

## We are loaded for bear! The use of zoo holiday camp for environmental education.

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### Abstract

Environmental Education in non-formal educational spaces emerges as a tool capable of making people aware of the importance of conserving natural resources. The present study aimed to evaluate the potential of a holiday camp as a tool to promote non-formal environmental education. For 5 days, a total of 19 children between 9 and 12 years old, participated in various activities held in a zoo, located in the city of Dois Vizinhos, Paraná. The research had a qualitative and descriptive character and the field diary and participant observation were used for data collection. The results indicate that the children were made aware of the importance of all animals to the ecosystem and at various times presented critical thinking about the problems caused by man to the environment. It is hoped that the activities developed can collaborate in the process of formation for change, in which people can change their relationship with the environment, not only in their daily attitudes, but as future citizens of rights who demand economic and social transformations for the conservation of natural resources.

Keywords: Critical thinking; Environmental awareness; Education in zoos.

## **1. INTRODUCTION**

The growing concern with the environmental problems of modern society has driven the search for solutions, and Environmental Education (EE) emerges as a tool of awareness and ecological mobilization. In turn, zoos are environments with great potential for educational activities, since they can contribute to increase the connection with nature or strengthen positive environmental attitudes (KLEESPIES et al., 2022).

During the school break period, children have more time to play. However, there is concern about how they are occupying their free time and what games they are playing, and whether these games will interfere negatively with their development or put them at risk. Usually, school holidays do not coincide with parents' working holidays, and many children are left alone or at the home of some reliable person for the family (HENTGES et al., 2018).

In this sense, the holiday camps emerged, especially, to help parents occupy their children's leisure time (SILVA; BRETAS; CALDAS, 2013). Thus, outdoor activities have expanded due to several areas, such as tourism, sports and education (ASAN; EMEKSIZ, 2016). Visits to outdoor parks can bring unique and fun experiences, increasing people's well-being and creating positive long-term memories (SCHLEMMER et al., 2021).

The holiday camp as an environmental education tool in non-formal educational spaces provides greater involvement by children, enabling a more meaningful learning and consolidation of concepts (RIBAS, et al. 2018), since the child can have the opportunity experience in practice what he saw in the classroom.

Among the various non-formal learning spaces, the zoo is an environment where children can get to know and interact with the animals studied in class, understand their importance to the ecosystem, as well as social issues such as trafficking and the problems caused by man to the environment. Costa (2004, p. 143) points out that "among the various goals of EE, the awakening of an ecological conscience is closely related to the role of zoos in society". The zoo, like other spaces of non-formal education, is considered a strong ally in the critical teaching of children and young people, as it stimulates a greater understanding of the relationship of animals with the environment, and man as an integral part (QUEIROZ et al., 2011; LOPES; FANFA; LEÃO, 2022).

Hence, this work aimed to evaluate the potential of a holiday camp as a tool to promote non-formal Environmental Education. It also discusses zoo-related issues, such as its importance for wildlife conservation, the welfare of captive animals through environmental enrichment, and wildlife trafficking.

## **2. METHODOLOGY**

The work was carried out on the premises of a zoo, located in the city of Dois Vizinhos – Paraná – Brazil. In January 2020, for five days, a holiday camp called "Estamos com a macaca!" (translated in the title as "We are loaded for bear!"), was held for 19 children aged 9 to 12 years. Topics such as ways to mitigate the problems caused in the environment, the importance of the zoo for wildlife conservation and environmental enrichment were addressed through recreational activities.

The research had a qualitative and descriptive character and the field diary and participant observation were used for data collection. The field diary enables the documentation of the practical experiences of a work,

taking on the character of a reviewing and recording tool of what happens in the researched groups (FREITAS; PEREIRA, 2018). Meanwhile, participant observation allows the researcher to enter the space of the investigation as a member of the group, seeking to avoid that his presence causes the cohibition of the research subject (MAGALHÃES; NASCIMENTO, 2021) and thus make the researched feel at ease to explain his ideas truthfully.

