

The environment portrayed in cordel literature by high school students

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Abstract: Cordel literature can be suggested in science education research because it brings scientific content closer to the reality of students. Thus, this study aimed to investigate which Environmental categories according to Sauv  (2005) are present in twine produced by high school students and to verify the evidence of empirical, formal, and historical repetition within the environmental categories found, following the parameters pointed out by Orlandi (2012). For this, were analyzed the 29 twine produced during an Environmental Education intervention with high school biology students in three public schools in the state of Pia , Northeast Brazil. In the productions, seven categories were found for the Environment and three types of repetition. The categories “Problem” and “Nature” were the most represented by the students. The intervention provided new experiences for students, encouraging them to get to know the environment in which they are inserted and to develop relationships of belonging, appreciation, and conservation.

Keywords: Cordel; Biology Teaching; Environmental education; Speech analysis; Orality.

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Introduction

The National Curriculum Guidelines (NCG) for Basic Education in Brazil state that an integrated understanding of the environment, in its multiple and complex relationships, and encouraging individual/collective participation in its conservation should be exercised by every citizen (Brasil, 2013). However, the knowledge resulting from the educational process in many Brazilian schools has contributed to an increase in the merely utilitarian view of the environment (Bonotto; Semprebone, 2010; Demoly; Santos, 2018). This knowledge implies the development of critical environmental thinking, and even in teaching and learning.

For Sauv   (2005), human beings are often educated to reproduce social practices in which the natural and/or social environment is dissociated from relationships and interdependencies. Against this backdrop, the author describes seven categories in which the environment is labeled as nature, resource, problem, system, place to live, biosphere and community project. With this categorization, it is possible to intervene more appropriately in the multiple facets of the relationship between human beings, the environment and conservation, based on sustainable development (Sauv  , 2005).

Similarly, the Common National Curriculum Base (CNCB) highlights the importance of “[...] training critical and autonomous young people who understand criticism as an informed understanding of natural and cultural phenomena, and autonomy as the ability to make informed and responsible decisions” (Brasil, 2017, p. 463). It is important to note, however, that the way the CNCB was approved (amid social, environmental and educational setbacks) did not take public opinion into account (Oliveira *et al.*, 2021), contradicting the education it theoretically advocates. It is a fragmented and superficial curriculum that does not enable the construction of critical thinking, since important cross-cutting themes, such as Environmental Education, which can promote social transformation, have been silenced (Frizzo; Carvalho, 2018; Montini *et al.*, 2022).

In this context, it is believed that a viable strategy to stimulate critical thinking and the responsible use of nature’s resources by students is the production of *cordel*. This is because popular literature is a literary genre that presents a simple and public language, with a rhythmic narrative, being a hybrid form between orality and writing (Galv  o, 2001; Santos, 1995; Viana, 2010). It is the exposition of popular knowledge, histories, and stories of a people, with a critical perception of social events. In Brazil, due to its aesthetic, historical, community and identity dimensions, *cordel* literature is considered intangible cultural heritage (Meneses, 2019).

Cordel pamphlets are popular, especially in the states of the Northeast, and are intrinsically related to the cultural identity of the inhabitants of this region, with their traditions and manifestations (Haur  lio, 2016). They were commonly produced and sold at open markets by their own authors, disseminating social, historical, economic, political, religious facts, folk legends and others (Haur  lio, 2016). Although *cordelists* and readers belonged mainly to the poorer strata of the population, members of the economic elite also used pamphlets as one of their main sources of leisure (Abreu, 1999). From rural to urban, *cordel* literature always seeks to translate the imagery of the people of the Northeast

(Testa; Cunha, 2020).

Even within the Northeast region, the cordel acquired peculiar characteristics in each city where it was produced. In the state of Piauí, for example, the legend of the “gourd head”, incorporated into Piauí’s popular culture and passed down from generation to generation, was portrayed in cordel (Santos; Brussio, 2022). In Ceará, it is common to find pamphlets describing religiosity through figures considered saints, such as the priest known as Padre Cícero, who gathers intense pilgrimages (Santos; Dias, 2017). Another example is related to the representation of Lampião in many *cordel* pamphlets from Bahia, Paraíba, Pernambuco, Ceará, Sergipe, and Alagoas, states in which “the king of the *cangaço*” attacked and plundered (Cunha; Deus-Leite, 2020).

