ARTICLES

ARGUMENTATIVE STRUCTURE IN BRAZILIAN STUDENTS' TEXTS

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ABSTRACT

This paper aims at showing that argumentative structures are present in texts written by students of a public primary school in Brazil. Our research was guided by three questions: 1) What argumentative chains are present in texts? 2) What conjunctions do students employ to create argumentative chains? 3) To what extent does the ability to use argumentative chains change along primary school? The corpus *analysed comprises 123 texts written by a group of nine students attending from second to fifth school year. Both quantitative and qualitative analyses were conducted. The analysis showed that participants were able to use argumentative chains in their texts since the beginning of the research, with predominance of normative chains. Moreover, it was possible to verify an increase in the number of semantic blocks in participants' texts. These findings point to changes in both school curricula and language teaching classes.*

WRITING • ARGUMENTATION • CURRICULUM • DEVELOPMENT

ESTRUTURA ARGUMENTATIVA EM TEXTOS DE ALUNOS BRASILEIROS

RESUMO

O artigo mostra a ocorrência de encadeamentos argumentativos em textos redigidos por alunos do ensino fundamental I em uma escola pública brasileira. A pesquisa, de caráter longitudinal, foi norteada por três questões: 1) Quais encadeamentos argumentativos ocorrem? 2) Quais conjunções são empregadas para criar encadeamentos argumentativos? 3) Em que medida a habilidade de usar encadeamentos argumentativos muda ao longo do fundamental I? O corpus analisado compreendeu 123 textos escritos por nove participantes no período em que cursavam do 2º ao 5º ano do ensino fundamental. Análises quantitativas e qualitativas foram feitas. O estudo mostrou que os participantes conseguiram empregar encadeamentos argumentativos desde o início, com predominância dos normativos. Ademais, verificou-se um acréscimo no número de blocos semânticos nos textos dos participantes. Os achados apontam para mudanças na pesquisa a respeito da argumentação e nos currículos escolares.

ESCRITA • ARGUMENTAÇÃO • CURRÍCULO • DESENVOLVIMENTO

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LA STRUCTURE ARGUMENTATIVE DANS DES TEXTES D'ÉLÈVES BRÉSILIENS

RÉSUMÉ

Cet article concerne la présence d'enchaînements argumentatifs dans des textes écrits par des élèves de primaire d'une école publique brésilienne. La recherche se base sur trois questions: 1) quels types d'enchaînements argumentatifs sont produits? 2) quels connecteurs logiques sont employés pour créer ces enchaînements ? 3) et dans quelle mesure la capacité d'utiliser des enchaînements argumentatifs évolue-t-elle au long du primaire? Le corpus analysé comprend 123 textes rédigés par neuf participants, allant du CE1 au CM2. Des analyses quantitatives et qualitatives ont été effectuées. L'analyse a montré que les participants étaient en mesure d'employer des enchaînements argumentatifs dès le début, principalement ceux de type normatif. En outre, une augmentation du nombre de blocs sémantiques a été observée dans les textes des participants. Ces résultats indiquent que des changements devraient être apportés à la recherche concernant l'argumentation et les programmes scolaires.

ÉCRITURE • ARGUMENTATION • CURRICULUM • DÉVELOPPEMENT

ESTRUCTURA ARGUMENTATIVA EN TEXTOS DE ALUMNOS BRASILEÑOS

RESUMEN

El artículo muestra la situación de los encadenamientos argumentativos en textos redactados por alumnos de la Enseñanza fundamental I en una escuela pública brasileña. La investigación fue orientada por 3 preguntas: 1) ¿Qué encadenamientos argumentativos ocurren? 2) ¿Qué conjunciones se emplean para crear encadenamientos argumentativos? 3) ¿En qué medida la habilidad de usar encadenamientos argumentativos cambia a lo largo de la Enseñanza Fundamental I? El corpus analizado comprendió 123 textos escritos por nueve participantes estudiando del 2º al 5º año de la escolarización. Se realizaron análisis cuantitativos y cualitativos. El análisis mostró que los participantes lograron emplear encadenamientos argumentativos desde el principio, con predominio de los normativos. Además, se verificó un aumento en el número de bloques semánticos en los textos de los participantes. Los hallazgos muestran cambios en la investigación acerca de la argumentación y en los currículos escolares.

ESCRITURA • ARGUMENTACIÓN • CURRICULUM • DESARROLLO

This article focuses on the linguistic resources chosen by children while writing argumentative texts. It aims at showing that structures of argumentation are present in texts written by young students from a public primary school in Brazil, a country where this ability is not taught at primary school. This issue requires attention once the writing of argumentative texts is demanded from students who aim to attend renowned universities.

A number of previous studies has focused on the act of arguing in the writing of children at primary school level. These studies are either descriptive or pedagogic. Most of the descriptive ones examine the properties of argumentative writing at different grade levels (KNUDSON, 1992; LEITÃO; ALMEIDA, 2000), age groups (COIRIER; GOLDER, 1993; POUIT; GOLDER, 2002), and even levels of cognitive maturity (PINHEIRO; LEITÃO, 2007). Other descriptive studies produce a linguistic or discursive characterization of argumentative texts produced by children (FERRO, 1997; BARROS, 2004; AGUIAR, 2005; CAMPOS, 2005; RIOLFI; COSTA, 2011).

