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Tutoring effects in the narrative skills of typically developing children

O efeito da tutela na narrativa de crianças em desenvolvimento típico

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Keywords

Language Development
Narration
Semantics
Mentoring
Child Language

ABSTRACT

Purpose: The objectives of this study were 1) To evaluate the tutoring effect on the type of the narrative produced by typically developing children, 2) To compare this effect between children from state and private schools and 3) to relate it with vocabulary, age and school performance. **Methods:** The sample was composed by 107 children from state and private schools, aged from 4 to 9 years, within typical development. Children's narratives were prompted by sequences of pictures and scored according to the type of discourse: descriptive, causal or intentional. Children's narrative performance was compared before and after tutoring, between (state and private school) and within groups. The type of narrative was correlated with vocabulary, age and school performance. **Results:** Before tutoring, most narratives were classified as descriptive. After tutoring, there was a predominance of intentional narratives. Children from state and private schools showed a similar response pattern with and without tutoring. After tutoring, the type of narrative showed significant correlation with vocabulary and academic performance. **Conclusion:** Tutoring improved the quality of children's narratives and this effect correlated with the vocabulary.

Descritores

Desenvolvimento da Linguagem
Narração
Semântica
Tutoria
Linguagem Infantil

RESUMO

Objetivo: Os objetivos deste estudo foram: 1) avaliar o efeito da tutela no tipo de narrativa produzida por crianças em desenvolvimento típico, 2) compará-lo entre crianças de ensino público e privado, e 3) relacioná-lo com o vocabulário, faixa etária e desempenho escolar. **Método:** A amostra foi constituída por 107 crianças de escolas pública e particular, de 4 a 9 anos, em desenvolvimento típico. As narrativas das crianças foram eliciadas a partir de sequências de figuras, e pontuadas de acordo com o tipo de discurso: descritivo, causal ou intencional. O desempenho narrativo foi comparado antes e após a tutela, intra e entre grupos (escola pública e particular). O tipo de narrativa foi correlacionado ao vocabulário, idade e desempenho escolar. **Resultados:** Antes da tutela, a maioria das narrativas das crianças foi classificada como descritiva. Após a tutela, houve predominância de narrativas do tipo intencional. As crianças de escola pública e particular apresentaram desempenho semelhante quando comparado o tipo de narrativa utilizada sem e com tutela. Após a tutela, o tipo de narrativa apresentou correlação significante com o vocabulário e com o desempenho escolar das crianças. **Conclusão:** A tutela é promotora da qualidade da narrativa produzida pelas crianças e este efeito apresentou correlação com o vocabulário.

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INTRODUCTION

Over the child development, one of the most significant skills for the evolution of communicative functions is to narrate stories. This skill is used to report on own experiences or to describe facts from the perception of temporality, causality and intentionality relations[1-3]. The development of the narrative involves the understanding of the existence of characters, the role that they play in different sets and the relations that they establish with other characters, as well as the skills to explicitly state these relations verbally.

Account to the complexity of this process, it is natural that there is great variability in the type and quality of narratives elaborated by children throughout development. This variability depends largely of the linguistic factors[4] (e.g., semantic-lexical and morphosyntactic knowledge), cognitivist (e.g., understanding of temporal, causal, and intentionality relations) and social (schooling, socioeconomic level, school type). The linguistic factors that influenced the development of the narrative involve especially the domain of the semantic and syntactic aspects of the language. For example, it is essential for a child to have a good lexical repertoire so that they can tell a story[5].

The development of language skills favors and expands the vocabulary and enriches the grammatical structure used by the individual[5-8]. Therefore, the possibility exists that the narrative depends on factors such as previous vocabulary and the context in which the narratives are performed. With increasing age, schooling and cognitive ripening, the child's syntax and vocabulary develop, and this makes the narrative structure more complex and elaborate. Thus, it is evident that the acquisition of vocabulary and conventions of language are necessary and predictive of coherent narrative discourse[9-11].

The children's narrative skills during school life can be considered as an important precursor of school performance, especially when related to deviant children of typical academic and language development[8].

Aside from the linguistics skills, the development of narrative requires sophisticated cognitive skills. The narrative is structured and processed from personal experience and social needs and implies to consider the interlocutor[12]. The skills of attributing mental states and understanding their intentions and wishes and those of other people are necessary to narrate. These skills are called Theory of Mind[13]. During the recount, the Theory of Mind can help the child understand the intentionality of the characters and verbally express it so that the listener can understand the story in its entirety[14,15].

