Organização e narração de histórias por escolares em desenvolvimento típico de linguagem***

Story organization and narrative by school-age children with typical language development

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Abstract
Background: the narrative abilities provide valuable information about the linguistic, cognitive and social development of school-age children with typical language development (TLD). Aim: to examine the temporal ordering of figures and the narrative abilities of school-age children with TLD in relation to the type of discourse presented. Method: participants of this study included 60 children with TLD aged between seven and ten years of age. Fifteen stories were used in the study. Each story was illustrated by four figures. The sequences of figures were created and classified as mechanical, behavioral and intentional according to the relationships presented among the characters. Data were transcribed and analyzed regarding the type of discourse (descriptive, causal and intentional) and the type of organization of the figures. Results: no differences between age groups were observed for temporal ordering. For all age groups, the most frequently presented discourse type was the causal one. Statistically significant differences were observed among age groups for the causal and intentional discourse type. Inasmuch as the age increased, school-age children with TLD reduced the use of the descriptive discourse and increased the use of the intentional one. Conclusion: the ability of temporal ordering is already developed in children with TLD at seven-years of age. The type of discourse was influenced by age and by the type of story presented.
Key Words: Speech, Language and Hearing Sciences; Child Language; Language Development; Narration.

Resumo
Tema: habilidades narrativas em escolares com desenvolvimento típico de linguagem. Objetivo: analisar tanto a ordenação de figuras que compõem histórias, quanto a classificação do tipo de discurso empregado na narração dessas histórias por escolares em desenvolvimento típico de linguagem. Método: participaram deste estudo 60 escolares na faixa etária entre sete e dez anos de idade com desenvolvimento típico de linguagem. Foi utilizada uma série de 15 histórias, representadas por figuras, compostas por quatro cenas cada. Essas sequências foram criadas e classificadas em mecânicas, comportamentais e intencionais, segundo as relações envolvidas entre as personagens. Os dados foram transcritos e analisados conforme o tipo de discurso (descritivo, causal e intencional) e, além disso, foi pontuado o tipo de organização das figuras realizadas pelas crianças. Resultados: não foram observadas diferenças entre as faixas etárias em relação à ordenação temporal. Para todas as faixas etárias o discurso predominante foi o do tipo causal e houve diferenças estatisticamente significantes entre as faixas etárias para os tipos de discurso causal e intencional. Também se verificou que com o aumento da complexidade das histórias fornecidas e com o aumento da idade houve aumento do tipo de discurso intencional e diminuição do tipo de discurso descritivo. Conclusões: a capacidade de ordenação temporal já está desenvolvida aos sete anos e os tipos de discurso realizados sofrem influência da idade e do tipo de história fornecida.
Palavras-Chave: Fonoaudiologia; Linguagem Infantil; Desenvolvimento da Linguagem; Narração.

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Introduction

Telling a narrative is a complex task that requires the integration of linguistic, cognitive and social abilities. Its potential as clinic evaluation has recently been explored 1.

Studies carried out with English, Hebraic and Spanish speakers have found that the onset of narrative abilities seems to occur at three years of age. Between three and five years of age, the children progress from objects description and temporal sequences of relevant actions to the solution of problems toward the target question 2. Between six and ten years of age, children start to produce narratives that express the character's mental states, feelings and thoughts 3.

Some studies have suggested that the development of narrative abilities reaches its highest level of complexity around ten years of age 4,5. Nevertheless, other researchers have found that the narrative abilities continue to be enhanced during the adolescence and adulthood 6-8.

The aim of this study was to analyze the narrative abilities of school-age children with typical language development. The specific objectives were the following:

1. To analyze the temporal ordering of the figures that compound the stories;
2. To analyze whether the discourse differs according to the age range.
3. To analyze whether the type of discourse performed (descriptive, causal, and intentional) is influenced by the complexity level of the given story.

Method

This study was approved by the Ethics Committee for the Analysis of Research Protocols (CAPPesq) of the Clinical Board of the Clinical Hospital of the University of São Paulo Medical School, under protocol number 0666/07. The parents were informed about the aims and methods of the study and they signed the consent form, prior starting data collection.

All participants were selected from a state school, placed in the East Zone of the São Paulo city. In order to characterize the language performance of each subject, we carried out a language assessment that examined the following abilities: phonology, phonological awareness, reading and writing 9,10.

Sixty children of both genders, with ages ranging from seven to ten years were selected from those that have performed well in the language assessment. The inclusion criteria for these children comprehended the absence of language complaint or previous speech-language treatment, good communication skills, and satisfactory scholar performance according to their school teachers, and confirmed by the speech-language assessment.

The subjects were arranged in four groups according to the age range they belonged to, considering that each group should comprise 15 subjects.