Conversely, pedagogic studies discuss ways to help children improve their argumentative abilities in writing. Some argue in favour of oral discussion and training (AURIAC-PEYRONNET, 2001; REZNITSKAYA; ANDERSON; KUO, 2007), while others hold that it is not necessary to privilege content or audience goals, since both provide better results than general goals (MIDGETTE; HARIA; MACARTHUR, 2008).

Regardless of their differences, these studies show that there is progression in arguing as children grow up or are exposed to better teaching techniques. Furthermore, they reveal that even primary school children can argue using relevant arguments and linguistic marks of argumentation.

Despite these findings, very few studies have investigated the nature of the linguistic marks used by students. Therefore, this work aims at contributing to the ongoing discussion on this matter by articulating both the descriptive and pedagogic viewpoints. In adopting this approach, this study focuses on the learning of argumentation strategies by examining how research participants related arguments to conclusions, in other words, how they produced semantic blocks (CAREL; DUCROT, 1999).

The importance of this work derives from its novel aim: exploring whether argumentative chains (CAREL; DUCROT, 1999) are present in children´s written texts since the first years of school, before they have been formally taught the typology of argumentative texts.

LEARNING HOW TO ARGUE

The act of arguing does not commence at school. As soon as children learn how to speak, they try to persuade others (PEREIRA DE CASTRO, 2001). Although they use arguments in their daily lives to attempt to acquire what they want, considerable time passes before children can learn how to produce argumentative texts, since writing demands different skills. For this reason, it is very difficult for primary school children to anticipate the reader of the texts they produce.

According to Riolfi (2004), when children start school, they tend to forget that they like playing with words; instead, they choose to use language as if it were only a communication device, that is, they forget that it is possible to use language both to pose problems and to solve them.

Children tend to say exactly what is in their minds because they are not able to calculate most of what can or cannot be said according to the norms of society. They have not yet learned that, in social life, the preservation of one's self-image and reputation is necessary to resolve one's problems in the most convenient manner. Therefore, they tend to be poor authors of argumentative texts because they initially privilege the referential function of language, which is centred on the context of verbal interaction (JAKOBSON, 1960).

It takes time for children to master, in writing, the other language functions (JAKOBSON, 1960), namely: *emotive,* which is focused on the sender and aims at arousing some type of emotion; *conative,* aimed at the receiver and expressed through imperatives and vocatives;

phatic, centred on contact, prolongs or interrupts communication in order to verify whether the channel is working; *metalinguistic,* centred on the code; and *aesthetic/poetic,* which focuses on the message and is present in the exploration of figures of speech, as well as word and sound combinations. In reading texts written by children, one rarely finds, for instance, figures of speech or rhetorical strategies (RIOLFI; MAGALHÃES, 2008).

In order to investigate and explain how children progressively learn to employ written language to influence his or her reader, this study adopts the perspective of the Russian psychologist Lev Semenovich Vygotsky (1978), who holds that "learning and development are interrelated since the child's very first day of life" (VYGOTSKY, 1978, p. 84).

It is important to note that, for Vygotsky (1978), the notion of *development* is not biological; rather, he links human development with the quality of the social relations in which children are immersed. For Vygotsky (1930/1978), the act of teaching something to a child goes through a cycle, so that the more a child learns, the more he or she develops and vice versa.

Furthermore, he considers the process of learning to be that of concept internalization, or "the internal reconstruction of an external operation" (VYGOTSKY, 1930/1978, p. 47). The process of concept internalization involves significant transformation enabled by the subject's engagement in social relations. Initially, the person relies on external regulators in order to know what to do; subsequently, he or she becomes able to control his or her behaviour by relying on purely internal processes.

For Vygotsky (1930/1978), the gesture of pointing is an example of internalization. He suggests that children "learn" how to point through the failed attempt to hold an object. Having observed that their mothers gave them the object that they had tried in vain to hold, children discover the social function of pointing. Thus, pointing becomes a gesture made for persuasion purposes.

The adult plays a very important role in the development of the child. According to Luria and Yodovich (1971), one of the most important functions an adult performs for a child is naming the objects of the world and enlightening the child regarding their predicates, for instance "glass" (name) and "drink" (predicate). The authors emphasize that these actions are very important in the formation of the mental processes of a child. In this respect, they isolate the essential elements and, therefore, relegate the less important ones to a secondary phase. They assert:

> This whole process of the transmission of knowledge and the formation of concepts, which is the basic way the adult influences the child, constitutes the central process of the child's intellectual development. (LURIA; YODOVICH, 1971, p. 22)

It may thus be inferred that human beings are dependent on external help to internalize knowledge. Children need the help of a more capable peer or a teacher who can motivate students to go beyond their comfort zone and help them achieve their "zone of potential development" (VYGOTSKY, 1930/1978).

THE TEACHING OF ARGUMENTATIVE STRUCTURE IN THE BRAZILIAN PUBLIC EDUCATION SYSTEM

In Brazil, education is compulsory for children aged between 4 and 17 years (BRASIL, 1996). All schools in the country have to offer their students equal access to a common core of knowledge (BRASIL, 1998).

At the time of the data collection for this research, primary education in Brazil lasted eight years. Nowadays, students complete primary school in nine years (BRASIl, 1996, 2006). Children are expected to be literate when they complete the second year of studies (BRASIL, 2007), which usually happens at the age of 8 years on average.

Among other school contents, the ability to write a dissertation is demanded from the candidates for admission into public universities. This writing test is a significant barrier for public school students (CAMPOS, 2011).

