





Perceptions of the environment from drawings and discourses of preschoolers

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ABSTRACT

From the perspective of a group of twelve children from a preschool class, the objective was to elucidate their perceptions of the environment from their drawings and discourses. The work is configured as a case study with data built through listening to the materialized children, through commented drawings and interviews, with the help of images. The study revealed that the infants perceive the environment in primacy in its natural aspects, but demonstrated that they understand the relationships of human interdependence in dynamics with the environment, which may signal a possibility of working with environmental education in childhood that addresses not only the natural issues pertinent to the environment, but also the socio-environmental ones.

RESUMO

Sob a perspectiva de um grupo de doze crianças de uma turma pré-escolar, objetivou-se elucidar as percepções que estas detinham de meio ambiente a partir de seus desenhos e discursos. O trabalho configura-se como estudo de caso com dados construídos por meio da escuta das crianças materializadas por intermédio dos desenhos comentados e entrevistas com auxílio de imagens. O estudo revelou que os infantes percebem o meio ambiente em primazia em seus aspectos naturais, porém demonstraram compreender as relações de interdependência humana em dinâmica com o meio ambiente, o que pode sinalizar uma possibilidade de um trabalho com educação ambiental na infância, que aborde além das questões naturais pertinentes ao meio ambiente, as socioambientais.

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Introduction

We are facing a scenario in which it cannot be called an environmental crisis, only, but it is a polycritical environmental scenario, in which the crisis is not limited to expressions “let's take care of nature”, “climate change”, “planetary emergency”, so common in daily television and journalistic life. The crisis adds to this, but its character is structural, it emerges from the sociocultural contexts, worldviews and economic structures that societies have been adopting throughout history, causing impacts on the environment (Klein, 2021).

Such a crisis has to do therefore, with human formation, with the ways of thinking, being and acting in the world and in its relationship with life itself. The model of society constituted, preached and produced, emphasizes the disconnection between man and nature, producing individualities, arrogance, competitiveness and superiority between humans and, between them and nature, introjecting in them an inseparability from the world, which in fact is not conceivable (Rodrigues, 2023).

The pandemic global health crisis of the new Coronavirus in 2020 with a final decree in 2023, and the current climatic phenomena in Brazil, such as heat waves, fires in the Cerrado region, Amazonian deforestation, increasingly show that “everything that seemed separate is inseparable” (Morin, 2020, p. 21). Reinforcing that these aspects are interdependent and can influence life regionally, nationally and globally (Saheb & Rodrigues, 2023).

These perspectives, which are not new elaborations, but which are in evidence today, lead to a reorientation of the ways of living and conducting life by the human being. Focusing on the knowledge of oneself, the other, the environment and their origins. At this point, education, as a process of human formation, incorporated into teaching, as an action of construction and dissemination of knowledge (Rodrigues, 2023, Silva *et al.*, 2024) presents itself as a path, among the existing ones, to “help us become better, if not happier [...] and help us to live and understand our condition” (Morin, 2022, p. 11) “[...] of being at the same time: Earthly, cosmic, biophysical, psychological, cultural, social” (Morin, 2018, p. 46).

In this context, environmental education, abbreviated from EE, presents itself as a possibility to promote this human formation, “which helps to live” because it excels in the re-elaboration of other ways of being and being in the world, oriented towards the formation of subjects who understand their interdependent relations with the environment, the complexity of environmental issues, which involve multidimensional factors (political, economy, culture, etc.), the appreciation and teaching of understanding, solidarity and respect for oneself, with one's fellow man, and with all forms of life. Assisting in the formation of individuals with a sense of criticality and reflexivity in the face of life (Silva & Araújo, 2024; Saheb & Rodrigues, 2023).

EE in this way finds a relevant support in formal education, therefore, in the Brazilian school context, through educational actions based on the emancipation of subjects and the

commitment to human and planetary life. In this context, several studies (Arnholdt & Mazzarino, 2020; Biss, 2021; Gesser, 2022; Rodrigues & Saheb 2019; Silva, 2020a, 2024; Pedroso & Capano, 2023; Tiriba, 2018) has been discussing the relevance of EE educational practices in the school context, since the early years of childhood, through experiences and experiences with natural environments, with natural elements, with the purpose of creating affective bonds and enchantments with the Earth.

These bonds, according to these studies, will provide the basis for gradual construction, that is, according to the stage of child development, the sense of belonging and integration with the environment, and later this knowledge can be critically dimensioned, in a critical-social perspective of EE, for children between 4 and 5 years old, as they already have a greater capacity for abstraction, from the perspective of their ages, about more complex subjects (Gesser, 2022).

In this sense, the theme of childhood, early childhood education in relation to EE has stood out as a subject of recent interest by researchers (Garcia, 2022; Silva 2020; Snicheloto, 2019) and on various aspects, from investigations of pedagogical practices, theorizations about EE at this educational level, to educational experiences with children and teachers at this stage of education. There are studies that deal with methodologies and methods that seek to listen and do research directly with children (P. Silva, 2019; Silva, 2020a), the research entitled with children, consists of them speaking for themselves about their impressions and worldviews, in this situation, it is not conceivable of an adult speaking for them.

One of the most expressive methodological instruments in research with children is drawing. There is a consensus that this is a specimen of spokesperson for the children's universe, a singular and original expression in which they represent what they feel, think and want to say (Sousa & Pires, 2021). Drawing translates into a social representation of reality informed in a historical and cultural time in which the child is inserted at that specific moment. Associated with their conversations and discourses during their production, they can evidence meanings and senses that are described from the narratives and experiences in the children's discourses (Santos, 2020).

Regarding EE itself, the use of drawings supported by the children's discourses, has sought to explore their views on environmental problems, as seen in the dynamics of relations with the environment, the understandings about the conceptualizations of the environment. Thus, based on these reflections, in this article we propose to analyze the perceptions of the environment that preschool children are building through their voices and drawings. So we ask ourselves: "What can children's discourses and drawings about the environment signal about the environmental education they are building in the context of an early childhood education school?"

An in-depth understanding of these relationships can enable teachers and other actors in the school context to have subsidies to analyze their practices, rethink them and direct

curricular planning and guidelines in directions consistent with the emerging contextual and global needs of children and the world (Oliveira & Prestes, 2023).

Environmental education and its approximations with the education of early childhood

The paths of construction of early childhood education and its relationship with environmental education in Brazil are marked by approximations, distances, and weaknesses (Silva, 2020a). In the global scenario, the delimitations of concepts on the subject gained prominence in the 60s, focused on the dilemma of preservation and conservation of the environment. In the global educational sphere, in the 70s, the theme began to be recommended as a continuous and permanent process that permeated all phases of formal education, starting from childhood, through early childhood education (Guimarães, 2020).