Finally, it is known that narrative, like many other language skills, suffers great influence from social aspects. The socioeconomic and cultural level, the family linguistic environment and the quality of the school are factors that influence the development of vocabulary[5,16], phonology[7] and academic performance[17]. The social interaction and the cultural environment which the children are inserted influence their linguistic performance. Studies that correlate the conversational style of the parents with the development of the narrative have shown that conversations that involve more comments and questions made by the interlocutor, favor the development of the narrative[12,13]. The school context in which the child is inserted (state or private school), for example, can have a great impact on the development of their linguistics and academic competences[5,8]. There is scientific evidence that children in private schools present a better performance than children in state schools, in vocabulary tasks[9], phonological awareness[10], comprehension[11], and school readiness[9]. These differences in children's performance reflect the discrepancy in the quality of teaching among schools, a complex and multifactorial issue that is related to teacher training and remuneration, pedagogical guidelines, physical and human resources, socioeconomic and socio-cultural conditions, among others[9].

Both linguistic and social factors act in an integrated way for the development of the narrative, and develop over time. By the age of two the child begins to correlate facts[17]. Between three and four years old, the reports present a greater number of sentences linked and still with the presence of some narrative markers, as connective[15,17]. From the age of four to six years, the acquisition of the structure of the narrative text is complete and children begin to narrate with coherence stories, whether they are known, their experiences or invented stories[16,17].

Thus, because narrative is a linguistic skill that develops over time, it is possible that in some stages the child may already be able to develop a narrative in a satisfactory way, but he cannot do it himself, spontaneously. The shared reading of stories by adults and children can be a resource that promotes the development of narratives, contributing to the development of socio-cognitive and language skills[18]. The adult can assume diverse tutoring axes in activities of communication, comprehension and production during a communicative context with the child. (S)he can take roles such as: who gives instructions or tips, who exposes knowledge or who supports the subjects in their attempts at verbalization. Thus, it is possible that it contributes to the discursive elaboration of the child[19].

In this way, the narrative of young children may be dependent on tips or questions (i.e., tutoring), which direct them to the discursive topic, while older children may not need these clues as much. The purpose of this study was to evaluate the effect of tutorship on the type of narrative produced by typical children aged 4 to 9 enrolled in state and private schools and relate it to vocabulary, age and school performance.

METHODS

This is a cross-sectional observational study, approved by the Institution's Ethics Committee under protocol number 0561/2016.

Participants

The sample consisted of 107 children of both genders, enrolled in state and private schools in the cities of Ribeirão Pires and São Paulo. The age range was 4 to 9 years, and the schooling of these children ranged from Preschool until the 3rd year of Elementary School I. As exclusion criterion, the presence of previous diagnoses related to developmental disorders was considered. All children had the Consent Form fulfilled and signed by their legal guardians.

Materials

Main outcome

Narrative

The oral narrative evaluation was based on speech samples elicited by two stories: one elaborated by Baron-Cohen et al.[20] and the other by Eva Furnari[21]. Both stories are composed of four scenes and contain no written content.

The figures that compose each story were presented by the evaluator who made the following request to the child: "These images compose a story, look at all of them and place in the order that you think shapes the story". The child should temporarily order the images of the story to subsequently elaborate a narrative from the observation of the figures, without the intercession of the evaluator in the first instant. If the child did not narrate according to the intended topics, the evaluator interceded with the tutorship, which consisted of questions that directed the child's narrative and attention to the main scenes in which inferences occurred. The tutoring was used when the child did not narrate the expected form, for example, when describing only the action of the characters or did not signal the character's mental state or feeling (the topics foreseen in each story and the instructions given for tutorship are presented in Annex 1). The narrative was recorded and later transcribed and analyzed.

For the analysis of results related to narrative production, the criteria according to Baron-Cohen et al.[20] were used. These criteria are related to the type of discourse used by the patient. They are: Descriptive - There is no presence of connectives that provide a sequential relation between the scenes. On this criterion, were included the narratives in which the figures are described separately; or the use of connectives that provides only an additive relation between the scenes, without relating the events between the scenes during the narrative; Causal - Use of expressions that determine a causal relation. Included in this criterion were narratives that use additive conjunctions that demonstrate that one event occurred only due to another, or the use of causal conjunctions or explanation of the causative agent; Intentional - Use of non-linguistic interjections or expressions that express the character's desire or feeling, or expression of the character's mental states, or when the narrative occurs in the direct speech form.