## **2.1 STAGES DEVELOPED IN THE HOLIDAY CAMP**

In this research, different methodological tools were used, among them: lectures, monitored visits, environmental education dynamics, and other educational technological resources. The activities took place in different stages, described below.

### **2.1.1 Day 1: Getting to Know the Zoo**

First, the project was presented through a lecture, which consisted of presenting the zoo through media. Following this, the participants were asked to reflect on their expectations regarding the five days of activities.

Afterwards, the children were invited to visit the zoo's premises, by means of a guided tour. During the walk, the group was able to reflect and discuss the importance of the site for the conservation of fauna, aspects of the ecology and behavior of animals, issues involving illegal animal trafficking and what should be done if any wild animal appears in any residence or is found injured.

In the afternoon, the children were initially distributed in ten pairs, for the dynamic called the "Wailing Wall". Each group received a cardboard, pens, crayons, and paints, and were asked to draw about what they considered an "environmental problem". After making the posters, each group presented what they had drawn.

Then, the children watched the episode "A plan to save the Planet" from Turma da Mônica (Brazilian famous cartoon), which demonstrates the importance of reducing, reusing and recycling household waste. Soon after, they watched the video called "the history of things" produced by Annie Leonard in 2007, which explains about the exaggerated consumption of natural and material goods and the impact of this on the environment. The videos were shared with the group, and discussions of the topics were held.

Finally, the children were introduced to the internment of the zoo, which houses animals undergoing rehabilitation and veterinary treatment, and the vivarium, which houses crickets, cockroaches and rats that are used for feeding other animals.

### **2.1.2 Day 2: learning about animal welfare**

The theme "environmental enrichment " was worked on the second day, through different recreational activities. Environmental enrichments are applied in order to achieve a better quality of life for captive animals, mitigating stereotypes, which are abnormal behaviors, not present in free-living animals (MOREZZI et al., 2021). The techniques applied aim to stimulate one or more senses. They are classified into five types: physical, social, sensory, cognitive and alimentary (GRASSI; MOURÃO; DAVANSO, 2021). Food environmental enrichment is usually more practiced and is the type that presents the greatest variation in applications and types of supply (SOUZA, 2020).

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To apply the dynamics of environmental enrichment, fruits and sweets were previously distributed to the premises of the zoo, then the participants were invited to look for the treats. The objective of the activity was to elucidate the process of environmental enrichment and the importance of this for captive animals.

Then the research participants were able to assist in the process of environmental enrichment. To this end, they helped in the preparation of five environmental enrichments, which were applied with primates, felids, chelonians and birds. All environmental enrichments applied were of the food type. The capuchin monkeys (*Sapajus*) received popsicles and the red-footed tortoise (*Testudinidae*) received watermelon and hibiscus, both of them are stationary fruits and which do not make up their daily diet. The marmosets (*Callithrix*) received cardboard balls with banana and food, the jaguar (*Panthera onca*) received a box lined with hay and pieces of meat, and the toucans (*Ramphastos toco*) received pieces of fruit stuck in a pinecone, making it difficult to obtain food, to instigate them to obtain their meal in a different way from the traditional way for captive animals.

It should be noted that all safety measures were respected and that the preparation of the enrichments was done in an adequate and safe environment, the materials were inserted into the enclosures by the responsible and qualified handlers, the children only observed the behavior of the animals outside their enclosures.

This proximity to the animals was probably something special for the children and may be something unique in their lives. The main objective of this activity was for the children to recognize that the zoo seeks, above all, animal welfare and that the enrichments developed take the animal out of the routine of captivity and allow them to have a behavior closer to the natural of the species.