In Brazil, there was no legislation that ensured the dissemination of the theme in school curricula, nor was early childhood education in fact institutionalized under state responsibility. There were non-school spaces for children, with food and hygiene care purposes linked to social assistance agencies (Kuhlmann, 2015).

Legislation that discussed the subject was enacted in 1981, through the publication of the National Environmental Policy (*Política Nacional do Meio Ambiente - PNMA*) law No. 6.938, which reserves only one item, the X of article 2, to describe in a generic way that environmental education is a principle that must be met at all levels of education with a focus on the defense of the environment (Silva, 2020b). The educational character of early childhood education and its institutionalization as a duty of the state, complementing the action of the family, came to be conferred through the publication of the Brazilian Federal Constitution (*Constituição Federal Brasileira - CF*) of 1988, such description ornamented the status of insertion in the Brazilian educational system, which made it possible to enforce the environmental theme in curricular policies for early childhood education (Silva, 2020a).

Thus, in 1994, the document National Policy for Early Childhood Education (*Política Nacional de Educação Infantil*) was published, which defined the objectives, the conceptions of child, education, the child professional and guidelines for educational actions (Silva, 2020a) This document addresses the environmental theme under the term environment, with no environmental education nomenclature, although this term was already used in legislation that dealt with mandatory education levels, including children's, such as the PNMA and the CF.

This document describes that the subject should be developed through actions, experiences and knowledge that stimulate children to understand the transformations of nature, environment and society (Brasil, 1994), in a very punctual way. In 1996, the Law of Guidelines and Bases of National Education (*Lei de Diretrizes e Bases da Educação Nacional - LDBEN*) was published and promoted major transformations in the Brazilian educational

scenario. In early childhood education, it positions it as the first educational stage and delimits the child's development objectives, at an integral level, permeating the physical, psychic and social aspects (Silva, 2020a).

In the following years, early childhood education delimited its space and autonomy in the Brazilian educational scenario, structuring its curricular arrangements, with the publications of the National Curriculum Reference for Early Childhood Education (*Referencial Curricular Nacional para Educação Infantil*) in 1998, a document that covered the environmental issue in a bolder and more comprehensive way compared to the previous ones. The text presents guidelines to strengthen the relationships between children, nature, society and the environment, through practices of observation of the natural, contact with natural elements, with fauna. Actions that stimulate knowledge about the social and natural environment, aspects of biodiversity, sense of preservation, conservation, integration, dependence and agent of environmental transformations (Brasil, 1998).

Environmental notions that fit the conceptualizations and understandings set forth in the environmental legislation of the period centered on naturalistic and conservationist tendencies (Layrargues & Lima, 2014). In the following year, the National Curriculum Guidelines for Early Childhood Education - DCNEI No. 1/1999 are published, establishing guidelines and principles for early childhood education institutions regarding the development of their pedagogical proposals, which in the content of its text does not present any reference to environmental education.

Which translates into nonsense, when we consider the content of previous publications. The aggravating factor of this is the idea that the pedagogical proposal is the document that directs all the school's actions, including the curriculum and the definition of the teachers formative conducts regarding the learning experiences that will be offered to the children (Silva, 2024). In the same year, 1999, in an interstice of 20 days, one of the most relevant documents in the field of Brazilian environmental education is published: The National Policy of Environmental Education (*A Política Nacional de Educação Ambiental*) law No. 9.795/99 reaffirming the obligation at all levels and modalities of education, delimiting an interdisciplinary and permanent character of this education.

In the early 2000s, new trends, concepts and strands of environmental education began to reorient the image of this education, which began to be seen and discussed in the academic-scientific, social, and cultural spheres, in the media, encompassing categories that had been little mentioned until then, such as man, politics, economics, technology, science and their relationships, in a contextualized and critical way. An environmental education directed to the socio-environmental, going beyond the initial ecological aspects (Layrargues & Lima, 2014; Zanon, 2019).

In this sense, the early childhood education curriculum is also revisited to incorporate these new visions. The National Curriculum Guidelines for Early Childhood Education -

DCNEI nº2/2009 is edited and the pedagogical proposals address new environmental terms such as sustainability, ethics of environmental care, solidarity with the common good and respect for pluralities, identities and cultural singularities of peoples, practices of breaking age, ethnic-racial, linguistic, gender and socioeconomic dominations (Silva *et al.*, 2024). The focus of a socio-environmental environmental education is noticeable, as it relates aspects that connect society and its implications with nature involving macro-subjects, not only fauna and/or flora (Silva, 2020a).

In 2012, environmental education acquires new legislation guiding its objectives and principles “that guide the treatment of this education, learning in basic education schools and the training of teachers on this topic” (Silva, 2020a, p. 9). It is the National Curriculum Guidelines for Environmental Education (DCNEA), a document with a well-defined and robust reference framework for the socio-environmental issues of our times. Currently, the text that has guided the initial and continuing teacher training policies, the pedagogical projects of the schools, the elaboration of didactic-pedagogical materials is the National Common Curricular Base (Brasil, 2017).

With regard to the environmental bias, the text is the first that brings the term environmental education, but it appears only in the presentation of the base, that is, it is not directly linked to proposals in early childhood education, the document brings it as a contemporary subject that should be included in the curricula and proposals of institutions in a transversal and integral way (Silva, 2020a). At the base of early childhood education, specifically, the pedagogical orientations, which are unraveled in the fields of experiences, are oriented towards the observation of nature, its transformations, learning from nature, perceiving its relationships, inciting its conservation. Characteristics that are not consistent with previous documents, which include socio-environmental perspectives (Silva, 2020a).

Contrary to these perspectives, the development and nature of children are inclined towards socio-environmental learning, as cognitively, infants have a syncretic thinking model, which is characterized by uniqueness, fusion, for children there is no eligibility between something greater or less, but there is parity among all living beings, which favors learning oriented towards integration and interdependence with the environment (Santos, 2018). This model of thought exclusive to childhood makes it possible to bring things together, connect elements, contextualize by going beyond the natural enchantments they have, through sand, water, trees, wind, leaves, sticks, stones, to associate with elements of otherness with the complexity of life that are part of the dynamic man/nature/society/environment (Horn, 2017; Morin, 2022).

In this sense, children show that their bonds with the environment emerge from their natural aptitudes, from their constitutive genesis, not by chance, the poet Manoel de Barros said “Children's language is the image of primitive language. In the child, the Indian, the tree, the wind speaks. In the child the bird speaks [...]” (Barros, 2018, p. 25). However, the

perpetuation of this bond is cultural, in this aspect, the educational units, as spaces for human formation and dissemination of scientific knowledge, are great vehicles of culture. The culture in which children and adults are inserted has been oriented towards an emphasis on having, on the production of things, on rationality, on competitiveness, on superiority, on inequality, on relativization, on liquidity, to the detriment of being, connection, empathy, care, affections, causing disconnection with life in all its dimensions (Alves, 2018; Bauman, 2021; Morin, 2018, Tiriba, 2021).