In addition to a simple conceptual approach, cordel pamphlets present socio-political aspects, such as the impeachment of Dilma Rousseff and the COVID-19 pandemic (Testa; Cunha, 2020), as well as emerging diseases, fires, droughts and other environmental impacts (Oliveira *et al.*, 2011; Souto; Sousa; Souto, 2016). Discussions about these issues in the classroom help, for example, to reformulate concepts that are necessary for the formation of critical and/or environmentally educated citizens. In fact, various studies have looked at cordel literature in the classroom. The researchers sought to portray the reality of students based on environmental, political and economic themes (Barbosa; Passos; Coelho, 2011; Ferreira *et al.*, 2018; Menezes; Paula; Paixão, 2014; Souto; Sousa; Souto, 2016).

These debates provide opportunities for the construction of meanings, the practice of language and different discourses. For Orlandi (2012), discourse can include the socio-political-ideological context in which the meanings of words change as the positions of those who use them change. Considering these foundations, French Discourse Analysis which emerged in the late 1960s, stands out as an asset for recognizing how students behave as authors when composing their discourses.

For Orlandi (2012), the author is a subject responsible for organizing the meaning and unity of their text. In addition, the author mentions that, depending on how the text is formulated, three different types of repetition can be found: empirical, formal and historical. Empirical repetition shows that the author repeats exactly as they read or heard it. In formal repetition, the author repeats what they have read or heard but in different words. In historical repetition, alternatively, there is an interpretation of what the individual has read or heard, that is, they are able to formulate and constitute their own enunciation (Orlandi, 2004; Orlandi, 2012).

In this context, it is believed that new concepts, skills and competencies can be developed from the appropriation of different textbooks content through cordel, mainly due to the diversity of information in this textual genre (Medeiros; Silva; Lemos, 2016; Santos; Silva; Santos, 2019; Silva; Gabriel, 2019). Thus, this research is based on the following question: how do high school students portray and historicize the environment in cordel pamphlets?

The hypothesis is that the different characteristics of authorship through cordel literature with an interdisciplinary character contribute to students’ education. These

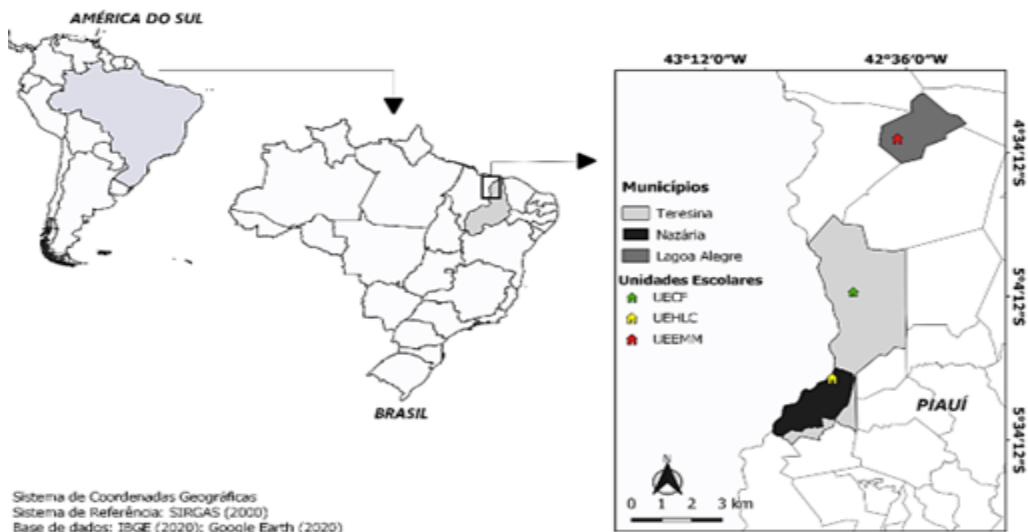
are favorable requirements for them to become active participants in decision-making regarding society, the environment, and its conservation. Thus, our objectives were (a) to investigate which categories of the environment, according to Sauv   (2005), are present in *cordel* pamphlets produced by high school students; and (b) to verify evidence of empirical, formal and historical repetition within these categories of the environment, following the parameters pointed out by Orlandi (2012), especially the notion of authorship.