To elicit the narratives we used a series of 15 stories represented by illustrations composed of four sequential scenes each. These sequences were created and classified as mechanical, behavioral and intentional, according to relationships between the characters. The classification used in this study11 is presented below:

. Mechanical I - Objects interacting causally with each other;
. Mechanical II - People and objects acting casually on each other;
. Behavioral I - A single person acting in everyday activities that do not require attribution of mental states;
. Behavioral II - A person acting in everyday social activities involving other people, and that do not require attribution of mental states;
. Intentional - A person acting in everyday activities that require attribution of mental states.

Based on the classification above described, 15 stories were created as well as their corresponding representational pictures12.

For data collection, each child was brought individually to a previously settled room, in which the examiner explained that those pictures compose a whole story. Then, the examiner presented the first scene of each story, and gives the other three pictures to the child, who was asked to organize them in sequence, based on his or her comprehension of the story elements. After the child has arranged the pictures in sequence, she or he was asked to narrate the story.

To minimize the influence of possible deficits in short-term memory, the pictures remained visible to the child during the entire process of narrative construction.

The pictures' ordering was registered in a specific protocol, elaborated by the researcher. All narratives were recorded in a Sony digital voice

recorder, and later transcribed and analyzed by the main researcher of this study.

For data analysis, we adopted the following criteria11:

1. Pictures Temporal Order - Score 2 was given to correct ordering; Score 1 was given when the story pictures two and three were misplaced; and Score zero was given for any other incorrect organization.

2. Discourse Type

. Descriptive - when there was no conective elements that stablish a sequential relationship among the scenes. In this discourse type, were included the narratives in which the figures were described isolatedly, that is, the constitution of the story was realized only semantically by the subject; or narratives in which the use of connective elements established an additive relationship among the scenes, without making a direct link between the happenings narrated in one scene and the happenings narrated in the subsequent scene.
. Causal - when the subject used expressions that were not direct determinants of cause, but expressed causality relationships. The narratives using additive conjunctions with causal value, narratives showing relation between two events ("to do something for a purpose"), narratives comprising causal conjunctions, or narratives in which the causal agent was explicit were all coded as causal.
. Intentional - when the subject used interjections or non-linguistic expressions that expressed the characters' desires or feelings; when the subject expressed the characters' mental states by the attribution or use of verbs that express desire; or when the characters' speech was narrated in the form of direct discourse.

If more than one discourse type were observed in the same narrative, only the most complex type of discourse was considered for analysis, according to the order above described.

For the statistical analysis we adopted the significance level of 0.05 (5%), and confidence intervals of 95%. Non-parametric statistical tests and techniques were used in view of the fact that the conditions (suppositions) for using parametric tests and techniques, such as the normal distribution (Anderson-Darling test, normal distribution graph, acronym AD) and homoscedasticity (homogeneity of variance, Levene test), were not found (specially the normal distribution) in this set of data.

Results

The Kruskal-Wallis statistical test was used to compare the scholars' performance in each age range concerning the temporal ordering task and type of discourse.

The results in the Table 1 revealed no significant differences among the age ranges concerning the temporal ordering task.

Regarding the discourse type, differences among the age ranges were found concerning the causal and intentional types. For the causal type, the differences between the age groups were significant between seven and eight-year-olds (p-value 0.024), with higher occurrence of this type of discourse at eight years of age; between eight and ten-year-olds (p-value <0.001), with higher occurrence at eight years of age; and between nine and ten-year-olds (p-value 0.003), with higher occurrence at nine years of age. For the intentional type, the differences between the age groups were significant between seven and nine-year-olds (p-value 0.030), with higher occurrence of this type of discourse at seven years of age; between seven and ten year-olds (p-value 0.040), with higher occurrence at ten years of age; between eight and ten year-olds (p-valor 0.002), with higher occurrence at ten years of age; and between nine and ten year-olds (p-value <0.001), with higher occurrence at ten years of age.

Therefore, the age groups were found to be homogeneous concerning the use of descriptive discourse type. Besides that, in all age groups, the causal discourse was predominant over the other discourse types, and the ten-year-old subjects presented higher use of the intentional discourse type than the subjects from the other age groups.

The comparisons among the discourse types produced for each story type were carried out using the Friedman Statistical Test.

The results in the Table 2 showed significant differences between the type of discourse produced by the subjects and the type of story provided.

The causal type of discourse was predominant in the mechanical stories (p-value <0.001), followed by the descriptive type (p-value <0.001), and by the intentional type (p-value 0.036). The causal type of discourse was also predominant in the behavioral and intentional stories (p-value <0.001), followed by the intentional type (p-value <0.001), and by the descriptive type (p-value <0.001), respectively.

TABLE 1. Comparison among the age ranges concerning the temporal ordering and the discourse type.