In this context, it is necessary to invent new ways of being, knowing and being in and with the world, new minds, well made, that recognize and value these dimensions of children, as beings of culture and nature, starting from the investigation of their knowledge about the world in relation to specific knowledge and learning for a human formation that internalizes and transcends human conditions as an earthly species, loving, biological, social, psychological and environmental in order to develop the EE that wants to “help us live” (Freire, 2019; Morin, 2022; Tiriba, 2018).

Methodological Procedures

The study is based on a qualitative methodological approach of exploratory research, since it is concerned with the understanding and meaning that the subjects discipline to things and their lives, and aims to get closer to the investigated phenomenon by making it explicit exposing its findings (Gil, 2022; Ludke & André, 2014). As a methodological procedure, the case study was adopted, as it seeks to analyze a phenomenon in its specific context, highlighting a particularized knowledge of a certain group in order to understand it (Marconi & Lakatos, 2021).

The research was carried out in 2018 and 2019 in a preschool class at a Municipal Center for Early Childhood Education in the municipality of Arapiraca, a city in the interior of Alagoas. The municipality has 27 early childhood education institutions, the selection of this teaching unit¹ was due to its structure and organization having large spaces, environments with green areas, sand space and a park made with reusable materials, which led us to believe that this place was irremediably conducive to environmental actions of the experiential, experiential type, so recommended by theorists who relate child development, EE and nature (Louv, 2016; Proficce, 2016; Tiriba, 2018).

The study was approved by a term of authorization from the school management and parents, and by the approval of the children themselves, who were invited through a conversation circle, in which the objectives of the study were explained, from the perspective

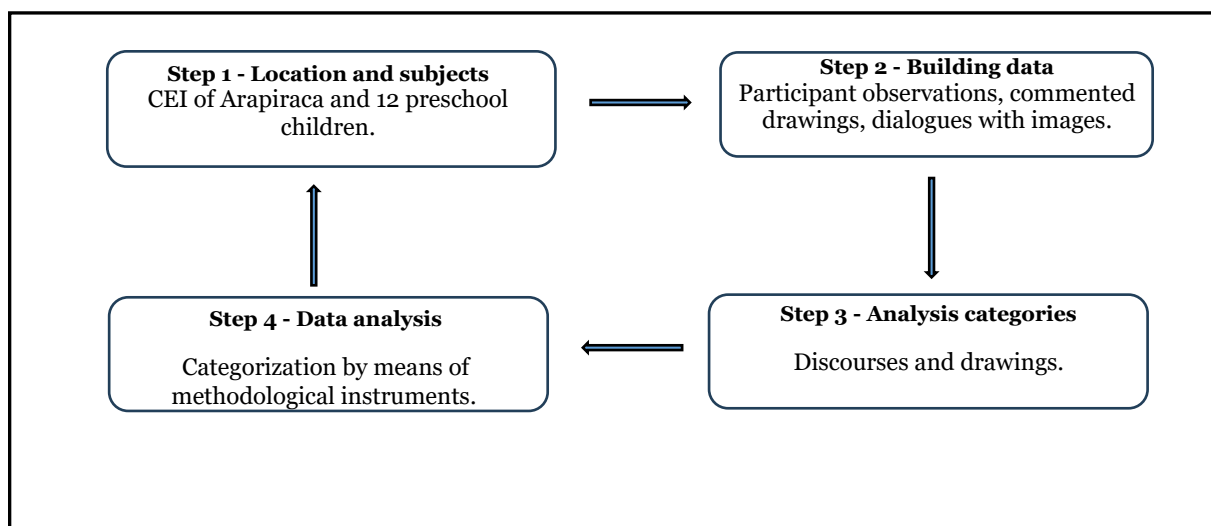
¹In conversations with the management and in reading articles on local websites, it was noticeable that the institution focused on the theme, which helped us in the choice.

of their ages, and who would like to participate, also showing that throughout the course of the research those who chose not to continue would be exempt from permanence. Kramer *et al.* (2019) highlights that the children's assent about the desire or not to build the study with the researcher translates into a legitimate ethical concern, since the primacy of research with children is not to decide for them and to include them in the decision-making processes of the study in which they are legitimate authors.

Thus, for the research cut, a class of the preschool age group aged five years was selected. The option for this age group is supported by the conception that work with EE can be dynamized with a greater degree of complexity at this age (Capano & Pedroso, 2023), as well as in the child development cycle, children of this age have a better command of speech and thought, so they have a higher level of abstraction, which would facilitate the understanding of the study (Grisi *et al.*, 2018). A methodological design that explains the stages of the research is presented in figure 1.

Figure 1.

Methodological draw of the steps applied to the research.

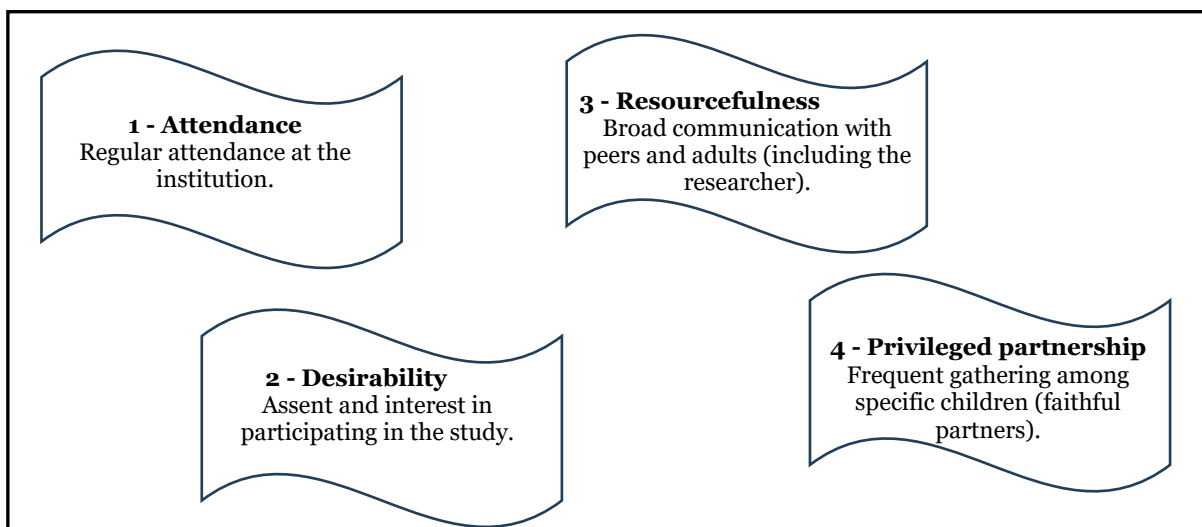


Note: The authors (2024).