Methodological procedures

The methodology adopted is qualitative, based on participatory action research (Brand  o, 2005; Thiollent, 2022), since it seeks to involve the participating group in the production of new or re-signified knowledge, as well as practical and participatory actions as a challenge to be overcome (Oliveira, 2011). To this end, practical activities were carried out with groups of students during an Environmental Education workshop aimed at raising awareness and valuing the local fauna. The intervention took place from September to November 2017 during a project on knowledge of native fauna in the Mid-North of Brazil. The project was approved by the Human Research Ethics Committee of the Federal University of Piau   (CAAE 62606516.0.0000.5214).

Three public high schools in the state of Piau  , Northeast Brazil, took part in the intervention: (1) Unidade Escolar Elon Machado Moita (UEEMM, Lagoa Alegre – PI); (2) Unidade Escolar Hildon Leite de Carvalho (UEHLC, Naz  ria – PI); and (3) Unidade Escolar Caluzinha Freire (UECF, Teresina – PI) (Figure 1). These educational institutions had an average of 30 effective enrollments in the high school grades, but student attendance and permanence varied according to the school semester. In 2017, for example, UEEMM had 425 students, UEHLC had 322 and UECF had 180 students enrolled (QEdu, 2017). Of these, only 59 students from UEEMM, 43 from UEHLC and 56 from UECF completed all the stages of the workshop and were taken as participants in the research.

Figure 1 - Location of the schools surveyed in the municipalities of Lagoa Alegre, Nazária, and Teresina, Piauí, Brazil



Source: Santos, 2024.

The proposal, made during the workshop entitled “Cordel Literature and Science Communication”, involved the students in writing a *cordel*. To carry out the proposal, science texts from the magazine *Ciência Hoje das Crianças* (CHC) were initially presented. The topics covered in the texts were animal and plant species, threats to fauna and the environment. Participants were asked to read the texts in order to familiarize themselves with the subject. At the same stage, the students split into groups of four to six and shared their initial impressions.

In the second stage, there was a presentation on what cordel literature is, its structure, organization and cultural importance. At this point, a *cordel* pamphlets prepared by one of the researchers was presented (Figure 2), referring to threats to fauna, the importance of environmental conservation and environmental education practices. This model was used because, although it is part of Northeastern culture, the *cordel* is not very present in the classroom. This multiplicity of texts is not so common, especially as the textbook remains the most used resource in the teaching and learning process. In addition, the cordel model presented was adopted as a parameter for analyzing the signs of empirical and formal repetition in the cordel pamphlets produced by the students, since without it, it would not be possible to say whether repetitions had occurred or not.

Figure 2 - Cordel presented during an intervention on local fauna with high school students



Source: Santos, 2024.

In the third stage, the students produced a cordel, which alluded to the theme of the environment and biodiversity in accordance with the literary genre mentioned. The groups were then invited to share their work with their classmates. It's worth pointing out that the cordel was produced and exhibited to give students the chance to develop critical and constructive habits. In addition, this practice can provide an analysis of the local reality regarding human-environment relations and associated biodiversity, as proposed by Sato (2002) and Sauv  (2016).

The collected data correspond to all the *cordel* pamphlets written by the students after reading the promotional texts and the cordel pamphlet shown in Figure 2. When analyzing the *cordel*, we tried to identify the categories of the environment according to Sauv  (2005). The author mentions seven categories for the environment, namely: (1) Nature - to appreciate, respect and preserve; (2) Resource - to manage and share; (3) Problem - to prevent and solve; (4) System - the analysis of the components and the "eco-socio-system" relationships; (5) Place in which one lives - this can be the environment of everyday life such as school, home, work, etc. (6) Biosphere - where to live together and for the long term; and (7) Community project - a place of cooperation and partnership to bring about the desired changes within a community.

Within the categories of the environment covered in the *cordel*, we used French

Discourse Analysis by Eni Orlandi (2012), in which discourse is analyzed based on its meaning. In this way, discourse can present a meaning specific to the immediate context of its enunciation or encompass the meaning of the author's socio-historical-ideological context (Orlandi, 2004). As a result of this relationship of meanings, discursive formations and processes of authorship emerge. According to Orlandi (2012), in authorship, the relationships are not exclusively between the text and the reader, but rather in the discursive space of the interlocutors, that is, in the interaction between the real and imaginary reader.