### **2.1.3 Day 3: the zoo's biggest problem: talking about wildlife trafficking**

On the third day, the proposed theme was animal trafficking, which is one of the biggest problems in the zoo today. Brazil is known worldwide for the diversity of species, it is located in the neotropical region and has a wide wealth of fauna and flora. However, the country has a high rate of poverty and social inequality, the combination of these two factors makes the country has the highest rate of illegal wildlife trade in the world, providing an average movement 1 billion Reais (R\$) per year (Alves et al., 2022).

To execute the proposed theme, the children participated in a conversation round about the theme. Then the participants were divided into four groups: two groups were told to draw an urban environment with domestic animals, and two groups were told to draw a forest with wild animals. After making the posters, the groups presented their drawings, reporting the purpose and which animals were part of that environment.

Following, in the mini-auditorium, the children watched the film "Rio", which very well depicts the problems of wildlife trafficking. Then, the children received a playful booklet from Ibama (MOURA, 2007) on wildlife trafficking, which was read and discussed with the group, looking for ways to curb this illegal practice. The objective of this activity was to sensitize children to mitigate this practice, informing parents and family members of the problems caused to animals that are taken from nature, causing ecological imbalance, altering the food chain and reducing biodiversity.

In the afternoon, a practice called "Hunter in the Woods" was carried out, proposed by Pongiluppi and Tassoni (2010), which aimed to work on the impact that hunting/trafficking and deforestation cause to the

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environment, reducing diversity and extinguishing many species. The children were divided into three groups: the first group received a red badge written “hunting/deforestation”, the second group received a green badge written “tree” and the last group received a yellow badge written “animal”.

In a wide place, at the sound of the whistle, the children with the red badge should try to catch the trees and animals. Animals hugging trees or running to the escape area were protected. Trees could not be cut down if they were embraced by animals. Finally, a socialization was done, to deduce what conclusions the children reached with the activity.

After that, the film “Wall-e” was watched, which depicts the problems caused by pollution of the environment and the disposal of solid waste. Then, the responsibility of the production and correct disposal of waste, correct consumption and sustainable development was discussed.

### **2.1.4 Day 4: learning about biodiversity**

On the fourth day, the importance of biodiversity for the environment was initially presented, commenting on the problems arising from the extinction of animals and their importance for maintaining a balanced ecosystem. Then, a dynamic, also proposed by the authors Pongiluppi and Tassoni (2010) entitled “food web game” to demonstrate the importance of biodiversity, was applied to reinforce the concept that all parts of an ecosystem are interdependent and expose concepts of food chain, ecological imbalance and the problems that can occur with human intervention.

The children were distributed in a circle and given plaques with the names of animals (herbivores, carnivores), plants, decomposers (such as fungi and bacteria) and one child were given a plaque depicting the sun. The sun child was given a ball of yarn, held one end and threw it to some child representing a plant (symbolizing the primary producers), who then threw the ball to an herbivorous animal. This one threw it to a carnivorous animal, which eventually threw the skein to some decomposer. The decomposer returned the skein to The Sun, completing a cycle. The process was repeated until all the children were holding a part of the skein. Thus, they were able to understand how the food chain works and how each species is important for the balance of the ecosystem.

Then, the representation of the extinction of some animals was made, which pulled the line and then released it, affecting the entire chain, so that the children understood how the ecosystem is harmed when some species are extinct within an ecosystem.

Finally, the children were distributed in groups and given cardboards to draw a balanced ecosystem. The drawings were presented to the class and then a socialization about the activity was carried out.

In the afternoon, the students watched the film "The Lorax: in search of the lost truffle", which depicts the problem of deforestation and irresponsible industrialization. After the film, a socialization was carried out to explain the importance of preserving the environment.

### **2.1.5 Day 5: reflection day**

On the fifth and final day, the activities aimed to reflect on the themes worked on in the previous days. To this end, the children were asked to write a text about animal trafficking, highlighting the problems, their

causes and consequences, and possible ways to mitigate them.