ɔurse / Temporal Ordering		Mean	Median	Standard Deviation	Q1	Q3	N	CI	Chi-square	DF	p-value
ɔtive	7 years	0.37	0	0.6	0	1	75	0.14	3.63	3	0.304
	8 years	0.23	0	0.6	0	0	75	0.13			
	9 years	0.35	0	0.6	0	1	75	0.14			
	10 years	0.31	0	0.6	0	1	75	0.13			
ɜal	7 years	2.25	3	0.9	2	3	75	0.20	16.04	3	*0.001**
	8 years	2.56	3	0.7	2	3	75	0.16			
	9 years	2.49	3	0.7	2	3	75	0.17			
	10 years	2.01	2	1.0	1	3	75	0.23			
onal	7 years	0.37	0	0.8	0	0	75	0.17	20.23	3	*<0.001**
	8 years	0.21	0	0.5	0	0	75	0.11			
	9 years	0.15	0	0.5	0	0	75	0.10			
	10 years	0.68	0	1.0	0	1	75	0.23			
oral ing	7 years	5.57	6	1.0	6	6	75	0.22	0.81	3	0.847
	8 years	5.55	6	0.9	5	6	75	0.21			
	9 years	5.57	6	0.8	5	6	75	0.18			
	10 years	5.68	6	0.7	6	6	75	0.15			

TABLE 2. Comparison between the discourse types produced according to the type of story provided.

ɔe/ Discourse Type		Mean	Median	Standard Deviation	Q1	Q3	N	CI	Chi-square	DF	p-value
	Descriptive	0.23	0	0.6	0	0	60	0.16	88.27	2	*<0.001**
	Causal	2.65	3	0.8	3	3	60	0.20			
	Intentional	0.12	0	0.6	0	0	60	0.14			
	Descriptive	0.30	0	0.5	0	1	60	0.13	94.69	2	*<0.001**
	Causal	2.57	3	0.7	2	3	60	0.18			
	Intentional	0.13	0	0.5	0	0	60	0.12			
ıl	Descriptive	0.53	0	0.9	0	1	60	0.24	94.99	2	*<0.001**
	Causal	5.22	6	1.3	5	6	60	0.32			
	Intentional	0.25	0	1.0	0	0	60	0.24			
	Descriptive	0.52	0	0.7	0	1	60	0.18	53.12	2	*<0.001**
	Causal	2.08	2	0.9	2	3	60	0.23			
	Intentional	0.40	0	0.8	0	0	60	0.21			
	Descriptive	0.28	0	0.6	0	0	60	0.14	66.27	2	*<0.001**
	Causal	2.25	2	0.9	2	3	60	0.22			
	Intentional	0.47	0	0.7	0	1	60	0.18			
ıl	Descriptive	0.80	1	1.0	0	1	60	0.25	67.21	2	*<0.001**
	Causal	4.33	5	1.4	3	5	60	0.37			
	Intentional	0.87	0	1.2	0	1	60	0.31			
	Descriptive	0.23	0	0.5	0	0	60	0.13	54.22	2	*<0.001**
	Causal	2.10	2	1.0	1	3	60	0.24			
	Intentional	0.65	0	0.9	0	1	60	0.24			

Mech. I – Mechanical I; Mech. II – Mechanical II; Mec. Total – Mechanical Total; Behav. I – Behavioral I; Behav. II – Behavioral II; Behav. Total – Behavioral Total

Discussion

Concerning the temporal ordering task, there was no significant difference among the age groups, that is, the performance was similar in all the groups. By the age of seven, a child appears to be competent in temporal ordering of scenes because in this age, the children usually start to use temporal markers in their discourse.

There is evidence in the literature that the six-year-old children are able to include chronological data in their narratives13.

Studies carried out with children with ages between four and six years have reported that they succeed in tasks involving temporal ordering of figures that compound stories 11,14-17.

Regarding the type of discourse produced, we observed that the descriptive type decreased and the intentional type increased with age.

These results reinforce the findings from other studies, which have reported that as the children get older and their argumentative abilities increase due to a greater life experience, their narratives both oral and written tend to be more extended and more syntactically and episodically complex, adding more information about emotion 18-21.

Finally, concerning the influence of the story complexity on the narratives, we found that the most complex stories tended to elicit more intentional discourses than descriptive discourses.

These findings corroborate other studies that tested several tools for eliciting the discourse production and reported the interference of the graphic material on the types of discourses presented by the subjects 22-24.

Conclusion

Our findings suggest that the capacity of temporal ordering is already developed at seven years of age. However, the type of discourse is influenced by the age and type of story used for its elicitation, that is, the children tend to perform a more complex discourse as they get older. Besides that, the type of story provided helps the production of a more or less complex discourse.

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