The author points out that the process of authorship takes place whenever the language producer finds themselves producing a text with unity, coherence, progression and an end. In view of this, the processes of authorship can take place in different ways, from empirical, formal and historical repetition. Orlandi (2012, p. 54) points out that “empirical (mnemonic) repetition is the parrot effect, i.e. repeating in the same way as you have read or heard; formal (technical) repetition is another way of saying the same thing, the grammatical exercise; and historical repetition is that which displaces, which allows movement because it historicizes the subject's saying [...]”.

From this perspective, by analyzing the distinction between the types of repetition present in the *cordel* prepared by the students, we sought to identify whether they wrote exactly what they read/heard; whether they reported phrases differently from the original *cordel*; or formulated their own verses, stories. We believe that the findings of this analysis may offer a better understanding of the relationship between students and the environment, considering them as social actors, ecological and critical subjects (Carvalho, 2017; Sato, 2002; Sauv  , 2005; Tozoni-Reis; Campos, 2014).

Results and discussion

The 59 students from UEEMM produced 13 *cordel* pamphlets, the 43 from UEHLC and the 56 from UECF produced eight *cord  s* each. Thus, we obtained a total of 29 productions in which the seven categories for the environment, mentioned above, were identified. The environmental categories of “Problem” and “Nature” had the highest number of citations in the three school units, while the “System” category was the least expressive in UEEMM and UEHLC. At UECF, the category with the lowest frequency in literary productions was the environment as a “place to live”. The rest of the information about these categories is summarized in Table 1.

Table 1 - Frequency of environmental categories in the *cordel* produced by students from the school units surveyed in the state of Piauí

Categories for Environment	UEEMM n (%)	UEHLC n (%)	UECF n (%)	Total
1 Nature	10 (76.9)	06 (75.0)	07 (87.5)	23
2 Resource	09 (69.2)	03 (37.5)	04 (50.0)	16
3 Problem	12 (92.3)	06 (75.0)	06 (75.0)	24
4 System	06 (46.2)	02 (25.0)	07 (87.5)	15
5 Biosphere	07 (53.8)	04 (50.0)	04 (50.0)	15
6 Place to live	07 (53.8)	03 (37.5)	03 (37.5)	13
7 Community project	08 (61.5)	02 (25.0)	06 (75.0)	16

Source: Santos, 2024. Note: *Elon Machado Moita School Unit (Lagoa Alegre, Piauí); **Hildon Leite de Carvalho School Unit (Nazária, Piauí); ***Caluzinha Freire School Unit (Teresina, Piauí).

More than one of the categories described by Sauv  (2005) was found in a single *cordel*, as well as the presence of one or two categories per stanza. The number of categories varied from one to five per *cordel* produced, with some categories being more expressive than others (Table 1). Regarding the processes of authorship within these categories, we also found that the types of repetition varied throughout the *cordel*. However, historical repetition was found more frequently. In the *cordel* pamphlets in which historical repetition was absent there was a predominance of a combination of empirical and formal repetition.

By reading the produced *cordel*, it was possible to see that the students focused mainly on describing environmental problems or the importance of natural elements. Less frequently, we identified descriptions of places to live in harmony with nature. Fragments 1, 2 and 3 below exemplify all the *cordel* analyzed for the two categories of environment that were most representative (Problem and Nature, Table 1). In the first two fragments, we see historical repetition, with the students formulating and constructing their own verses and stanzas. On the other hand, fragment 3 represents both empirical and formal repetition. This is because, although there was some grammatical exercise (highlighted in italics), the students simply reproduced the original *cordel* (Figure 2):

Fragment 1 (Environment as a Problem)

I'll continue here

With my improvisation

I'll talk about the caged animal

The poor thing suffers so much

He's deprived of his freedom

And so he lives
He lives tormented

Fragment 2 (Environment as Nature)

Today not even the swallow
Comes to nibble the cashew
Cashew that I made a point of watering
Where are you, swallow?
Why don't you come and visit me?