Parâmetros curriculares nacionais [National Curricular Parameters] (BRASIL, 1997) do not mention the work on argumentative texts or argumentative structure in primary education. They suggest only the study of narrative and descriptive texts. In the chapter that guides the last four years of primary education, the word *argumentation* appears only twice: considered as a tool for citizenship (BRASIL, 1998a). Even in the document that guides secondary education, argumentative structures fail to appear as a separate topic (BRASIL, 2000).

It is necessary to mention that, for historical and cultural reasons, in Brazil there has been a division in the school system since the 19th century. While wealthy families sought their own means to educate their children, underprivileged families only had one option: the public school system, which was originally meant to be used by poor, black and mixed-raced children (VEIGA, 2008). During the military dictatorship (1964-1985), the public school system deteriorated. The number of school hours, for example, decreased to three a day (BITTAR; BITTAR, 2012). Currently, there still is a huge difference between the

socioeconomic indexes of public and private schools in Brazil (ALVES; SOARES; XAVIER, 2014).

Regarding the current language practice in classrooms, private schools are free to follow their own methodologies while the public ones are oriented towards an approach in which reflection on the language being used is considered more important than teaching meta-language or categories of traditional grammar (COSSON, 2007).

Studying documents that registered Portuguese classes in public schools in São Paulo, Riolfi and Igreja (2010) determined that only 15% of the time is employed in writing lessons, most of which do not deal with dissertation. Therefore, most of the students coming from public schools do not learn the basic contents required to succeed in entrance exams of renowned universities, most of which are public in Brazil. As a consequence, in Brazilian public universities, which are free, on average, only 40% of the students come from public schools (PEROSA; LEBARON; LEITE, 2015).

ARGUMENTATION THEORIES

There are at least two ways to understand argumentation. The first is known as "new rhetoric". According to the researchers who adopt this perspective, arguing refers to "the discursive techniques that allow us to induce or increase the mind's adherence to the theses presented for its assent" (PERELMAN; OLBRECHTS-TYTECA, 1969, p. 4). Hence, to succeed, the arguer (the rhetor) must first analyse how the audience thinks and acts in order to linguistically create a presence to which the audience will adhere.

The second perspective refers to authors who consider argumentation a constitutive feature of language. For them, arguing is a kind of discursive relation that links one or more arguments to a conclusion (ASCOMBRE; DUCROT, 1983). The authors of this article share this viewpoint, which takes into account the work of Ducrot (1987), according to which argumentation is inside language. Ducrot (1981, 1987, 1989) advocated that the argumentative value of the words used is responsible for the argumentative direction of the discourse.

According to Carel and Ducrot (1999), the most useful perspective of analysis of argumentative texts is to adopt the concept of "discursive chain", whereby there is interdependece between the argument and the conclusion, which makes them mutually constitutive. In this line, the argumentative chain characterizes a semantic block, composed of two parts of a discourse linked by a connective.

In his view, there are two kinds of connectives: normative and transgressive. Normative connectives have the same value as the

conjunction "therefore" in English. They link two parts of a discourse oriented to the same conclusion. Transgressive connectives have the same value of the conjunction "however" in English. They link two parts of a discourse oriented to different conclusions.

According to this theory, the parts of a compound sentence do not have independent meaning, that is, the same conclusion can be obtained from two very different sentences. Therefore, the unit of analysis consists of the argumentative chains that have a structure of the type "X CONNECTIVE Y", rather than isolated segments.

The examples given by Carel (2001) are useful to understand the difference between normative and transgressive connectives. For example, a sentence like "Peter is prudent, therefore he did not get involved in an accident" is normative. It illustrates a consequence of the fact of Peter being prudent. The sentence could be reduced to the following formula: "prudent THEREFORE denial of accident". On the other hand, a sentence like "Peter is prudent, however he got involved in an accident" is transgressive, because it illustrates an opposition. Carel (2001) asserts that the transgressive quality derives from the fact that prudence rarely leads to an accident. This sentence could be reduced to the formula "prudent HOWEVER accident".

The argumentative effect occurs in the metaphorical and metonymic axes of language (JAKOBSON, 1960). On this basis, certain words, argumentative operators (DUCROT, 1987), such as *because, then, but, when* etc., are responsible for indicating the argumentative orientation of a text/discourse linguistic utterance. Therefore, a person's knowledge of arrangement of words is more important than mastering content (MEYER, 1998).

Meyer (1998) suggests that the arrangement of words in arguing should be examined on the basis of three assumptions. The first is that reasoning cannot take a proposition as a fundamental unit; rather, the unit of reasoning must be the problem and the logic should be subordinated to a question. The second is that the question/answer pair is the fundamental unit of language. Finally, the third is that the function of language is to answer questions. Therefore, it is clear that this research focuses on the processes that allow children to learn how to pose problems and to answer them by writing.

Our research was conducted in order to construct answers to the following research questions: 1) What argumentative chains are present in texts written by Brazilian students from public primary schools? 2) What conjunctions do the participants of the research employ most frequently to create argumentative chains? 3) To what extent does the ability to use argumentative chains change along primary school?

MATERIAL AND METHODS

PARTICIPANTS

This research's data collection began when the children were first able to write texts, that is, in the second year of primary school. We intended participants to be a group of students who remained in the same classroom from the beginning to the end of primary school. From a group of 20 children, nine remained together. This fact is not so strange if we consider that, in Brazil, school dropout is still more common among underprivileged students than among the wealthy ones (LEON; MENEZES-FILHO, 2002). During the second and third years of the research, we worked with a group of five children, as the other four students moved to other schools.