From the group of 20 children in the selected class, after applying the procedure of the criteria for choosing the children (Figure 2), a smaller group of twelve children was established. The criteria aimed to offer security in the construction of the data and the possibility of respecting the decision of the children who did not wish to build the study. In this sense, these criteria were supported by the conceptions of the Sociology of Childhood and Childhood Studies, theoretical fields that conceive infants, as subjects of rights, historical, in their entirety and completeness, considering and valuing their voices, desires and expressions as legitimate and competent, to express their particular opinions and understandings on any subject that concerns them (Martins Filho & Prado, 2020). A synthesis of these criteria is presented in Figure 2.

Figure 2.

Criteria for choosing children for the construction and collection of research data.



Note: The authors (2024).

The choice of methodological devices for the collection of data from the investigation was intended to get as close as possible to the children's perspective on the investigated phenomenon. Thus, the methodological instruments chosen were participant observation, which aimed to reduce the distance between the researcher and the children, the immersion in their contexts and routines, experiencing the cultural reality of this group through the observation of their routines for 4 hours, for 25 days, of the 3 months of the study. The field notebook was another relevant device to support the descriptions and reflections of the daily life investigated.

These two devices helped in the elaboration of the criteria for choosing the children and the framing of the subjects participating in the research. Attendance, the first criterion, which was quite noticeable in the observations of the routine, focused on the regularity of the child's attendance at the institution, since it was desirable for them to attend it periodically, so that we could perceive possible relationships of the investigated phenomenon in connection with the educational unit. Desirability, criterion two, is a consequence of the first and of the researcher's ethical concern to ensure that both the refusal and acceptance of the child to do the research were respected, in order to break with possible explicit or implicit relations of hierarchy between adults who decide for the children, a position that converges, and we agree, in research involving children (Martins Filho & Delgado, 2018).

The other criteria, resourcefulness and privileged partnership, refer respectively to the child's communicability, essential for the assent and conduction of the dialogues of the study, the other consists of grouping the children who are closer and cooperative, therefore, those who had more solid, faithful bonds, so that in the moments of dialogues, they could

complement each other's discourses, enabling the breadth of understanding of the phenomenon studied.²

Conversations based on images, a methodological strategy inspired by Oliveira's dissertation (2015), was another data-generating resource, which consisted of showing 10 images³ that presented situations contrary to environmental care, such as water waste, deforestation, river droughts, floods, pollution by solid waste, to capture the value judgments, the hypotheses and meanings that these would make in relation to the environmental issues expressed or implicit in the images. The conversations took place in three groups of four children each, in three sessions of 20 minutes each, the dialogues took place between the children, and between them and the researcher, as each image was displayed, they were asked to describe what they thought of a certain image. These data were recorded using a voice recorder.

Another resource was the commented drawing inspired by Martins dissertation (2010). This strategy consisted of a drawing workshop held in four sessions with an average duration of 30 minutes each, the children were divided into four groups of three children each, we asked them to draw what they considered to be the environment while they drew their interpretations of what was requested, the researcher instigated them to talk about their productions simultaneously, with the intention that, through the discourse, they would evidence their most singular interpretations on the theme in a perspective of authenticity as an author and producer of their representations and interpretations, without interference from adults. The drawings were recorded on A4 paper from colored crayons, colored pencils and colored pens, speech in a voice recorder, and both considered for clipping purposes in this article, which were closer to the objectives of this study.

With the data, we categorized it based on the two methodological instruments and axes of the research: Commented drawings and dialogues in conversations with images. For analysis, we grouped two categories that reveal the perceptions that children are outlining of the environment and their relations with environmental education in the context of childhood. The first category is entitled "Perceptions of the environment from drawings" and the second "Children's discourses on the environment from images".

²This feature was not implemented during the production of the drawings, so that there was no standardization of ideas by the cooperative bond.

³For the excerpt of this article, we highlight two images, of the ten that constituted the study, the images were extracted from the internet and are illustrated by the characters that the children know and like. The option for these images was associated with the possibility of them dynamizing the children's conversations, since they present a variety of information in their constitution, which could support the children's discourses, broadening their perspectives with the intermediation of conversations with the researcher.

What children's drawings and discourses reveal about environmental perceptions and their relationships with children's environmental education: data analysis

Environmental perceptions from drawings

The centrality of children's representations of the environment is predominantly constituted by a bucolic image: Flowers, lakes, vegetation, animals, there is a predominance of fauna and flora, natural elements, a naturalistic environment, as illustrated in figures 3, 4 and 5.

Figure 3.

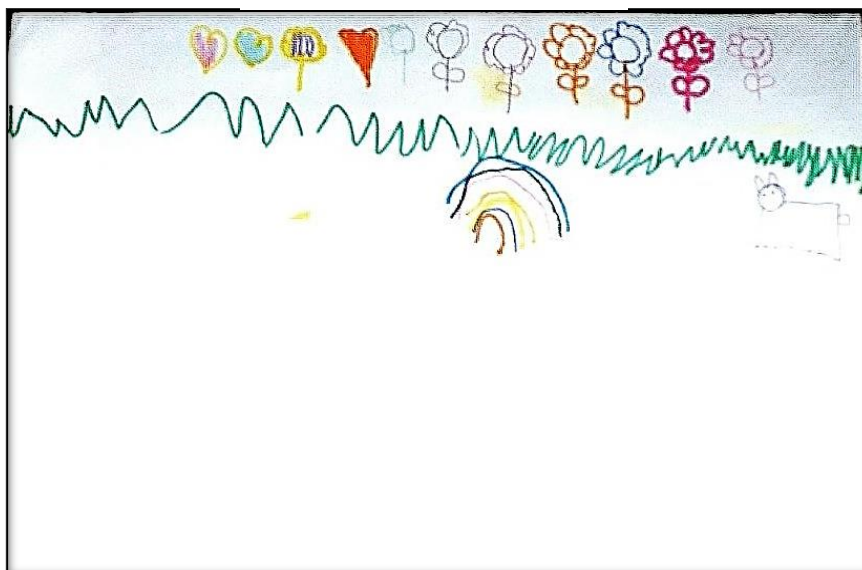
Environment is flowers.



Note: children's drawing (2019).

Figure 4

Environment is flowers.



Note: children's drawing (2019).

It is noticeable that in the children's drawings there is no presence of any social element or element related to the human being, only natural aspects of the environment. It is true that children construct their representations of the world influenced by their experiences and personal characteristics, by the intertwining of various factors, such as family, the media, peers and school. Contemporaneously, infants representations of the world are being permeated by the digital world, by multimodal resources and by new spaces for learning beyond educational institutions (Nascimento, 2018).