Fragment 3 (Environment as Nature-Problem)

I will approach the subject of fauna
With seriousness and satisfaction
Planet Earth is full of *nature*
Each one without distinction
But what saddens me most
Is the so-called *burning*

The environment was considered a problem ($n = 24$; 82.8%) when students presented socio-environmental problems that directly affect the lives of living beings, such as wildfires (fragment 3) and deforestation. It is believed that these actions were mentioned for two reasons: 1- because they had been discussed previously; and/or 2- because they come from their experiences, either through direct experience, especially by those from schools located in rural areas such as UEEMM and UEHLC, or through the media. In the municipalities of Lagoa Alegre and Nazária, the practice of burns by farmers in order to clear land for planting is part of people's daily lives. Sometimes the techniques used by these farmers get out of control and end up burning adjacent areas where wild animals are found (e.g. Figueiredo; Andrade; Maia, 2020).

Although the association of burning and deforestation was frequently highlighted in the cordel, we also saw the presence of uses of fauna as environmental problems: *animal trafficking, illegal capture of animals, domestication, raising wild animals as pets* (fragment 1), *hunting and endangered animals*. The mention of these problems may be due to practices experienced by students, family members or friends, given that in other municipalities in Piauí, with similar conditions, hunting animals for consumption and capturing birds for illegal trade and/or petting are cultural aspects that permeate local populations (Souto *et al.*, 2017; Souto; Lima; Sousa, 2019).

According to Alves (2012), these practices are common among underprivileged classes, who find in these customs a source of protein and even family income. Thus, it is possible that many of the students are experiencing these actions in their daily lives.

This assumption becomes even more plausible if we take into account the fact that the average income of those interviewed was no more than one and a half times their salary or that around 33% had experienced hunting activities at some point in their lives (data obtained at another stage of the project, 2017).

When describing the environment as Nature ($n = 23$; 79.3%), the students highlighted terms in their cordel that referred to elements of nature: *forests, pure water, animals, natural environment, green forests, vegetation, rich fauna, and exuberant flora*. It was reported that the environment needs to be a place for conservation and admiration, keeping as close as possible to its natural state. Reinforcing this thought, Gonçalves (2002) points out that nature is defined as everything that has a natural characteristic and is not subject to anthropic intervention. When analyzing the cordel, there is also the idea that nature and the environment are two sides of the same coin, in which the environment has a connotation of usefulness, not only for human beings but for any species (as Dulley, 2004, suggests).

One point worth highlighting about the students' understanding of the environment as Problem and Nature concerns vicious circles, in which there is a view that nature is stable in its ecosystemic interactions. It is even independent of the interaction of the human cultural world. This naturalistic view is widely accepted and commonly disseminated by the media. For Carvalho (2017), when this view is focused on, human presence appears as a catastrophic problem for nature and, consequently, the environment. It is therefore necessary to (re)construct these concepts, not only in basic education but also in higher education, since teachers in training will go through the same teaching and learning processes. In addition, they may be the future educators of children and young people (Gouvêa, 2006; Moraes; Tozoni-Reis, 2021; Tozoni-Reis, 2014).

Each group of students described the environment as a Resource ($n = 16$; 55.2%) when they wrote verses expressing concern about the possible scarcity of natural resources. This idea refers to the responsible consumption of natural resources available to human beings. Quotes such as *we must conserve, let's prevent, integration relationship, in a disordered way, do your part, conserve nature and take care of the planet*, seek to suggest improvements to environmental management, as well as individual and collective conduct. Fragment 4 below exemplifies historical repetition and fragment 5 the combination of empirical and formal repetition found for this category in the produced cordel:

Fragment 4 (Environment as a Resource)

The environment is our home
 Helping it is our mission
 Conserve the environment
 Let's start taking action

Fragment 5 (Environment as a Resource)

Everyone pay attention
To what I'm about *to tell* you
It's a very important subject
We need *to talk* about it
And the determining factor
Is that we have to take care of nature

The ideas put forward by the students are also recommended by environmentalists and conservationists, who mention the importance of conserving the more than 120,000 species of invertebrates, approximately 9,000 species of vertebrates (ICMBIO, 2014) and more than 39,000 species of Brazilian flora (Flora e Funga do Brasil, 2024). As well as being home to the world's greatest biodiversity, Brazil has the largest volumes of fresh surface water (FAO, 2003; Thomaz *et al.*, 2020), which need to be consumed sustainably.

The category of the environment as a Community project (n = 16; 55.2%) was addressed when students highlighted the importance of collective work, cooperation and the active commitment of the community. It was reported that the environment needs to be shared and humans need to be associated with a constant process of critical reflection on nature. This position is valid, but environmental concerns only tend to become an important issue when environmental degradation begins to threaten the sustainability of economic activities and human health (O'Malley; Clow, 2011). As a result, people start looking for individual or collective well-being (O'Malley; Clow, 2011).