Still on the narrative, the scores attributed for each type were related to the complexity of this, that is, for the Descriptive type was assigned score 1; Causal, score 2; and for the narrative of Intentional type was assigned score 3. Besides these scores, was assigned score 0 for children who refused to narrate the stories. This score was used for each narrative performed by the child, both in the Bahon-Cohen et al. images[20] and in the images of Eva Furnari[21]. For the final result of each individual, the scores obtained in the two stories narrated (possible score 0 to 6) were added.

Secondary outcomes

Vocabulary

For the evaluation of vocabulary, the Expressive Vocabulary Test[22] was used.

In the vocabulary assessment, the evaluator used to sit at the table facing the participant, with the figures positioned in front of the child, presenting them one by one. The evaluator asked the question "What is this?" for all figures. All children's responses were transcribed into a specific test protocol and analyzed by the evaluator.

When the child correctly named, it was assigned 1 point, when (s)he named in a different way than expected, the score was considered 0.

School performance

For the evaluation of the school performance, a questionnaire was developed with questions regarding the participation, interest and quality of the tasks performed by the students, as well as their communicative and learning abilities.

The School Performance Questionnaire was answered by the teachers, and was composed of 7 questions. Each question had three possible answers: when the student was "below the class average" for a given question, a score of 0 was assigned; "In the class average", score 1; and "above the class average," score 2. The overall score on the questionnaire was a result of the sum of the score obtained for each question.

Procedures

The evaluations were done individually within the school environment and took an average of 20 minutes each. The evaluation was divided into three parts: first, the lexical inventory was evaluated through the Expressive Vocabulary Test[22]. Then, the figures for the production of the oral narrative were presented. At the end of the evaluation, the teachers answered questionnaires about the school performance regarding the evaluated students.

Data analysis

Initially, to verify the effect of tutorship on the type of narrative, the performances of children before and after tutorship were compared. The Wilcoxon Signed Ranks Test was used to verify the difference between the type of narrative before and after tutorship.

After that, the performances between state and private school children were compared from the Mann-Whitney test.

Finally, in order to verify the relation between age, vocabulary, academic performance and narrative type, simple and partial correlations were performed.

RESULTS

Effect of tutoring on the type of narrative

The type of narrative presented by the children before the tutoring was inferior (Median = 2) to the type of narrative used after tutoring (Median = 5), T = 0, p <.001, r = -49, which shows that tutoring had a positive effect on children's performance.

Before tutoring, most children's narratives were classified as descriptive (59.8% for the Baron-Cohen et al.[20] story and 76.6% for the Eva Furnari[21] story), while causal and intentional narratives represented respectively 4.7% - 10.3% and 18.7% - 29.9% of answers. However, after the tutoring, narratives of the intentional type predominated, both for the Baron-Cohen et al.[20] story (57.7%) and Eva Furnari[21] story (58.9%). Thus the results indicate an improvement in the kind of narrative used by the children at the time after tutoring, as shown in Table 1.

Comparison between the performance of state and private school children

State and private school children presented a similar performance when compared to the type of narrative used without tutoring (T = 2553.5, p = .517, r = -06). At the time the evaluator interceded with the tutoring, the children maintained similar performance regardless of the type of school (T = 1094.0, p = .936, r = -.01). (Table 2)

Although quantitatively was not observed distinction in the type of narrative and type of school, it was possible to observe a slightly different pattern as the evolution of the narrative throughout the school year in post-tutoring condition (Figures 1 and 2). While children enrolled in private schools tend to establish their narrative in a complex way between the 1st (first) and 2nd (second) years of Elementary School I, children of public education go through the same process a year later, between the 2nd (second) and 3rd (third) year.

Correlations between narrative type and secondary outcomes

From simple correlations between the variables, it was possible to observe the relation between the type of narrative and other abilities. Before tutoring, the type of narrative used by the children presented a moderate positive correlation with the vocabulary (r = .651) and with age (r = .666). However, when the variable "age" was controlled (partial correlations), the correlation between type of narrative and vocabulary became a weak correlation (r = .011, p = .246), showing that age is the variable that has correlation with the type of narrative.

After the tutoring, the type of narrative used by the children showed a significant correlation with the children's vocabulary (r = .239) and school performance (r = .362), but not with age (r = .042, p = .250). That is, the change in the type of narrative directed by the tutoring does not depend on the age of the individual, but is influenced by his/her lexical knowledge.

