both the number of words and the number of t-units dropped for children with LILD but similar drop was not seen in the number of words per t-unit across oral and written narratives. The Type-Token Ratio for the children with LILD was lower in the written narratives than the oral narratives, a difference that was not present for the control groups. Nevertheless the differences were not found to be statistically significant. Analysis between narrative types showed that specific trends for the number of t-units, number of words and the number of words per t-unit were not observed across the different narrative types in the oral and written modes for LILD and control groups. The TTR tended to be higher in oral spontaneous narratives than retold or generated narratives for most LILD and control groups. At the same time, these differences were not found to be statistically significant.

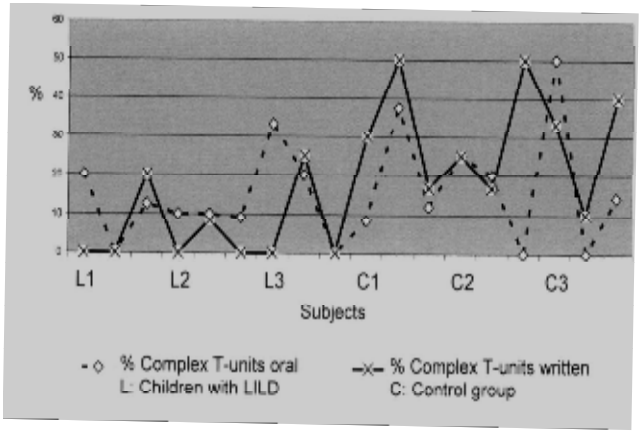

Figure 3.7: Percentage of Complex T-Units in oral and written task for all the subjects.

Form complexity

The results of the form complexity analysis of oral and written narratives produced by all participants are displayed in Table 3.2.

The percentage of correct complex t-units in the oral and written story retell tasks (T1), the story generation tasks (T2) and the spontaneous narrative tasks (T3) are graphically presented in Figure 3.7. It is observed from the figure 3.7 that

only one subject produced six adverbs, and others did not use adverbs in both oral and written tasks.

The prepositions were present approximately equally by both LILD and control groups in both the oral and written modes. Children with LILD used higher number of co-verbs in their oral narratives than control group. However, reverse trends were present in the written narratives of typically developing children. They were completely absent in the written narratives of LILD group. A higher number of correct complex t-units were present in the oral and written t-units narratives of children with LILD than their written narratives. However for the control group, the number of correct complex t-units decreased slightly. A fewer number of connectives per t-unit were used in written narratives compared to oral narratives. However, this difference was not statistically significant between the two groups and between oral and written task. A close observation across tasks revealed that prepositions were most commonly present in the story-retelling task whereby the topic influenced the inclusion of prepositions into narratives; co-verbs were most commonly present in the story generation. They

Participants	Narrative Types	Adverb		Prep		Coverbs		% Complex T-units		Connectives	
		Oral	Written	Oral	Written	Oral	Written	Oral	Written	Oral	Written
LILD 1	T1	0	0	3	3	3	0	20	0	1.3	0.9
	T2	0	0	0	0	2	1	0	0	0.5	0.6
	T3	0	0	9	3	4	0	12.5	20	1.3	0.8
LILD 2	T1	0	0	3	4	0	0	10	0	0.7	0.6
	T2	1	0	1	1	2	0	10	8.3	0.9	0.5
	T3	1	0	0	2	0	0	9.1	0	0.5	0.5
LILD 3	T1	0	0	1	2	0	0	33.3	0	1.8	1.5
	T2	0	0	0	0	1	0	20	25	0.8	1.5
	T3	0	0	2	1	1	0	0	0	1.3	1.0
Control 1	T1	0	0	0	3	0	1	8.3	30	0.9	0.5
	T2	1	0	2	1	2	2	37.5	50	0.6	0.3
	T3	0	0	4	0	0	1	12	16.7	1.7	0.3
Control 2	T1	0	6	0	3	0	0	25	25	1.3	0.1
	T2	0	0	0	0	0	2	20	16.7	1.6	0.2
	T3	0	0	0	1	0	0	0	50	1.4	1.0
Control 3	T1	0	0	2	2	1	0	50	33.3	1.6	1.2
	T2	0	0	1	1	1	2	0	10	1.3	1.2
	T3	0	0	6	4	1	3	14.3	40	1.4	0.8