This need to unite for a common good was evidenced in the cordel produced using statements such as *let's get together, our mission, let's make a transformation, let's unite, let's make a movement, everyone's contribution* and *let's help each other*. Fragment 6 shows examples of historical repetition in this category:

Fragment 6 (Environment as a Community Project)

Let's get together
To save the environment
So everything will improve
And problems will be solved

Let's get together
Let's make a movement
Let's fight for Brazil
For a world without deforestation

In the System ($n = 15$; 51.7%) and Biosphere ($n = 15$; 51.7%) categories, the students pointed out their knowledge of the diversity present in the environment, emphasizing the biophysical (natural and built), social and political aspects and planet Earth as a place to live together in the long term. Fragment 7 provides an example of the historical repetition found for these categories in the produced cordel:

Fragment 7 (Environment as System-Biosphere)

Every life on our planet

Has an important function

The food that nourishes us

Is a seed that sprouts from the ground

We need to train citizens

To conserve the nature

Through education

We absolutely must

To generate transformation

To change the now and the future with beauty

The verses and stanzas in the System category highlight statements such as: *avoid destruction; future generations; how you want to govern; make us aware, and we need to rethink*. This highlights the need to exercise systemic thinking and the relationship between the environment as an eco-socio-system, as pointed out by Goffin (1999). In the Biosphere category, it was possible to perceive the junction between Environmental Education and education for development in Sauv  s (2005) conception, based on phrases such as *living together, influencing our lives with your production, and giving back to you*.

The environment was considered a Place to live ($n = 13$; 44.8%) when the students produced meanings of environment as a specific habitat for human beings, i.e. the reality of their daily lives (school or home, for example). Examples of this include the statements: *my backyard, my window, my land, my countryside, our home, our planet, our house, and my dwelling*. Certainly, the place where you live is the first contact to develop an environmental responsibility in which you learn to be a responsible user (Sauv  , 2005).

The verses and stanzas for this category referred to the students' well-being, nostalgia and care for their natural surroundings, especially for those who lived in or near rural areas (which is the case of the UEEMM and UEHLC students). Fragment 8 shows all the cordel in which we identified historical repetition:

Fragment 8 (Environment as a Place to live)

My region

It's full of coconut trees

Here dwells the woodpecker

And other animals

Every day on my land

I used to look

The animals that every day

In my yard came for a walk

Based on the fragments exemplified for each of the environmental categories, it can be seen that historical repetition prevailed over the others. This finding may be due to the fact that the activity was different from the classes usually given by teachers in basic education. The production of the cordel provided an opportunity to develop critical and constructive thinking through analysis of the students' local reality. The participants were encouraged to relate their knowledge and experiences of the environment, fauna and flora, so that they were not restricted solely to scientific concepts, examples found in textbooks or the Science Communication Texts used during the workshop.

The approach adopted favored historical repetition and, consequently, the students' own productions. They were able to interpret, position themselves as authors, formulate and create their own verses and stanzas. According to Orlandi (2004), the subject is considered an author only when he or she is able to historicize his or her utterance in the text. Based on the formation of the ecological subject pointed out by Carvalho (2017), this position of creating their own history provides new perspectives on concepts that are so accustomed and established in many fields of human experience, such as the concept of the environment as nature pointed out by most of the students.

For the author, it is necessary to change the lens, to see environmental issues from other angles, so that we realize that life goes beyond simple biophysical diversity (Carvalho, 2017). This is a relevant point, because there were groups of students who did not renew their vision and simply faithfully reproduced the original text with some grammar exercise. In some cases, synonyms were repeated, paraphrases of the original opposite, without changing the meaning, as can be seen in fragments 3 and 5. These types of repetition are not what is expected of students, especially those in secondary school, the last stage of basic education. It is expected a greater environmental criticality, problematization and social actors (Guimarães, 2013; Sá; Oliveira; Novaes, 2015).