Table 1. Type of narrative before and after the tutoring

	Type of Narrative	
	Without Tutoring	With Tutoring
N	107	67
Median	2	5
Minimum	2	2
Maximum	6	6

Table 2. Type of narrative compared to the teaching modality

			Type of Narrative	
			Without Tutoring	With Tutoring
Type of school	Private	N	49	32
		Median	2	5
		Minimum	2	2
		Maximum	6	6
	State	N	58	35
		Median	2	5
		Minimum	2	2
		Maximum	6	6

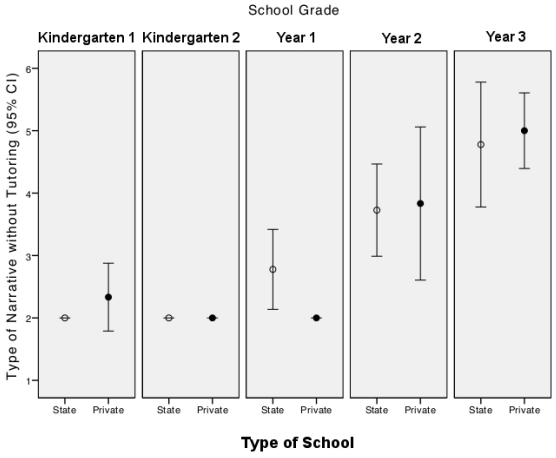

Figure 1. Type of narrative without tutoring of state and private school children, separated by school year

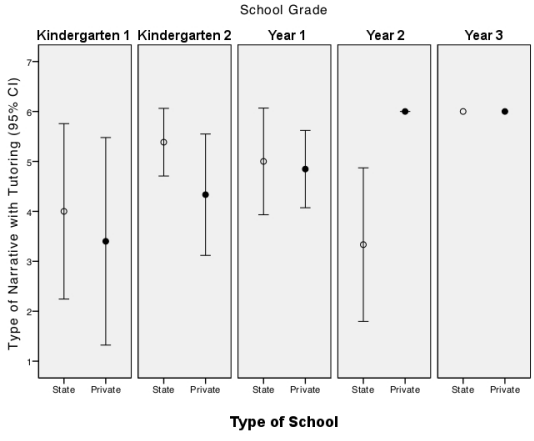

Figure 2. Type of narrative with tutoring of state and private school children, separated by school year

DISCUSSION

This study seeks to evaluate the effect of tutoring on the type of narrative produced by typical children, and to compare the performance between children enrolled in state schools and private schools. Furthermore, it also aimed to relate this performance to vocabulary, age group and school performance. The results indicate that, preceding the tutoring, most children's narratives were classified as descriptive. However, after the tutoring, narratives of the intentional type predominated. Also, no significant values were found when the narrative of state school students was compared with those from private education.

Based on the results, it is possible to infer that tutoring is a promoter of narrative discourse, that is, after the evaluator's interference; most children were able to reproduce a narrative with greater complexity, regardless of the type of school they attended. This change suggests that the tutoring directs the attention of the students to the events of greater relevance, favoring the understanding of the story and the elaboration of the narrative. This finding is consistent with the study developed by Verzolla et al.[23], whose results showed that the effect of tutoring improves the quality of the narrative, since the children after tutoring increased the number of events narrated during the reevaluation. Therefore, tutoring is a sociolinguistic interaction that is effective in improving children's linguistics skills.

Besides that, it was observed that the higher the child's age, the better his narrative ability and that school performance had a moderate correlation with age and vocabulary. After tutoring, however, age was no longer a relevant variable for the quality of the narrative, at least for the children in this sample. About the vocabulary and school performance were positively correlated with narrative production. In other words, the greater the linguistic potential of the child (in terms of vocabulary and school performance), the more they benefit from tutoring regardless of their age.

A study produced by Rodrigues et al.[24] analyzed the attribution of mental states in the narrative of preschool children from images. The study describes children's greater ease in narrating observable behaviors, such as character actions, than attitudes involving implicit actions. The narrative produced from figures by children between 4 and 5 years old is focused on the description of the images, and this implies the non-realization of inferences present in the scenes[23]. This agrees with what was observed in the present study, since the type of intentional narrative requires the understanding of inferences present in the story, and the children of the sample obtained predominantly the type of descriptive narrative at the moment antecedent to the tutoring, in which they narrated the facts observable through the images.

During the analyses, it was observed that, at the pre-tutoring moment, the older the child, the greater the complexity of his narrative. Thus, the Intentional type was used by older children, who presented in their oral productions a greater number of interjections and attribution of mental states to the characters. This finding is in agreement with the literature, the narrative is possibly the reflection of the stage of development in which the child is[25]. The temporal reference based on images that compose a story appears around the age of 4 years, and this broadens significantly at 6 years of age[2]. Thus, the findings of this study corroborate with the literature and show that the performance of the younger children is different from the older children, since they are already with the most well established time reference.