Consequently, the participants were a group of nine primary school children (two boys and seven girls), all students of a public school in São Paulo city, Brazil. They all came from low socioeconomic status families. In their school, all of them were considered good students, since they succeeded in learning how to read and write after their first year of studies. It is worth mentioning that, after three years of schooling, 30% of Brazilian students are still unable to write complete sentences (BRASIL, 2015).

In order to preserve the anonymity of the participants, their names were changed. Chart 1, below, lists the participants (using fictitious names) and their age, which varies a little because every child has to be enrolled in the first grade at the beginning of the year they will turn seven. Their ethnic group was not considered because some of the families did not consent to giving this information or were not able to determine the group to which they belonged.

CHART 1
RESEARCH PARTICIPANTS

Fictitious name	Gender	Age when the data collection began
Bárbara	F	7 years and 11 months old
Carla	F	7 years and 10 months old
Fernanda	F	7 years and 9 months old
Bianca	F	8 years and 1 month old
João	M	7 years and 7 months old
Larissa	F	7 years and 9 months old
Luana	F	8 years and 2 months old
Maiara	F	8 years and 10 months old
Thiago	M	7 years and 6 months old

Source: Authors' elaboration.

INSTRUMENTS/TASKS

Participants were invited to write at least five argumentative texts each year. In the tasks assigned, they were expected to persuade the reader in order to obtain different effects. Chart 2, which follows, shows the tasks in detail.

CHART 2
TASKS ASSIGNED TO THE CHILDREN

School year	Task	Genre	Purpose of writing
2nd	1	Letter	Ask for a Christmas gift
3rd	2	Letter	Ask permission to join a school trip to an ecological park
	3	Letter	Ask permission to go to the zoo with the family of a friend
	4	Letter	Invite grandmother to spend a holiday at the child's house
	5	Letter	Invite a friend to the author´s birthday party
	6	Letter	Ask for a Christmas gift
4th	7	Report	Explain the importance of preventing dengue fever
	8	Film review	Persuade another child to watch a movie
	9	Formal letter	Request the renovation of the sports court
	10	Advertisement	Advertise toys in a jumble sale
	11	Invitation	Invite the school community to the end-of-year school party.
5th	12	Report	Explain the importance of preventing dengue fever
	13	Film review	Persuade another child to watch a movie
	14	Formal letter	Request the renovation of the sports court
	15	Advertisement	Advertise toys in a jumble sale
	16	Invitation	Invite the school community to the end-of-year school party

Source: Authors' elaboration.

When designing the tasks, we took into consideration that "writing is enhanced when tasks are motivating, interesting, and appropriately challenging" (CHAPMAN, 2006, p. 19). Besides, it is necessary to mention that the tasks required during the 4th and 5th grades were the same. The researchers did so in order to evaluate the differences between the same task written after a year. This particular feature was not taken into account in this article, but it was discussed in Costa (2014).

DATA COLLECTION

The texts were collected from 2008 to 2011. The researchers met the teacher of the children approximately every other month and gave her instructions regarding data collection procedures.

The children were free to write as they pleased regarding the length of the texts. They handwrote the texts in lined paper. Approximately an hour was reserved for each task.

At the end of the process, the researchers were able to collect a *corpus* of 123 argumentative texts. They were grouped according to the school year when they were produced. The single production of the second school year was grouped with the ones written along third school year.

On average, children wrote texts with 8 to 10 lines. Many of them added coloured drawings to the compositions.

Their parents were informed about the research and signed an authorization for the use of the children's texts.

DATA ANALYSIS

Both quantitative and qualitative analyses of the *corpus* were conducted. In order to provide an overview of how children produce semantic blocks in argumentative texts, the 123 manuscripts of the *corpus* were catalogued. The analysis drew on the theory of semantic blocks, developed by Carel and Ducrot (1999). The normative connectives "a THEREFORE b (or not b)" and transgressive ones "a HOWEVER b (or not b)" were counted and transcribed.

In analysing how children produced semantic blocks, it was necessary to include in the survey the blocks that were not separated by a connective, since the relation between the clauses could be implied. The following sentence illustrates this finding: "The school court is full of holes and dust on the floor some children may easily get hurt". Although there is no conjunction between the two clauses, it is possible to infer that there is a normative relation between them. Thus, the inferred semantic block is: "School court full of holes and dust THEREFORE children may get hurt".

To validate the analytical procedures, two different researchers with great experience in the fields of language and education read the analyses and discussed the research findings before the submission of this paper.

RESULTS

In order to determine what argumentative chains are present in texts written by Brazilian students from primary education, we surveyed the semantic blocks used by the children in each school year.

First, we counted the argumentative chains, considering both explicit and inferred chains. Second, we separated argumentative chains into normative and transgressive ones. Since there were differences concerning the number of participants and the texts

produced each year, for the analysis we considered the average number of argumentative chains per participant and per text. Tables 1a, 1b and 1c show the result of this effort.

TABLE 1A
ARGUMENTATIVE CHAINS PRODUCED DURING THE 3ʳᴰ SCHOOL YEAR

	Normative		Transgressive		
	Explicit	Inferred	Explicit	Inferred	Total
Per participant	2.4	2.7	0.6	0.2	6.1
Per text (Total of 54 texts)	0.4	0.46	0.1	0.03	0.98
Total	22	25	6	2	55

Source: Authors' elaboration.