Key: T1-Task 1 (story retell); T2-Task 2 (story generation); T3-Task 3 (spontaneous narrative); Adverbs- number of adverbs; Prep- number of prepositions; Coverbs- number of coverbs; %complex t-units- the percentage of correct complex t-units; connectives- the number of connectives per t-unit

Table 3.2: Form complexity analysis of oral and written narratives for three different narrative types for all subjects.

of control group versus those produced by LILD group which was found to be statistically significant using Mann Whitney U test ($p=.001$). This increase was particularly noticeable for written narratives. The number of connectives per t-unit present was generally equally across LILD and control groups' narratives.

It was observed that the uses of prepositions were fairly distributed across the oral and written modes in both the groups. However, LILD group used fewer numbers of co-verbs in the written narratives than the oral narratives. The number of correct complex t-units was higher in the oral were always present in the orally generated narratives for the LILD subjects. For most oral narratives a higher numbers of complex t-units were present in the generated narratives of children with and without LILD.

In summary we can say that oral and written narratives of children with LILD were less productive and less complex then the oral and written narratives produced by control children. In addition the oral narratives of LILD children were superior to their written narratives. Lastly oral spontaneous narratives were more productive in terms of the higher Type-Token Ratio and oral

generated narratives were more complex with regards to the number of complex t-units present. However a larger sample would be needed to assess if this fact can be generalised as an established trend. For the present study it can be assumed that the different types of elicitation tasks do not result in more productive or complex narratives. Regardless of presentation modality, children with LILD process language more slowly, thus reducing the ability to integrate information successfully (McFadden & Gillam, 1996) and retell the essential parts of the story when asked to do so. Including all story grammar parts in the analysis or total number of recalled story grammar parts may add stronger support to the notion that the children with LILD process language more slowly.

Participants	Narrative Types	Written Productivity		Syntactic Maturity	Vocab	Mechanics	
		Number of Sentences	Word/ sentence	Morpheme/t-unit	Words>7 letters	% correct caps	% correct spellings
LILD 1	T1	1	57	8.9	1	16.7	80.7
	T2	1	31	8	1	25.0	67.7
	T3	1	45	9.6	0	50.0	73.3
LILD 2	T1	4	11.5	7.1	2	60.0	84.8
	T2	4	18.5	6.6	9	61.5	58.1
	T3	1	27	7.5	0	33.3	85.0
LILD 3	T1	1	43	7.8	2	33.3	90.7
	T2	3	9.7	8.8	4	33.3	65.5
	T3	1	19	6.3	2	75.0	89.5
Control 1	T1	8	9.4	8.6	6	100	98.7
	T2	6	11	12.8	6	100	97.0
	T3	10	9.7	9.3	2	41.5	100
Control 2	T1	6	10.7	9.5	3	85.7	95.3
	T2	4	12	8.8	1	100	100
	T3	2	16	12.3	3	66.7	93.8
Control 3	T1	4	13.75	12.2	6	100	96.4
	T2	5	17.4	10	12	100	100
	T3	5	16.6	9.9	6	100	98.8

Key: T1-Task 1 (story retell); T2-Task 2 (story generation); T3-Task 3 (spontaneous narrative); Word/sentence- number of words per sentence; Morphemes/t-unit- number of morphemes per t-unit; Words>7 let- number of words greater then 7 letters; % correct caps- Percentage of correct capitalisation; % correct spellings- Percentage of correct spelling; Vocab-VocabularyInsert table 3.3 about here

Table 3.3: Written productivity, syntactic maturity, vocabulary and mechanics analysis of written narratives in three different narrative types for all subjects.

Specific Analysis of Writing

The third specific aim of the research was to perform a specific analysis of written narratives. The results for this analysis for the three different narrative types produced by all six subjects are shown in Table 3.3.