After tutoring, the children broadened their narratives and went on to mention the possible mental state of the character and his intentionality. This observation agrees with the findings of authors such as Verzolla et al.[23]whose results indicate that at the time of the second narrative there is a broad in the number of events, after tutoring by the adult. Children who presented a more complex narrative after the tutoring were those with the best vocabulary and school performance, regardless of age. Thus, it was possible to observe that the positive effect of tutoring did not depend on the child's age, but on their linguistic potential, since children with good language performance were the ones who benefited the most from tutoring.

Furthermore, some studies suggest that promoting children's narrative production involves the use of activities that strengthen structural history knowledge and metacognitive skills, exposing them to opportunities to compose and extend linguistic aspects of complex narratives, and systematically decrease the amount of support (i.e., tutoring) given to children as they develop their own narrative[9,17-19].

According to the literature, the children inserted in the private education stand out in the academic and linguistic performance when compared to the children in the public education. This happens because the deficit school context may become a risk factor for academic performance[8]. Hage et al.[5] affirmed that the use of narrative presents a greater incidence in the discourse of the children of private schools. Besides that, the author points out that in private education there is frequent use of strategies to stimulate the children's narrative. However, this was not observed in the results of this study. The narrative performance of children in state and private schools did not show distinctions, both at the pre-tutoring and at the time after this, so this goes against the hypothesis of this study. This result may be related to the socioeconomic and educational characteristics of the state school in which this research was developed. Through the INEP (National Institute of Educational Studies and Research Anísio Teixeira) website[26], it was possible to observe that the BEDI (Basic Educational Development Index) of this school is higher (BEDI: 6.5) than that of other state schools in the city of São Paulo. Ribeirão Pires (BEDI: 6.0, region average). Besides that, the site reports that the institution's children show high socioeconomic level (Socioeconomic Level Indicator: High).

Although the quantitative values do not indicate differences in narrative, the qualitative results suggest that children inserted in a particular school context tend to establish their narrative

in a complex way between the 1st (first) and 2nd (second) years of Elementary School I. The child from public education stabilizes his narrative later, between the 2nd (second) and 3rd (third) years.

Another relevant finding in this study was that both variables that were related to the tutoring effect (vocabulary and academic performance) correlated with each other. That is, the better the child's vocabulary, the better his academic performance. This finding, in itself, had already been demonstrated in other studies[27], but here we suggest that both variables contribute to the improvement of the narrative after tutoring.

The narrative skill is crucial for children to succeed in achieving good performance in tasks such as oral and written comprehension. Unfortunately, school-age children who are deficient in language are disadvantaged during the school period because they lose a lot of classroom instruction because they incorporate some degree of narrative discourse in the activities[16]. Thus, it is necessary to promote narrative skill through tutoring, both in the clinic and in the school environment, as they may favor and broaden the linguistic performance.

In front of this study, it can be affirmed that the intervention of language carried out through the tutoring of the adult contributed to the increase of the complexity of the narratives of the students, mainly with increased understanding of inferences. Thus, it is concluded through the results obtained the importance of the continuity of studies related to the development of the narrative of schoolchildren, given their importance in the development of linguistics skills.

CONCLUSION

The tutoring facilitated the production of narrative in typical children, since the type of narrative prevailing after the tutoring changed from Descriptive to Intentional. The first narrative production of children correlated with age, demonstrating that spontaneous narrative production has a relation with language development itself. However, after the tutoring, age was no longer relevant to the quality of the narrative, and the variables that became relevant were vocabulary and school performance. Therefore, we conclude that if the child has a good linguistic potential, he or she benefits from the tutoring, regardless of their age.

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Author contributions

HGS participated in the design stages of the study, data collection and analysis, discussion of the results and writing of the scientific article; BSB: participated in the design stages of the study and revision of the scientific article; JP participated in the design stages of the study and revision of the scientific article; MLP participated in the study design, data analysis, discussion of the results and writing of the scientific article.

Annex 1. School performance questionnaire

Student's Name: _____ ID: _____

Class: _____ Teacher's Name _____

1. The student participates in the activities developed during the lesson:
(_) below the class average
(_) in the class average
(_) above the class average

2. During the classes, the student shows interest in the activities developed:
(_) below the class average
(_) in the class average
(_) above the class average

3. The student performs tasks and / or requested activities:
(_) below the class average
(_) in the class average
(_) above the class average

4. Are there any complaints about the student's learning difficulty?

(_) Yes (_) No

5. The student's school performance can be considered:
(_) below the class average
(_) in the class average
(_) above the class average