TABLE 1B
ARGUMENTATIVE CHAINS PRODUCED DURING THE 4ᵀᴴ SCHOOL YEAR

	Normative		Transgressive		
	Explicit	Inferred	Explicit	Inferred	Total
Per participant	2.2	2.4	1	0	5.6
Per text (Total of 21 texts)	0.52	0.57	0.23	0	1.3
Total	11	12	5	0	28

Source: Authors' elaboration.

TABLE 1C
ARGUMENTATIVE CHAINS PRODUCED DURING THE 5ᵀᴴ SCHOOL YEAR

	Normative		Transgressive		
	Explicit	Inferred	Explicit	Inferred	Total
Per participant	3.8	3.4	2	0	9.2
Per text (Total of 24 texts)	4.75	0.7	0.41	0	1.91
Total	19	17	10	0	46

Source: Authors' elaboration.

Reading tables 1a, b and c, we can see that both normative and transgressive argumentative chains are present in the texts written by the participants since the third school year. Normative chains were more frequent since the first texts of the corpus.

Longitudinally, there was an increase in all modalities of argumentative chains. From the third to the fourth school year, the rise was not homogeneous: there was an increase in the presence of transgressive chains and a slight decrease in the normative ones.

From the fourth to the fifth school year, there was a marked increase in the presence of explicit normative chains per text. During

the fourth year, the average of normative chains was 0,52 per text, while during the next year it rose to 4,75.

Figure 1, which follows, illustrates the extent to which the ability to use argumentative chains by primary school children changed in three years.

FIGURE 1
PROGRESS OF THE ARGUMENTATIVE CHAINS EMPLOYED BY THE PARTICIPANTS
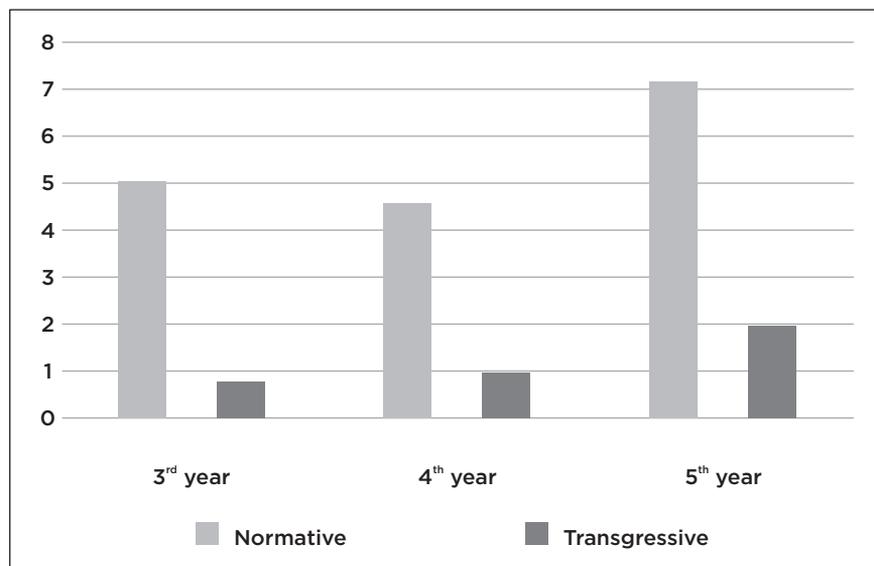
Source: Authors' elaboration.

The graph in Figure 1 was constructed from figures that express the average use of argumentative chains per participant per year (information also present in tables 1a, 1b and 1c).

It is necessary to stress that all participants produced argumentative chains. Table 2, which follows, shows the percentage of texts that have them.

TABLE 2
EVENTS OF ARGUMENTATIVE CHAINS IN TEXTS PRODUCED BY THE PARTICIPANTS IN THE PERIOD ANALYSED

%	3rd year	4th year	5th year
80-100	4	3	3
60-80	1	1	2
40-60	3	1	0
20-40	1	0	0
Total of participants per year	9	5	5

Source: Authors' elaboration.

In each year, the majority of the participants employed argumentative chains in more than 80% of their texts. The ones who employed fewer argumentative chains in their texts used them in at least 40% of their productions. Only one child employed argumentative chains in less than 40% of her texts and it happened only in the first year of research.

This research was also interested in cataloguing the variety of conjunctions employed by the participants in order to estimate their knowledge about argumentative operators (DUCROT, 1987) and speculate about pedagogical strategies considering the learning of argumentative writing.

Figure 2, which follows, shows the employment of both normative and transgressive chains along the three years of research:

FIGURE 2
EMPLOYMENT OF NORMATIVE AND TRANSGRESSIVE CHAINS

Normative chains - Explicit
Normative chains - Implicit
Transgressive chains - Explicit
Transgressive chains - Implicit
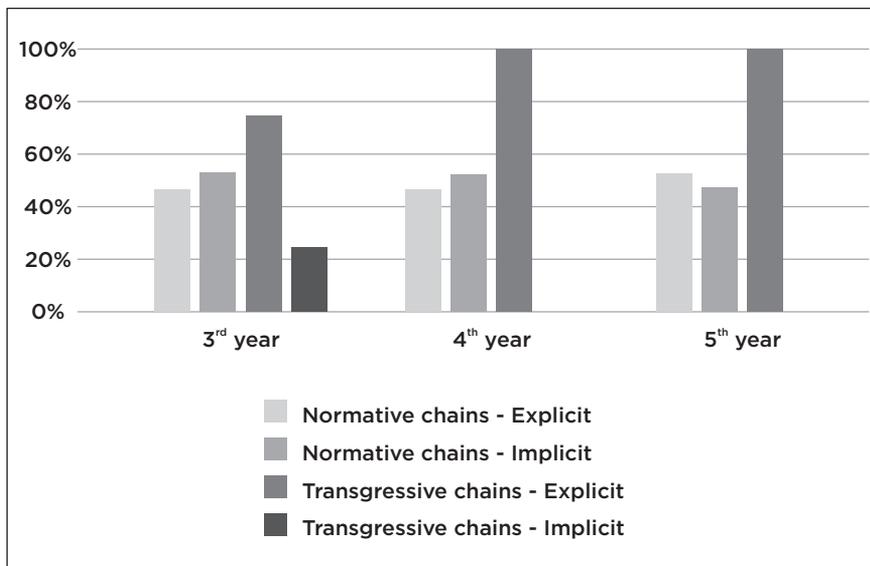
Source: Authors' elaboration.

It is worth mentioning that the occurrence of argumentative chains with no conjunction between them was frequent. Considering the normative chains, it was possible to verify that, during the three years of research, the conjunctions were implicit in at least 45% of the occurrences. However, the use of argumentative operators in normative chains increased along the years, reaching a peak of 52,7% of the occurrences in the fifth school year.

Regarding the transgressive chains, it is worth mentioning that they were not as frequently employed as the normative ones, which may indicate that children are more capable of using normative chains in their argumentative writing. Differently from what was found on the use of conjunctions in normative chains, when employing transgressive

ones, the participants tended to write argumentative operators. This trend was observed since the first year of research, when the occurrence of explicit transgressive chains reached 75% of the total uses. Implicit transgressive chains did not appear all along the research.

In order to estimate the conjunctions the participants employed most frequently along the research, their occurrences were counted and grouped. The results can be seen in figures 3a and 3b, which follow:

FIGURE 3A
CONJUNCTIONS USED IN NORMATIVE CHAINS
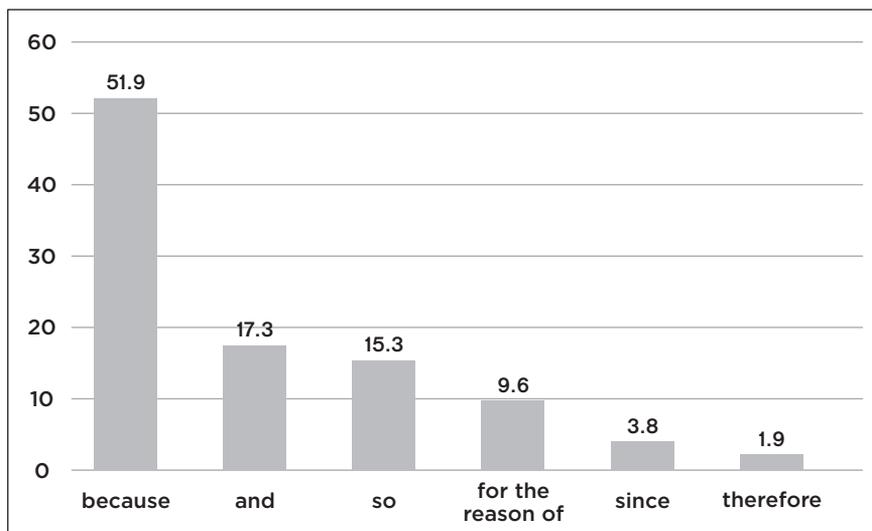
Source: Authors' elaboration.

FIGURE 3B
CONJUNCTIONS USED IN TRANSGRESSIVE CHAINS
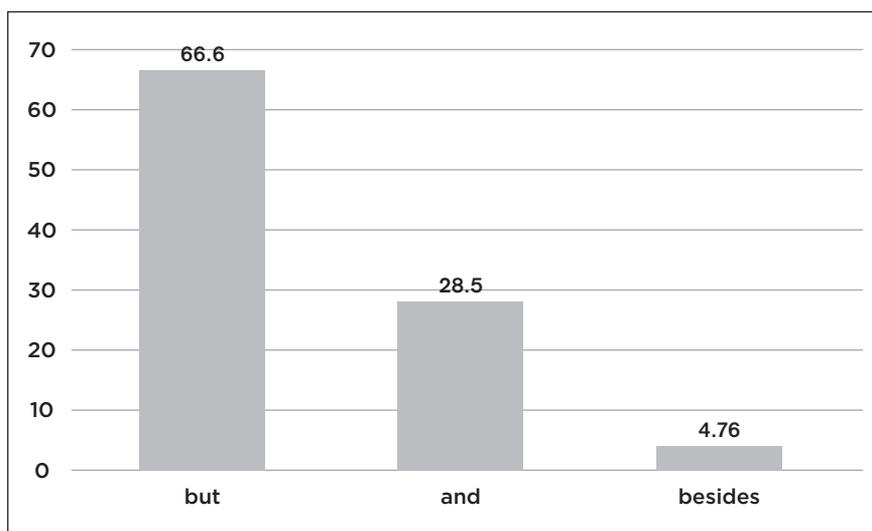
Source: Authors' elaboration.