In the second moment, two problem situations about the zoo were presented and texts were made available for reading and a subsequent discussion socialization of the activities. The first problem situation presented the following statement: “when visiting the zoo, the uncle of a family misjudged the place, stating that zoos should end, as they imprisoned the animals. The child of the family, knowing the importance of the zoo for the conservation of wildlife, decides to change the mind of his uncle. Question: What can the child do to demystify the zoo for the family?”

The second problem situation brought up the following case: "The mayor of a municipality has noticed that the pollutants in the city's river have increased significantly in recent years, causing illnesses in the population and a higher cost for water treatment. Question: What should be done to reduce this problem?"

After this moment, the children were asked to write a poem about the zoo. At the end of all the activities, sitting in a circle, the children were able to describe what they had liked the most, what they had learned and answer possible doubts.

### **3. RESULTS AND DISCUSSIONS**

In the five days of activities developed at the zoo, the children had the opportunity to get to know the animals more closely and, especially, understand, socialize and question about the importance of Wildlife Conservation. In addition, they discussed general environmental problems, such as deforestation, pollution, solid waste disposal, exacerbated consumption of natural and material goods, among others. In recent years, zoos have come to be recognized as institutions of environmental education, especially within the framework of non-formal EE, these environments have evolved from living museums to centers of education and conservation (KLEESPIES et al., 2022).

This provided children with more knowledge about the biggest problems about the environment today, leading them to question means of mitigation for these problems. Thus, based on the participant observation and the notes taken in the field diary, the discussion of the themes worked on was carried out.

#### **3.1 APPLICATION OF DYNAMICS AND MAKING POSTERS**

After the theoretical explanation of the subjects, the application of the dynamics was carried out, which appear as simplifiers of knowledge. In all the dynamics, the interest of the children and the active participation of the activities were noticeable. The playfulness should present functional pleasure, be challenging, create possibilities, have a symbolic dimension, and express itself in a constructive way (MACEDO; PETTY; PASSOS, 2007). In this sense, playtime can facilitate the beginning of the processes of active imagination and social behaviors, because the children can set themselves challenges beyond their daily behavior, hypothesizing to understand the proposed problems (WAJSKOP, 1995).

The dynamic called the "Wailing Wall" resulted in the making of posters, where the dedication and interest of the participants was evident, as well as several questions about the theme and interest in making the posters. Among the themes, three pairs presented general environmental problems in their drawings, citing deforestation, air and water pollution, industrialization, incorrect disposal of solid waste, and greenhouse gas



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emissions, among others. The other groups dealt with specific problems. Four pairs referred to the problem of garbage, two pairs drew on pollution and one pair raised the problem of deforestation.

In socialization during the presentation of the posters on the environmental problems caused by man to the environment, one of the children pointed out that:

"It is difficult to put all the environmental problems into one drawing, because there are many problems that we can talk about, like garbage, deforestation [...] that is why we drew the whole planet and put several problems, to be able to talk about everything. And I think people will only stop destroying our planet when they have no way back." (Report of child A)

In the preparation of posters about a balanced ecosystem, all groups drew different trees and animals (birds, mammals and reptiles).

Another interesting factor was that all the children used bright colors and sunny days to represent something that reminded them of a good feeling. However, none of the drawings presented man as an integral part of the ecosystem. This can occur due to the predominance of conservationist and pragmatic macro-trends applied in schools, where children end up simplifying the concept of environment, summarizing it into loving nature, without thinking about the problem as a whole and man as an integrated part of it (LAYRARGUES; LIMA, 2014; PRESTES, 2021). This highlights the importance of applying lessons with a critical-emancipatory nature, seeking a collective change and not just a personal one.

Piaget (1971) states that the production of material makes the individual construct something from his/her perceptions, which is significantly effective in the learning of the person who elaborates it. In the development of the activities, a child stated: "I prefer to draw than write, it is more fun" (report of child B).