The results in Table 3.3 indicate that a greater number of sentences were used by the control group compared to children with LILD and a very high numbers of words were occasionally present in the sentences produced by children with LILD than the narratives used by control group. This could relate to punctuation errors whereby actual sentences were 'marked' within the written text as they were extremely long. If the intended number of sentences had been counted these values would have been much different. A lower number of morphemes per t-unit, number of words containing seven letters or more, the percentage of correct capitalisations and the percentage of correct spellings were present in the narratives of LILD subjects versus those produced by control subjects. Mann-Whitney U test was run to see the differences between the groups. Except for words per sentences all the other parameters were statistically significant (p = .001). As expected an analysis of the mechanical aspects of writing across the three different tasks did not indicate any particular trend. Results from the specific analysis of writing are in agreement to the findings of Newcomer and Barenbaum (1991). That is children with LILD have significantly compromised writing ability in terms of the mechanics of writing.

Conclusions

The present study aimed to evaluate oral and written narratives produced by children with LILD and compare them to the narratives produced by age matched control group across three narrative elicitation tasks, namely the story retell, story generation and spontaneous narratives. The study also aimed to assess the influence of context on three narrative elicitation tasks. The narratives were analysed in terms of micro-structure measuring productivity and form complexity. A specific analysis of writing was also performed. Stringent transcription and coder reliability measures were employed. The transcription and coder reliability measures the arbitrary criteria of 90% reliability set by Strong and Shaver (1991). From an examination of the influence of context on the narrative production, it appeared that the story retell task was frequently the most superior form of narrative production because this is essentially a short-term memory task. The narratives produced were superior due to the fact that an adult type model was available to the subjects.

The differences in the story retell and spontaneous narrative task lay in the fact that in story retell task children imitated an adult type model, whereas spontaneous narratives, information had to be retrieved from long-term memory and formulated by the children. The story generation task was self-contained less influenced by context compared to the other two tasks and hence it was the most salient task for the assessment of narratives. The poorest performances by children were for spontaneous narratives and differences between the two groups were highlighted in both the written and the oral mode. This may be the result of the high level of dependency on the surrounding context for spontaneous narratives. It may be concluded that the story generation task was a test of a children's ability to produce an adult like narrative and the spontaneous narrative task was most useful in highlighting differences between the two groups. Differences between the two groups were highlighted in the written mode as well. There was a larger discrepancy between the oral and written production of the children with LILD whereas this discrepancy was not evident in the control group. Thus due to difficulties with the mechanical aspects of writing and metalinguistic deficits for writing (Newcomer and Barenbaum, 1991) the children with LILD were unable to perform equivalently across the two modes.

With regards to the methods of analysis employed it appeared that the Type-Token Ratios were the most useful in differentiating between the two groups of subjects in both the oral and written modes particularly for spontaneous narratives. However large differences were apparent for all measures in the written mode. However the lack of normative data made it difficult to determine the adequacy of the productions. This not only motivates the need for narrative analysis as an assessment toll but also makes narrative analysis difficult to interpret.

The shortcomings in the present study were that subjects were not tested across time for the same narrative task, thereby ensuring the results reflecting the subject's true ability for that particular type of narrative were questionable. Secondly the study sample was small. Thus the study should be replicated using a larger subject sample. However the study illustrated that children with LILD have poorer narrative abilities compared to children without LILD. It is also illustrated that written narratives are poorer than oral narratives for children with LILD perhaps due to the fact that the mechanical demands are so high in written narratives that the individual may lose site of the message that they are conveying (Robson, 1988). Lastly the spontaneous narrative task was the most crucial for differentiating between the two groups. The story retell task appeared essentially a short-term memory task, useful for assessing the production of narratives following the presentation of an auditory model.

Implications and Future Research

This study highlighted the need for multiple narrative elicitation tasks during language assessment particularly the spontaneous narrative task. At present little information is available on the narrative production of older children with LILD. Hence further investigation in this population would enhance the language teaching model. Future studies may focus on comparing different types of narrative tasks and linguistic ability, whilst obtaining representative narrative samples for the same task over time. Lastly, Computerised Profiling (Long, Fey & Channell, 2000) appeared to be a timesaving tool for analysis of narratives. It was simple to use and provided quantified data regarding language.

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