

Narrative skills and Developmental Language Disorder (DLD) in Greek

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<https://doi.org/10.36505/ExLing-2023/14/0015/000609>

Abstract

Developmental Language Disorder (DLD), previously known as Specific Language Impairment (SLI), is a common developmental disorder that affects both preschool and school aged children. The language characteristics of children with DLD vary considerably with the main challenge being the learning of language structures and morphosyntactic and lexical limitations. In this paper the narrative skills of ten preschool and school age monolingual children (five with DLD and five with TD), 5 to 11 years old, matched on chronological age are examined at a macrostructure level, using the most common methods of evaluating narrative skills a) story retelling with pictures and b) retelling with pictures. Our results showed that the narrative abilities of children with DLD are more affected at the level of macrostructure than those of children with TD, especially in the parameters of story structure and structural complexity in retelling with pictures and in the parameter of story structure in story telling with pictures. Yet, in the case of internal state terms TD and DLD children seem to perform the same in both elicitation modes.

Keywords: narrative skills, Developmental Language Disorder, macrostructure, preschool & school aged children

Introduction

Approximately 7% of the population is expected to have Developmental Language Disorder (DLD), a disorder which is characterized by non-typical language development without an obvious cause, such as low general intelligence, neurological damage, hearing loss or autism (Botting, 2010). In particular, DLD is characterized by perceptual and expressive language deficits that include extensive use of immature phonological processes (Aguilar-Mediavilla et al., 2002), slow word retrieval and naming errors (McGregor et al., 2002), omission of morphological cues and shorter mean expression length. Those difficulties appear to affect the ability of children with DLD to compose and communicate age-appropriate oral narratives. Previous research has reported narrative deficits in DLD across measures of macrostructure, microstructure, and internal state language. As a group, children with DLD produce narratives with less sophisticated story grammar and referencing (i.e., macrostructure). Additionally, there is some evidence that narratives of children with DLD contain less internal state language (Altman et al., 2016). In this paper the narrative skills of monolingual children with DLD and children with

typical development (TD) are examined at a macrostructure level, using the most common methods of evaluating narrative skills a) story retelling with pictures and b) retelling with pictures. Our hypothesis is that the narrative abilities of children with DLD are more affected at the level of macrostructure than those of TD children.

Methodology

Participants and materials

The sample consisted of ten pre-school and first school age children (five with DLD and five with TD), 5 to 11 years old, matched on chronological age. For the selection of the sample a) Raven's Progressive Matrices test (Raven, 2015) b) Raven's Vocabulary Scales (Crichton Vocabulary Scales) c) the Greek version of the Word Finding Vocabulary Test (Renfrew, 1995) "Test of expressive vocabulary" (Vogindroukas, Protopapas, Sideridis, 2009) and d) the "Action Pictures: informational and grammatical proficiency test" (Vogindroukas, Protopapas, & Stavrakaki, 2009) were administered. The Multilingual Assessment Instrument for Narratives (MAIN) (Gagarina et al., 2019) was used in order to assess both groups in story telling with pictures and retelling with pictures. This test is used to assess narrative comprehension and production of children between 3 and 10 years of age. The parameters measured by the test, which measures retelling with pictures and story-telling with pictures, are story structure, structural complexity and internal state terms.

Table 1. Basic characteristics of the sample.

Group		DLD		TD	
		N	%	N	%
Gender	Boy	3	60.0%	3	60.0%
	Girl	2	40.0%	2	40.0%
Age (in years)	M (SD)	7.6 (2.7)		7.6 (2.7)	
	Range: Min-Max	5-11		5-11	
Educational level	School	4	80.0%	4	80.0%
	Preschool	1	20.0%	1	20.0%
Therapeutic intervention	Yes	4	80.0%	0	0.0%
	No	1	20.0%	5	100%

Based on the protocol in the section of production the maximum score on story structure is 18 points, 14 points on structural complexity and one point is awarded for each internal state term (IST). The Total number of IST in tokens is counted. The bigger total of points indicates a better performance. An experimental design was followed. Initially, the sample of preschool and first school aged DLD children was compared with that of TD at the level of

macrostructure. IBM SPSS Statistics 29.00.00 was used for the statistical analysis of the data. The independent-samples t-test was used in order to compare the means between two unrelated groups on the same continuous, dependent variables: story structure, structural complexity and internal state terms.

Results

According to our results, TD children outperform those with DLD in story structure in both elicitation modes; Retelling with pictures: DLD group: $M = 8.2$, $SD = 0.8$, TD group: $M = 11.0$, $SD = 1.7$, $p = 0.012$ and story-telling with pictures: DLD group: $M = 6.2$, $SD = 1.3$, TD group: $M = 8.6$, $SD = 1.7$, $p = 0.035$. Also, TD students presented a higher level of skills in structural complexity in the retelling tasks than students with DLD: DLD group: $M = 6.4$, $SD = 1.7$; TD group: $M = 9.6$, $SD = 1.7$, $p = 0.016$. Furthermore, the results show that the average level of skills in structural complexity is equivalent in the two groups in story-telling with pictures. DLD group: $M = 3.6$, $SD = 1.8$; TD group: $M = 4.2$, $SD = 1.6$, $p = 0.599$. Moreover, the average level of skills in internal state terms is equivalent in the two groups regardless of the task. Retelling with pictures task: DLD group: $M = 3.4$, $SD = 0.5$; TD group: $M = 4.6$, $SD = 1.7$, $p = 0.166$ and story-telling with pictures: DLD group: $M = 2.0$, $SD = 1.4$; TD group: $M = 2.4$, $SD = 1.71$, $p = 0.636$.

Table 2. Mean scores for story telling with pictures and retelling with pictures of TD & DLD children.

	Retelling with pictures						Story-telling with pictures					
	DLD		TD		t	P	DLD		TD		t	p
	M	SD	M	SD			M	SD	M	SD		
Story structure	8.2	0.8	11	1.7	-3.25	0.012*	6.2	1.3	8.6	1.7	2.53	0.035*
Structural complexity	6.4	1.7	9.6	1.7	-2.34	0.016*	3.6	1.8	4.2	1.6	0.55	0.599
Internal State Terms	3.4	0.5	4.6	1.7	-1.52	0.166	2.0	1.4	2.4	1.1	0.49	0.636

*statistically significant result

Discussion

The results of this study partly confirm our initial hypothesis that the narrative abilities of children with DLD are more affected at the level of macrostructure than those of TD children. DLD children scored lower than TD children in the parameters of story structure, structural complexity in the Retelling with pictures task and in the parameter of story structure in the story retelling with pictures task. Yet, their average level of skills in internal state terms are equivalent in the two groups (DLD & TD), regardless of the task. The findings

of this study are partly consistent with previous findings (Govindarajan, et al., 2022; Kraljević et al., 2020) which showed that children with TD outperform children with DLD at the macrostructure level in both conditions – story retelling with pictures and retelling with pictures and this could be attributed to the small sample size of our study. Yet, since this is a pilot study there is a need for further research with larger samples in order to fully confirm previous research in the field and elucidate the specific difficulties the children with DLD face in the domain of narrative skills.

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