Often, learning is seen as synonymous with teaching, in which the teacher transmits knowledge and students absorb it, and "cooperative learning has been described by the scientific community as the most effective way to put into action effective differentiation in the classroom" (TAVARES and SANCHES, 2013, p. 312). Thus, group work, based on determined objectives, encourages the participation of all students, resulting in better learning performance.

Cooperative learning can be defined as a methodology in which students, in small and heterogeneous groups, work together to perform a task, from pre-defined objectives (Ramos, Silva and Lopes, 2013). By having to relate to others, participants develop various competencies, such as ease of communication and ability to work in a team (NITZKE; FRANCO, 2002). In this sense, group work also helps in understanding, interpreting, analyzing, and synthesizing (CABRAL, 2018). About this, one child stated: "I like to do the activities with my classmates because they help create cooler ideas, so the drawing is more complete" (child C). Thus, the development of the activity and socialization after making the posters promoted the sharing of knowledge and discussion about the themes proposed here.

When asked which dynamic was more fun, most reported being Candy Hunting. In this activity, children could find and take for themselves, no more than two sweets each, so that no one would be harmed by the game. Many children helped the other classmates to look for the sweets distributed around the rest area, giving efficiency to the activity with group work and, in this assumption, one participant commented: "the activity

was cool because everyone helped each other, and in the end everyone had sweets to eat” (Report of child D).

Some children stated that the Forest Hunter dynamic was more fun for instigating competitiveness, since the class was divided into three groups, which were supposed to “fight” for survival. One child said, “I like to play tag, and I learned from it how harmful trafficking is to animals.” (Report of child E)

Other children commented that the activity that had the most impact was the one that simplified the importance of biodiversity and one child said: “I had no idea that everything was linked like this, sometimes I wondered why some animals exist and today I learned that all animals are important” (child F).

Playfulness presents great effectiveness in teaching/learning, since the child learns by playing, making the subject developed more fun, and often the act of playing is not only important for entertainment, but can be effective in the learning process (FLEXA; MARTINS, 2021, P.167).

### **3.2 ENVIRONMENTAL ENRICHMENT**

Environmental enrichment aims to improve the quality of life of animals from a study on the species involved, seeking the conservation and rehabilitation of the species (GARCIA and BERNAL, 2015; GRASSI; MOURÃO; DAVANSO, 2021). Thus, the children were able to follow the applications of the enrichments and observe the interaction of the animal with the environment.

Nine children stated that the enrichment done with the jaguar was the most fun, because they had the opportunity to observe the animal interact with the box and finally get the food (Figure 1). One child quoted that “the Jaguar is such a cool and smart animal; I thought it wouldn't be able to open the box.” Five children chose the enrichment with popsicles, three children cited the enrichment made with toucans and one child said he liked the enrichment with chelonians more.

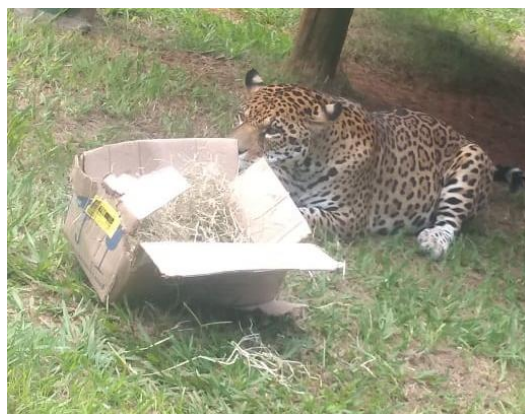


Figure 1: Application of food environmental enrichment with the Jaguar.

It was possible to notice that the children chose the best environmental enrichment from the animals that interested them the most. The Jaguar is considered a ferocious animal and draws attention for its beauty and this instigates curiosity. This was the enrichment of greatest interaction with the animal, because the Jaguar took time to obtain the food, that is, open the box and remove the meat from the hay, which kept the children's



attention for a longer time.