Observing Figure 3a, it is possible to verify that participants produced a greater variety of conjunctions related to the use of normative chains: six different ones. On the other hand, there were only three different types of conjunctions in the total of transgressive chains.

Because appeared the most often in the participants' texts: 51,9% of the total occurrences. It was followed by *and*, which was found in 17,3% of the occurrences. *So* (15,3%), *for the reason of* (9,6%), *since* (3,8%) and *therefore* (1,9%) were less frequently employed.

Concerning the transgressive chains, *but* was the most employed conjunction: it appeared in 66,6% of the total occurrences. It was followed by *and*, which was found in 28,5% of the transgressive chains. It is worth mentioning that *and* was employed in both transgressive and normative chains. *Besides* was less frequently used, appearing in 4,76% of the occurrences.

In order to provide the reader with an overview of how the participants employed semantic blocs in their texts, please see below two manuscripts produced by one of the subjects.

The child, whose texts are discussed in this section, and whose fictitious name is Bianca, participated in all the activities of the research, which makes her texts illustrative for our purposes. Furthermore, among all the participants, she was the one who produced the most transgressive chains.

Text 1 presents the first text Bianca wrote for the research. She was 7 years and 11 months old when she was asked to write a letter to Santa Claus or to anyone who, in her view, would be able to give her a Christmas present. Bianca chose Jesus as the interlocutor in her text, in which she asked for a toy, specifically a "Barbie's dollhouse".

TEXT 1

ENGLISH TRANSCRIPTION OF THE TEXT PRODUCED BY BIANCA (SEVEN YEARS ELEVEN MONTHS OLD)

Manuscript	English transcription
	1 SAO PAOLO, DECEMBER 5th 2 2008 3. DEAR JESUS I WANT VERY MUCH TO 4. GET A LITTLE BARBIE'S HOUSE B 5. BUT MY MOTHER CANNOT AFFORD IT

Preceded by location and date, the first text written by the participant consists of a single sentence with no punctuation. By employing two segments (the wish to acquire a toy and her mother's

lack of money) and articulating them through the connective BUT, Bianca produced a transgressive argumentative chain, which reveals the following sequence: "wish of getting a present HOWEVER lack of money". The meaning produced by the transgressive chain is potentially persuasive because it reflects the emotions of a child who wants a toy, but cannot afford it.

Text 2, which follows, was produced when she was in the fifth school year.

TEXT 2
ENGLISH TRANSCRIPTION OF THE TEXT PRODUCED BY BIANCA (NINE YEARS AND NINE MONTHS OLD)
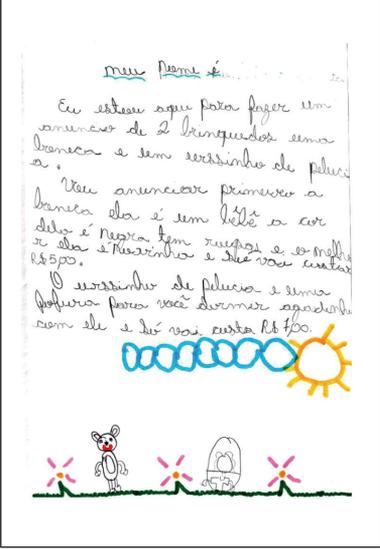
Manuscript	English transcription	
	1	<u>My name is Bianca</u>
	2	I am here to make an
	3	advertise for 2 toys a
	4	doll and a teddy bea
	5	r.
	6	I am announcing first the
	7	doll she is a baby her color
	8	is black and she has clothes and the best part is
	9	that she is brand-new and it is going to cost only
	10	R$5,00.
	11	The teddy bear is so
	12	fluffy so you can sleep cuddling it tight
	13	it costs only R$ 7.00

Text 2 was written in October 2010, the last year of this research data collection, in response to a task in which Bianca was expected to produce an advertisement of toys in a jumble sale.

It has a heading (line one) and is formed by three big blocks. The first one (lines 2-5) introduces the topic of the text, clarifying its purpose: to advertise two items. The second (lines 6-10) consists of the description of the first item, and the last (lines 11-13) is the description of the second item.

It was possible to find three semantic blocks in this production: one composed of normative chains (lines 11-12), and two others (lines 9-10, and lines 12-13) composed of transgressive chains.

The normative chain was employed in order to emphasize the features of the teddy bear and its usability. Thus, the formula produced was: fluffy THEREFORE one can sleep cuddling it. It is worth mentioning that this normative chain was implicit, once there was no argumentative operator between the clauses. The transgressive

chains occurred in the description of the toys Bianca was supposed to advertise. Both occurrences of transgressive chains were employed to relate the qualities of the advertised toys and their price. Therefore, the aspects produced were: brand-new HOWEVER costs only R$5.00; and fluffy HOWEVER costs only R$7,00.

In order to better examine the development of Bianca's writing, Chart 3 brings the texts just analysed together.