However, in early childhood, primarily among younger children, school still plays a crucial role in socialization and knowledge construction. Among older children, this is no longer so influential in their elaborations of the world. However, among older children from less favored classes, as is the case of the children in this study, who are enrolled in an educational institution whose location is located in a peripheral zone and serves a clientele that is also peripheral, in which the unequal distribution of access to resources to support the construction of knowledge is exposed, the school as a space with a critical social function and integral formation of the subject, has an indispensable and relevant participation in the way they understand and represent reality (Pereira & Deon, 2022; Paro, 2016).

Thus, during the production of the drawings, in their dialogues while drawing, they indicated that the school they attended disseminated environmental educational actions concentrated on the natural axis of the environment, evidencing conceptual similarities between the environment and nature, with a focus on flora. When asked by the researcher about what activities were carried out at school on Environment Day, the children answered: Child 1: "Makes a tree in the task. She (the teacher) gives a sheet and does it". Child 2: "We paint nature on paper". Child 3: "Paints the leaves".

The use of materials produced in the school in allusion to the environment made associations with trees, reinforcing the naturalist ideology. This may signal the high degree of presence of the natural environment in the conceptions and pictorial traits of the children. Other aspects revealed by the infants show a disconnection with the other components of the environment: Human beings and animals, for example. As evidenced in their discourses, the researcher as they drew what the environment was: Child 2: "Auntie, you can only make a flower, right? There's nothing else!"

Other meanings of the environment, elaborated by the children, are associated with the notion of cause and effect of environmental problems linked to the human component, as a causative agent. Sauv  (2016) conceptualizes this phenomenon of environmental vision as a problem, in which the relationships between human beings and the natural world are connected within the environmental problem. This concept was the only one that presented an anthropic element both in the discourse while drawing, and in the drawing itself. However, the premise is exclusively to the human as an individual who dirties the environment, there were

no conceptual approximations of the human as an integral or interdependent of the environment, as evidenced in figure 5.

Figure 5.

Environment has house, flowers and rainbows.



Note: children's drawing (2019).

The researcher questions the child why she had designed a house, in order to perceive what relationships she had established. The child answers: “Because people lives”. The researcher goes on to question her: “Do you think we have anything to do with the environment?”, she replies, “Because of a lot of dirt. A lot of things that are no good that they throw away”. The meanings of environment expressed reveal an environmental education with a predominance of a naturalistic approach (Layrargues & Lima, 2014), centered on nature and its elements, and little emphasis on the social dimension of the environment, which signals the absence of socio-environmental perspectives in environmental education activities.

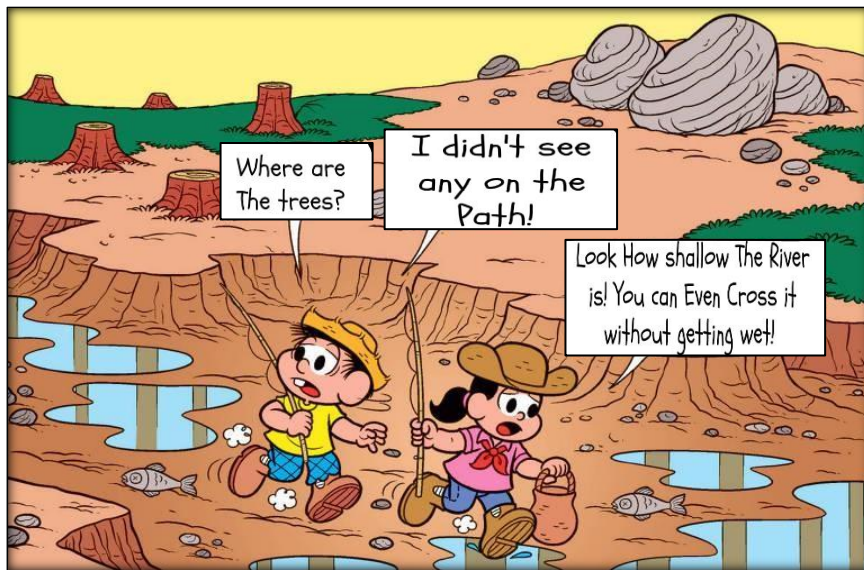
Pedroso and Capano (2023) discuss that working with the natural dimension of the environment in childhood is extremely relevant to promote approximations with the sense of belonging to the land and lovingness for its elements, after all, one cannot care for and respect what one does not know (Tiriba, 2018). However, they lack to dimension approximations with the necessary understanding that these are an integral part of it.

Children's discourses about the environment based on images

This category evidenced the environmental representations that are presented in children's discourses supported by the use of images, as shown in figure 6.

Figure 6.

Chico Bento and Rosinha in the destruction of the Pantanal.



Source: Excerpt from the website Mauricio de Souza Produções (2018).

The children's dialogues during the exhibition of the images explain the human being as an explorer or dominator of nature. However, they understand and verbalize that it is an inappropriate and reprehensible conduct: Child 1, *"I think the bird's nest fell and the man⁴ said: "Xô' little bird, 'xô' little bird", this is my meadow, I have to cut this tree. I'm the boss here!" It's because there's not that tree there. This one (stands up to show) is all short of this size here (gesture with the hands), it was to make it just like a tree for the birds to "sing", to be happy, to stay there sleeping and be their "little tree". But everything was cut".* The researcher questions them: *"What do you think trees exist for? Besides the birds staying in them?"* Child 2: *"To make a chair".* Child 1 answers: *"No! You have to leave it in the same corner that was, because you can't cut down trees that belong to nature".*

These perceptions reveal what Louv (2016) and Pereira (2015) describe as processes of subjectivation of the notion of environmental abuses, at the level of respect and care for nature, in which children demonstrate discernment, from the perspective of their age, actions of opposition and benefits to the natural world. However, Louv (2016) emphasizes that in the eagerness, by bringing children closer to a certain degree of awareness of environmental issues, one can actually incite a dissociation, in which the terms "environment", "environmental issues", for example, are associated with negative aspects, of fear and destruction in the children's imagination.