After the application of the enrichments, a socialization was carried out to understand what the class had learned from the activities. One child commented: "I thought the animals were used to living in the 'cage' and that they only needed food." Another child added: "I thought environmental enrichment was about money. It was very nice to see the animals playing and managing to catch the food. It's nice to know that animals are stimulated to maintain their natural instinct."

Silva (2011, p. 47) states that "the exposure to an environment enriched with opportunities for social interaction, exploration and physical activity increases cell proliferation, survival and the number of new neurons in experimental animals" and with the activities, it was sought to make clear to children the importance of instigating instinctive behavior, which meets the ecological and psychological needs of the animal through modifications in enclosures and routine.

### **3.2.1 VIDEOS AND FILMS**

Throughout the activities, the children watched two educational videos and three films. All of them portrayed some problem caused to the environment and ways to mitigate it. The two educational videos were "A plan to save the planet" from Turma da Mônica, which deals with the correct disposal of garbage and the "History of things", which deals with consumption patterns and makes connections between environmental and social problems. The films, "Lorax: in search of the lost truffle" depicts deforestation; "Rio" addresses wildlife trafficking; and "Walle" deals with the incorrect disposal of garbage.

The use of films in teaching evokes a construct of education outside the traditional one and that films can provide interesting possibilities in the production of knowledge (Reina and Horn, 2017). The authors conclude that this knowledge "is not bound to some conventions and routines or to a hierarchy of knowledge, but it is configured as an element of expression of ideas, critical reflection and the development of a new culture" (REINA and HORN, 2017, p.562).

The use of films is a social practice as valuable in the cultural and educational formation of the individual as the reading of literary, sociological and philosophical works (DUARTE, 2017). Thus, the film becomes an effective tool in the teaching and learning process.

The images help in approaching reality and contextualizing the content with the student's daily life, thus, cinema serves as an educational bridge between school theory and proximity to reality (RODRIGUES, 2018). Given this assumption and the discussions, there was greater assimilation by the children with the themes works after the presentation of the videos and films.

### **3.2.2 TEXT DRAFTING**

On the last day of activities, the children prepared a text on wildlife trafficking, in which they should discuss the problems related to the practice and solutions to the problem. They could use the IBAMA booklet "Free wild animals: healthy people" as support material.

The class was divided into seven groups, and each group was given a worksheet for writing the text. Two groups created fictional stories to explain their ideas, elaborating stories similar to those presented in the

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IBAMA booklet. However, both groups did not present ideas for controlling, mitigating or solving this illegal practice.

Among the other five groups, the first did not present any solution, but explained that “*trafficking is mistreatment of wild animals [...]. That is why we must denounce these types of threats to the environment [...]. To have wild animals, we need authorization from IBAMA. In some zoos, most of the animals are trafficked.*”

The second group stated that “*animal trafficking is built by the people who sell and those who buy the animals. The problem with animal trafficking is that in a few years if they continue with trafficking, the animals will be extinct, and this will harm nature [...]. The solution to trafficking is to stop stealing animals from the wild.*”

The third group spoke about diseases transmitted by wild animals and stated that “*animal trafficking is increasing and often buyers are not aware of how dangerous the situation is.*”

The fourth group stated that “*wildlife trafficking happens everywhere in the world, including in Brazil. This happens because traffickers want to make more money. How they are sold: sometimes they are doped and wrapped in newspapers to be calmer, some have the eyes pierced, others have the sternum broken, to look tame and the birds sometimes have the wings and tendons cut to not run away. Animals are transported by the dozens, the vast majority dye.*”

Finally, the fifth group considered that “*animal trafficking is something that grows more and more, wild animals are taken from the wild [...] and are sold without authorization. [...] Species are becoming extinct because of this cruel act. We will fight for nature, fight for life. To solve trafficking, the help of everyone is necessary, for example: if you don't buy it, they won't sell it; if you don't sell it, you won't make a profit; if you don't make a profit, you will stop hunting; and if you stop hunting, you will have fewer animals taken from the wild.*”

Textual production is a valuable resource to identify the student's knowledge about a particular subject. Freitas (2012) points out some criteria for the elaboration of a good text, such as clarity, coherence, precision, conciseness, objectivity, cohesion, and creativity. In general, the children were concerned with the writing of the texts, regardless of the textual genre they used. The biggest problem of the groups was that they presented incomplete texts, since the majority of them did not present a solution to the problem.