CHART 3
A COMPARISON BETWEEN THE FIRST AND PENULTIMATE TEXT PRODUCED BY A PARTICIPANT

Text produced at the end of the first school year (Dec. 2008)	Text produced at the end of the fourth school year (Oct. 2011)
1 SAO PAOLO, DECEMBER 5TH 2 2009 3. DEAR JESUS I WANT VERY MUCH TO 4. GET A LITTLE BARBIE HOUSE B 5. BUT MY MOTHER CANNOT AFFORD IT	1 My name is Bianca 2 I am here to make an advertise 3 advertise for 2 toys a 4 doll and a teddy bea 5 r. 6 I am announcing first the 7 doll she is a baby her color 8 is black and she has clothes and the best part is 9 that she is brand-new and it is going to cost only 10 R$ 5.00. 11 The teddy bear is so 12 fluffy so you can sleep cuddling it tight 13 it costs only R$ 7.00

Before we start the comparison, it is worth noting that both texts were illustrated by the participant, as can be seen in her manuscript versions. The first manuscript brings a girl, maybe the participant, standing near a simplified version of a Christmas crib, with baby Jesus in the manger. The second one shows the products for sale: the teddy bear and the doll.

In three years' time, the girl was able to produce a text four times longer than the first one. In the beginning, the participant only knew how to write in block letters, and then mastered cursive handwriting at the end of the second school year. She also learned how to diagram her text. In the first one, for instance, there was no separation between "Dear Jesus" (the vocative) and the first line of the text. She did not know about the need to use punctuation or to indent the first line of the paragraph. All these inaccuracies disappeared at the end of the process.

The following signs can point to the development of the participant regarding the learning of argument structure. In the texts produced at the end of the fourth school year, the participant was able

to: 1) construct a persona of someone detached from the empirical person of the author of the text, responsible for creating, in the text, the argumentative effects; 2) choose linguistic elements (such as adjectives and adverbs) to describe the item to be sold as a desirable one; 3) plan and fulfil an enunciative project composed of different articulated parts, all aimed at the same objective.

DISCUSSION

The importance of providing an educational environment where students can evaluate relevant reading, writing and communication processes has already been stressed by authors such as Rijlaarsdam et al. (2008). Others, such as Graham and Perin (2007), who conducted an extensive meta-analysis of the literature on writing interventions, concluded that the teaching of strategies, summarization and peer assistance are the most promising interventions in terms of pedagogical results.

Considering these findings and following up its objectives, this study focused on the linguistic resources used by primary school children while writing argumentative texts from the second to the fifth grade. This research, which was conducted for approximately three years, was meant to show that argumentative structure is present in texts written by young students from a public school in Brazil.

The ability to use argumentative chains changes substantially along primary school. The research revealed not only quantitative changes but also qualitative ones, regarding, for example, the employment of adjectives and adverbs. These findings are particularly interesting given that the participants involved were not formally taught argumentative techniques.

Regarding the nature of the argumentative chains in the texts, the linguistic analysis of the semantic blocks revealed a predominance of normative chains. It should be highlighted that even in the semantic blocks constructed without connectives, that is, the implicit ones, there was no loss of meaning.

Normative chains were expressed by a greater variety of conjunctions than the transgressive ones. This feature could indicate the types of argumentative operators most used by children at the same average age of our participants. Thus, concerning the teaching of writing, this finding could help teachers and other educators to plan suitable curricula to meet students' real educational needs.

It seems that, for a period of over three years, as the participants were repeatedly invited to convince someone about something, they were required to engage in a continuous decision-making process. As they were required to choose linguistic resources that would produce

better effects of meaning in arguing to succeed in their task, they were compelled to isolate the essential elements from those that were secondary in relation to the aim. In the light of Vygotsky (1978), it is then possible to say that the quality of the social relations provided by the research activities influenced the development of the research participants.

It is also possible that the results achieved by the children may be due to the instructions they received. In order to fulfil the tasks assigned to them, the children needed to take advantage of a skill that they already used, albeit without being conscious of it: arguing in daily situations. Having been invited to write argumentative texts, the children needed to make deliberate efforts to do something that they were accustomed to doing intuitively. Therefore, it is possible to conclude that the research tasks also played a pedagogic role for the group of students involved. In this context, we can surmise that the mother tongue teacher, as a more experienced peer, having given her students the opportunity to perform challenging tasks, contributed for the children's development of linguistic abilities.

It is important to stress that the analysis of the linguistic resources employed by children when writing argumentative texts opens new paths for future research. We can list three in particular: first, investigating which argumentative tasks produce better educational results when assigned to children; second, longitudinally following the children who had early training in argumentative writing in order to verify whether they achieve better results when asked to write academic papers; and, third, examining possible similarities in the linguistic strategies used by primary school children and those of freshman university students writing academic papers for the first time. Despite having been studied by other authors, this aspect has not yet been fully investigated and deserves further exploration.

To sum up, we must say that the findings of this research imply changes in curricula in the countries where, like Brazil, the argumentative structure of texts is not taught in the first school grades. In Brazil specifically, a change like this could give opportunity to underprivileged children to continue their studies in renowned universities where, as previously mentioned, a dissertation is required as part of the selection process.

CONCLUSIONS

In Brazil there is a gap between the common core – and its translation into school practices – and what is required from students in order to pursue their studies. On the one hand, the mastery of argumentative structure is demanded for one to be successful in university entrance

exams. On the other hand, the teaching of argumentation does not occur until the tenth school year because children are thought not to be intellectually mature enough to learn how to write dissertations.

Having followed participants coming from socioeconomically disadvantaged populations since they learned how to write, the research showed that this line of reasoning is fallacious. Even when the children had not received formal instruction, they still used argumentative structure in their texts since the first school years.

As a consequence, the study highlights the need of curricular adjustments to include the teaching of argumentation since the first school grades. In countries like Brazil, this could result in the decrease of the exclusion of students who come from low-income classes from higher education.

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