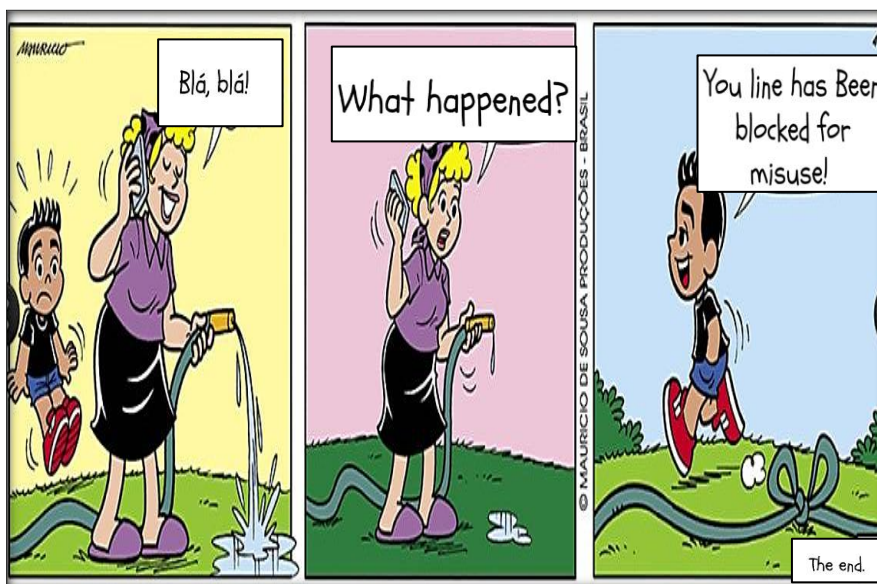
From the perspective of their ages, in their statements, we did not notice any fragment that could indicate connections, even initial, with aspects related to the replanting of trees,

⁴In Portuguese, "homi" was said instead of "homem", like other expressions that were transcribed in Portuguese as children say, but in English, the translation was in correct English.

about the finiteness of natural resources connected to the denial of tree cutting. In fact, such subjects are complex and difficult to be addressed with children, especially those under two and three years old, a situation in which experiential approaches, immersive in nature, are recommended, however, for older children between 4 and 5 years old, a gradual construction of introducing more elaborate scientific conceptualizations and sociocultural natures is recommended, associated with children's knowledge of the world (Biss, 2021; Brazil, 2017 Gesser, 2022;). When we presented figure 7, the children in their dialogues demonstrated connotations of meaning associated with anthropocentric conceptions in relation to the issue of water. The researcher asks them “*What do you see in the image?*”

Figure 7.

Marcelinho in: not wasting water.



Source: Excerpt from the website Mauricio de Souza Produções (2018).

The children answer: “The woman forgot to turn off the water and the boy went there and turned it off”. Another replied: “She was wasting water”. The researcher went on to ask them: “Why did the boy do this? Did you go there and turn on the tap?” One of the children in the group replied: “Because you can't waste water. If you waste water, you don't have to take a shower anymore. There is no more water to come to school”. The researcher questioned: “Does anyone know where the water that is in the woman's tap comes from?” A child replied, “I know! It comes from the water pump and “xiii”, it comes out, then it goes up in the tap and it comes out”. Another said: “From the river. It's a pipe that goes into the water and the water goes up and goes there, to the pumper”.

Regarding the anthropocentric conceptions in relation to water, Pereira (2015) describes that such concepts are erected under the utilitarian bias of things, in the case of

water, this concept is expressed from the implicit understanding that human needs, such as bathing, are the counterpart for taking care of this element, there are no nuances that express other dimensions for the need for this care, how to be substantial earthly life, for example. As for the creation of concepts and interpretations in children, these can happen through social interactions, observing and interacting with adults and peers, through concrete experiences, contact with objects, manipulation and real-world situations, through language, with conversations with adults or peers, they can learn new concepts or refine their own, as well as, The culture in which it is inserted, both in a broad and narrow sense, such as the school culture, for example, that is, the set of values and beliefs that they carry and disseminate, can shape these children's perceptions of the world (Bee & Boyd, 2015).

With regard to environmental education and its issues, the school has been entrusted with being one of the main disseminators of the theme, and in fact, the school carries this important role and the theme has permeated its educational actions in greater or lesser volume (Gesser, 2021; Tiriba, 2018), however, Pereira (2015) and Louv (2016) emphasize that when addressing nature and its elements, institutions often highlight the relevance for human use as a centrality of the theme, whether its individual, social or business use, and sometimes does not dynamize to other dimensions that these elements encompass, such directions can foster the emergence of conceptions based on reductionist views in children, without them being able to have glimpses of understanding the value of preserving water as an attribute of survival of the planet.

By dialoguing, from the perspective of their ages, their understandings about the origin of water, they demonstrated that they are building, albeit in an incipient way, their ecological addresses (Toledo, 2017), as they have already established relationships between what the cultural world imposes, “taking water from the river and pumping it to reach the tap”, for example, and the origin of things, of what comes from nature, “the water of the river”. Such understandings can evidence what Biss (2021) advocates: That is possible to gradually expand children's knowledge about the environment, including at this specific point, discussions that are directed towards understanding the relationships of water in the dynamics of planetary life, in the perspective and language of children.

Thus, when we consider that we are at a moment in the history of humanity in which it is necessary to preserve Life on Earth, it is not enough to acquire only notions, concepts, knowledge about reality, and in a fragile way, it is necessary to live and act on reality (Tiriba, 2018, p. 98) and this construction is done gradually, but no less profound and from the earliest age.

Final considerations

The analyses allowed us to show that children are signifying the environment strongly and exclusively associated with nature and its elements. In their drawings and discourses, no relationship was perceived, even if substantial, that could evidence understandings, from the perspective of their ages, about the inclusion of man as a component of the environment. When an anthropic element appears on the scene in the drawings or in the discourses, it is associated with understandings of damage to the environment, internalizing conceptions of man as an agent that causes environmental problems, which are not untrue, on the other hand, we can infer that knowledge that can gradually collaborate for understandings that express the maxim of Morinian⁵ inspiration, “the man who causes evil, is also the man who causes good”, of the subject who understands himself to be correlated to everything that surrounds him, were not perceived.

All these aspects contribute to a fragile environmental education, when it exists. Environmental education in the studied context is largely of a naturalistic focus and this is not a problem, because the relevance of nature for children of all ages is consolidated in the literature, and this is part of the environment, although in the study, the children are conceiving it as the environment itself, and from a purely didactic-pedagogical point of view, with emphasis on mechanisms of “painting the sheets on paper” instead of the experiential nature itself, issues that are raised in environmental education in childhood and corroborated by child development (Freire, 2013), regarding the learning character of younger children, being conditioned to experimentation, manipulation, “looking with the hands” (Hohmann & Weikart, 2014).

These approaches allow children to be fully immersed in nature, while, as they develop in their cognitive and body structures, they can expand their repertoires of the world with the support and mediation of the teacher (Tiriba, 2018). In the study in question, the infants are already in a state of cognitive maturation for a greater degree of abstraction, due to their age, which makes it possible to gradually add complexifications about the dynamics of relations of the equation nature/man/society/environment, which was expressed in a simple way through dialogues about the origins of the water processes by the infants (Bee & Boyd, 2015). Children's curiosity, their common logics, their eyes of astonishment at what they see, their questions, are the indications that, if well perceived, can collaborate in the passage from first learning to the contours of the scientific-historical-cultural world of which teachers and children are, are and are part (Alves, 2018; Brasil, 1998).