It is important to note, however, that many of these students are not encouraged to read, interpret or write in the school environment. The school or teachers do not encourage or provide opportunities for critical attitudes in which students problematize and present solutions (Krasilchik, 2004; Delizoicov; Angotti; Pernambuco, 2011; Arruda;

Schwertner, 2021; Silveira *et al.*, 2021). According to Morán (2015), if you want students to be creative, they first need to experiment with countless possibilities in order to show their initiative and knowledge. In reality, it is not an easy task to change this attitude in students. Although scientific texts and other means that favored the occurrence of historical repetition were presented, other types of repetition still occurred, suggesting the need for more similar experiences.

Furthermore, this change is not automatic and depends on multiple factors, such as student interest, time spent on the activity, familiarity with reading and writing, knowledge of textual and scientific genres, and the environment in which they live. Despite this, it is believed that this reality will be closer when educational planning is allied to the local/regional conditions of the different educational institutions (Freire, 2014; Sousa, 2021). This also highlights the need to invest in new teaching methods and strategies and in teacher training, since they go through the same teaching and learning processes as the students in question.

Conclusions

The intervention with the production of cordel gave the students new experiences. The different types of categories for the environment and authorship found in this study may be the result of the context in which the students were placed (urban, peri-urban and rural schools). This is taking into account that the construction of environmental knowledge takes place through the way of life, social and cultural aspects. In addition, we found that in the Problem category, the students' signs of authorship were more associated with formal repetition, since few (rural students, more familiar with the local culture of raising birds in cages, for example) historicized other socio-environmental problems, in addition to those presented to them in the cordel model.

We therefore highlight the importance of encouraging students to read, write, and actively participate in the classroom in different educational contexts. This can be done through materials such as science communication texts, cordel, newspapers and news stories, which seek to bring students closer to their local reality so that they get to know the environment in which they live and develop relationships of belonging, appreciation and conservation.

The results obtained here can guide the insertion of similar activities aimed at other audiences and content in order to: (a) provide new experiences; (b) encourage reading and writing; (c) stimulate a critical attitude; and (d) encourage more active student participation. We therefore stress the need for experiences that encourage the development of the skills necessary for human development, in educational, social, environmental and cultural aspects.

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O Meio ambiente retratado na literatura de cordel por estudantes do ensino médio

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Resumo: A literatura de cordel pode ser sugerida nas pesquisas em educação em ciências por aproximar conteúdos científicos da realidade dos estudantes. Assim, este estudo objetivou investigar quais categorias de Meio Ambiente conforme Sauv   (2005) est  o presentes em cord  is produzidos por estudantes do ensino m  dio e verificar ind  cios de repeti  o emp  rica, formal e hist  rica dentro das categorias ambientais encontradas, da no  o de autoria na perspectiva de Orlandi (2012). Para isso, foram analisados 29 cord  is produzidos durante uma interven  o de Educa  o Ambiental com estudantes de Biologia do ensino m  dio em tr  s escolas p  blicas no estado do Piau  , Nordeste do Brasil. Nas produ  es foram encontradas sete categorias para Meio Ambiente e tr  s tipos de repeti  o. As categorias "Problema" e "Natureza" foram as mais representadas pelos estudantes. A interven  o propiciou novas experi  ncias aos estudantes, incentivando-os a conhecerem o meio no qual est  o inseridos e a desenvolverem rela  es de pertencimento, valoriza  o e conserva  o.

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El medio ambiente retratado en la literatura de cordel por estudiantes de secundaria

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Resumen: La literatura de cordel puede ser sugerida en la investigación en educación científica porque acerca el contenido científico a la realidad de los estudiantes. Así, este estudio tuvo como objetivo investigar qué categorías Ambientales según Sauv   (2005) est  n presentes en cordeles producidos por estudiantes de secundaria y verificar evidencias de repetici  n emp  rica, formal e hist  rica dentro de las categor  as ambientales encontradas, de la noci  n de autor  a en la perspectiva de Orlandi (2012). Para ello, fueron analizados 29 cordeles producidos durante una intervenci  n de Educaci  n Ambiental con estudiantes de biolog  a de ense  anza media en tres escuelas p  blicas del estado de Piau  , Nordeste de Brasil. En las producciones se encontraron siete categor  as para el Medio Ambiente y tres tipos de repetici  n. Las categor  as “Problema” y “Naturaleza” fueron las m  s representadas por los estudiantes. La intervenci  n brind   nuevas experiencias a los estudiantes, anim  ndolos a conocer el medio en el que est  n insertos y a desarrollar relaciones de pertenencia, aprecio y conservaci  n.

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