⁵It refers to the philosopher Edgar Morin who in his ideas says that the human condition is complex, full of antagonisms and bipolarities.

Thus, the study in general presents controversies and dissonances in the construction of the conceptualizations of the environment by children, which can hinder the development of an environmental education in the child context “that helps us to live, to lead our lives”, as well as implicitly clarifies the problems related to the deficiencies of initial and continuing training of teachers, as a key element to give meaning, deepening and propositions, which enable contextual learning with one's own life and as a correlated youth, the children's learning needs. The methodology of drawings and discourses by images proved to be excellent methodological strategies to diagnose the perceptions and relationships that children establish on the theme, as well as the appreciation of their discourses gives authenticity to their opinions and the appreciation of their listening as potential elements for the improvement of pedagogical practices, aspects that can be considered in the planning and forms of procedural and permanent evaluation of development of the children by the teachers, making it possible to collaborate with a human formation that dialogues between learning and life.

REFERENCES

- Arnholdt, B. M. F., & Mazzarino, J. M. (2020). Formação continuada de professores de educação infantil em Educação Ambiental vivencial: a exploração dos pátios das escolas: . *Revista Brasileira De Educação Ambiental (RevBEA)*, 15(7), 134–154.
<https://doi.org/10.34024/revbea.2020.v15.11041>.
- Alves, R. (2018). *A educação dos sentidos: conversas sobre a aprendizagem e a vida*. (1ª ed.). Planeta.
- Biss, L. C. (2021). *Educação Ambiental: o papel dos pedagogos na formação continuada em serviço de professores e educadores dos Centros Municipais de Educação Infantil de São José dos Pinhais*. [Dissertação de Mestrado, Universidade Federal do Paraná]. Acervo digital da UFPR. <https://acervodigital.ufpr.br/xmlui/bitstream/handle/1884/73300/R%20-%20D%20-%20LIARA%20CRISTINA%20BISS.pdf?sequence=1&isAllowed=y>.
- Barros, M. (2018). *Cantigas de um passarinho à toa*. (1ª ed.). Companhia das Letras.
- Baumann, Z. (2021). *Tempos líquidos*. (1ª ed.). Zahar.
- Bee, H. & Boyd, D. (2015). *A criança em desenvolvimento*. (12ª ed.). Artmed.
- Freire, H. (2013). *Educação verde crianças saudáveis: ideias e práticas para incentivar o contato de meninos e meninas com a natureza*. (1ª ed.). Cultrix.
- Freire, P. (2019). *Pedagogia da Autonomia: saberes necessários à prática educativa*. (74ª ed.). Paz e Terra.
- Gesser, K. M. B. (2022). *A formação continuada do professor da educação infantil em Educação Ambiental: uma proposta dos profissionais da rede municipal de São José dos Pinhais*. [Dissertação de Mestrado, Universidade Federal do Paraná]. Acervo digital da UFPR. <https://acervodigital.ufpr.br/xmlui/handle/1884/75730>.
- Guimarães, M. (2020). *A Dimensão ambiental na educação*. (11ª ed.). Papirus.
- Grisi, S. J. F. E. & Escobar, A. M. U. & Gomes, F. M. S. (2018). (1ª ed.). *Desenvolvimento da Criança*. Atheneu.

- Garcia, L. H. M. (2022). *Práticas pedagógicas e o cuidado com a natureza na perspectiva de professoras de creche da rede pública de ensino do município de Fortaleza* [Dissertação de Mestrado, Universidade Federal do Ceará]. Repositório Institucional UFC. <https://repositorio.ufc.br/handle/riufc/69250>.
- Gil, A. C. (2022). *Como elaborar projetos de pesquisa*. (7^a ed.). Atlas.
- Hohmman, M. & Weikart, D. (2014). *Educar a criança*. (6^a ed.). Fundação Calouste Gulbenkian.
- Horn, M. G. S. (2017). *Brincar e interagir nos espaços da escola infantil*. (1^a ed.). Penso.
- Klein, A. L. (2021). *A educação ambiental na educação infantil: construção da infância socioambiental sob o foco das propriedades rurais pedagógicas* [Tese de Doutorado, Universidade Federal do Paraná]. Acervo digital da UFPR. <https://acervodigital.ufpr.br/xmlui/handle/1884/72753>.
- Kuhlmann, M. Jr. (2015). *Infância e educação infantil: uma abordagem histórica*. (7^a ed.). Mediação.
- Kramer, S. & A. P. & Toledo, M. L. P. B. & Barbosa, N. F. (2019). *Ética: Pesquisa e práticas com crianças na educação infantil*. (1^a ed.). Papirus.
- Layrargues, P. P. & Lima, G.F.C. (2014). As Macrotendências político-pedagógicas da educação ambiental brasileira. *Ambiente & Sociedade*, 17(1), 23-40. <https://www.scielo.br/j/asoc/a/8FP6nynhjdZ4hYdqVFdYRtx/>.
- Louv, R. (2016). *A última criança na natureza: resgatando nossas crianças do transtorno do déficit de natureza*. (1^a ed.). Aquariana.
- Lakatos, E. M. & Marconi, M. A. (2021). *Fundamentos de metodologia científica*. (9^a ed.). Atlas.
- Ludke, M. & André, M. E. D. A. (2022). *Pesquisa em educação: abordagens qualitativas*. (2^a ed.).
- Morin, E. (2020). *É hora de mudarmos de via: as lições do Coronavírus* (1^a ed.). Bertrand Brasil.
- Morin, E. (2022). *A cabeça bem-feita: repensar a reforma, reformar o pensamento*. (28^a ed.). Bertrand Brasil.
- Morin, E. (2018). *Os sete saberes necessários à educação do futuro*. (2^a ed.) Cortez.
- Ministério da Educação. Secretaria de Educação Básica. (1994). *Política nacional de Educação infantil*. http://portal.mec.gov.br/seb/arquivos/pdf/pol_inf_eduinf.pdf.
- Ministério da Educação. (1998). *Referencial Curricular Nacional para a Educação Infantil*. (1^a ed.). Secretaria de Educação Básica. <http://portal.mec.gov.br/seb/arquivos/pdf/volume3.pdf>.
- Ministério da Educação. (2017). *Base nacional comum curricular*. (3^a ed.). Secretaria de Educação Básica. <http://basenacionalcomum.mec.gov.br/abase/>.
- Martins Filho, A. J. & Prado, P. D. (2020). *Das pesquisas com crianças à complexidade da infância*. (1^a ed.). Autores Associados.
- Martins Filho, A. J. & Delgado, A. C. C. (2018). Da complexidade da infância aos direitos das crianças: pesquisa com crianças e a produção de culturas infantis. *Humanidades & Inovação*, 5(6), 154-165. <https://revista.unitins.br/index.php/humanidadeseinovacao/article/view/776>.
- Martins, R. C. (2010). *A organização do espaço na educação infantil: o que contam as crianças?* [Dissertação de mestrado em educação, Universidade Federal do Paraná]. Acervo digital da UFPR. <https://acervodigital.ufpr.br/xmlui/handle/1884/24301>.

- Oliveira, E. M. B. (2015). *Ser menino e ser menina: construção das Identidades de gênero em contexto de Educação Infantil* [Dissertação de mestrado em educação, Universidade Federal de Alagoas]. Repositório institucional. <http://www.repositorio.ufal.br/handle/riufal/3196>.
- Oliveira, R. B. & Prestes, D. C. (2023). Desenhos infantis como ferramenta de análise da percepção sobre o meio ambiente. *REMEA - Revista Eletrônica Do Mestrado Em Educação Ambiental*, 40(1), 96–119. <https://doi.org/10.14295/remea.v40i1.14431>.
- Pedroso, D. S. & Capano, G. (2023). *Educação ambiental*. (1ª ed.). Pucpress.
- Roficce, C. (2016). *Crianças e natureza: reconectar é preciso*. (1ª ed.). Pandorga.
- Pereira, G. P. C. & Deon, V. A. (2022). As concepções de infância e o papel da família e da escola no processo de ensino-aprendizagem. *Revista Educação Pública*, 22, (5), 1-5. <https://educacaopublica.cecierj.edu.br/artigos/22/5/as-concepcoes-de-infancia-e-o-papel-da-familia-e-da-escola-no-processo-de-ensino-aprendizagem>.
- Paro, V. H. (2016). *Por dentro da escola pública*. (4ª ed.). Cortez.
- Pereira, M. H. B. (2015). *Educação ambiental e infância*. (1ª ed.). Appris.
- Rodrigues, D. G. (2023). *Educação ambiental à luz do pensamento complexo e da teoria tripolar: ma proposta para professores de educação infantil* [Tese de Doutorado, Pontifícia Universidade Católica do Paraná]. <https://pergamum-biblioteca.pucpr.br/acervo/364543>.
- Rodrigues, D. G., & Saheb, D. (2019). A formação continuada do professor de Educação Infantil em Educação Ambiental. *Ciências e Educação*, 25(4), 893–909. <https://www.scielo.br/j/ciedu/a/XRYxkfFyTQzqVcbdZGJqTK/?lang=pt>.
- Saheb, D., & Rodrigues, D. G. (2023). Formação continuada em educação ambiental para professores de educação infantil na visão da complexidade e da transdisciplinaridade. *Revista Ibero-Americana de Estudos em Educação*, 18(00), 1–18. <https://doi.org/10.21723/riaee.v18i00.15052>.
- Silva, O. F., dos Santos, A. W., & de Araújo, A. F. (2024). Educação ambiental na formação de Professores de educação Infantil: discussões à luz das Diretrizes Curriculares Nacionais para Educação Infantil e do pensamento de Edgar Morin. *Bio-grafia*, 18(33), 1–10. <https://revistas.upn.edu.co/index.php/bio-grafia/index>.
- Silva, O.F, & de Araújo, A. F. (2024). Professora, qual a educação ambiental que se faz na educação infantil?. *Educação Em Foco*, 27(52), 1–20. <https://doi.org/10.36704/eef.v27i52.6669>.
- Silva, O. F. (2020a). *O lugar da educação ambiental na educação infantil: o que dizem as crianças* [Trabalho de conclusão de curso, Universidade Federal de Alagoas]. Universidade digital. <https://ud10.arapiraca.ufal.br/repositorio/publicacoes/3505>.
- Snicheloto, I. (2019). *“Ela é forte porque é, é preciosa!”: relações entre crianças e natureza na educação Infantil*. [Trabalho de Conclusão de Curso, Universidade Federal da Fronteira Sul]. Repositório Digital UFFS. <https://rd.uffs.edu.br/handle/prefix/3662>.
- Silva, P. A. (2019). *As agências e a criação de cultura infantil: vivências e experiências das crianças em uma creche pública de Arapiraca - AL* [Trabalho de Conclusão de Curso, Universidade Federal de Alagoas]. Universidade digital. <https://ud10.arapiraca.ufal.br/repositorio/publicacoes/3074>.

- Sousa, E. L., & Pires, F. F. (2021). Entendeu ou quer que eu desenhe? Os desenhos na pesquisa com crianças e sua inserção nos textos antropológicos. *Horizontes Antropológicos*, 27 (60), 61–93. <https://doi.org/10.1590/S0104-71832021000200003>.
- Santos, P. O. S. (2020). *Infância, políticas públicas e mudanças geracionais: um estudo socioantropológico na zona rural de Orobó* [Tese de Doutorado, Universidade Federal de Campina Grande]. Sistemas de Bibliotecas da UFCG. <http://dspace.sti.ufcg.edu.br:8080/jspui/handle/riufcg/24984>.
- Silva, O. F. (2020b). *A educação ambiental da educação infantil nos documentos curriculares nacionais da infância: conceitos e correntes*. [Comunicação Oral]. Congresso Nacional de Educação, Campina Grande. <https://editorarealize.com.br/artigo/visualizar/67565>.
- Sauvé, L. (2016). Viver juntos em nossa terra: desafios contemporâneos da educação ambiental. *Revista Contrapontos*. 16 (2), 288-299. <https://periodicos.univali.br/index.php/rc/article/view/8697>.
- Santos, A. B. (2018). Somos todos da Terra. *Piseagrama*, 1(12), 1–15. <https://piseagrama.org/artigos/somos-da-terra/>.
- Tiriba, L. Canal Crias grupo de pesquisa, (2021). *Desemparedando as crias protegendo a terra: educação como direito à alegria*. [vídeo]. Youtube. <https://www.youtube.com/watch?v=HPn8La297zQ>
- Tiriba, L. (2018). *Educação Infantil como Direito a Alegria: em busca de pedagogias ecológicas, populares e libertárias*. (1ª ed.). Paz e Terra.
- Toledo, M. L. P. Pátios de escolas de educação infantil: entre o exposto e o escondido, marcas e vestígios. (2017). *Educação E Pesquisa*, 43(1), 177-198. <https://doi.org/10.1590/s1517-9702201611150588>.
- Zanon, N. G. (2019). *A inserção da educação ambiental em centros municipais de educação infantil em São Carlos-SP: uma análise a partir de uma perspectiva crítica*. [Dissertação de Mestrado, Universidade Estadual Paulista]. Repositório institucional Unesp. <http://hdl.handle.net/11449/181065>.