In the socialization, after reading the texts, the children verbally concluded what was missing in the textual production. Maffesoli (1968) points out that when we leave a problem open, it provokes a debate and contradictory propositions, since there is a social diversity within the debate Group.

The aforementioned author also states that “*there is not a single reality, but different ways of conceiving it*” (MAFFESOLI, 1968, P.31), and thus, each group expressed itself in its own way, some texts were written in a simpler way, others in a more complex way, however, all assertively, demonstrating that they understood the subject worked on.

### **3.2.3 PROBLEM SITUATIONS**

Given the problem situations presented, the present research obtained the following answers. The first

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group stated that “*João told his uncle that the zoo has four matters: preservation and conservation of Species, Research, leisure, and environmental education. He explained that the animals are not trapped but rescued.*”

The second group said that João can tell his uncle that “*the zoo takes care of animals in need and that they cannot live in the jungle. Zoos have many advantages, such as: the preservation of species, research on animals, informing people about nature. That they do environmental enrichment, they do activities with the animals to exercise the muscles. That the zoo saves many animals from trafficking. The zoo also takes care of animals that have been mistreated. They have this responsibility to care for the animals and preserve them regardless of species.*”

When asked about the incorrect disposal of waste, garbage accumulation and diseases, the children answered the second problem situation in the form of topics: “supervision; voluntary action to collect garbage; recycle, reuse, reduce; posters around the city; giving lectures explaining the situation; using reusable products; buying only what is necessary; reducing water consumption.

In the description, they cited the 3 R's and commented on the importance of buying only what is necessary. These were subjects addressed in the videos showed to the children on the first day of the camp, demonstrating that there was understanding and awareness of the children on these topics.

The second group wrote: “We should throw the rubbish in every right bin. For this, we need the public to pay attention to the garbage they are throwing, the rivers they are polluting and various other environments they are polluting. The bleach goes into the sewer and often ends up going into the rivers, the oil that is thrown into the kitchen sink goes through the pipes and goes into the river and ends up killing a lot of fish. Sometimes people throw the poison canister into the rivers. Many people throw their rubbish into rivers. We must make the mayor realize that the people are throwing garbage in the streets, etc. So he should put some rules.”

Through the application of problem situations, students have active participation in the development of knowledge. Thus, by discussing in a group, the children were able to add ideas to complete the proposed question. The construction of a problem-situation must follow some principles, such as having a neutral approach, having a concrete form, not having many distractions in the text, guiding learning and using items that contain previous information, as well as, they must be consistent with the child's reality, since it uses its life knowledge, seeks new information and integrates it, assuming a critical stance about real situations (GUEDES-GRANZOTTI et al., 2015).

The commitment of the groups to respond to problem situations was noticeable, and both took about an hour to complete the activity. The teacher as an intermediary of knowledge, can contribute to the formation of autonomy and also maintain a control behavior over students (BERBEL, 2011).

Thus, the activity was totally mediated by the educator, however, the children had the necessary time to complete the activity autonomously. From the answers, the criticality of the children about the subjects worked was clear.

### **3.3.4 POEMS AND POETRY**

As the last activity of the holiday camp, the children were asked to write a poem about the zoo. Levinson (2018) states that many zoos in the United States already work with poetry, and that this method, used as

creative writing, provides children with a multidisciplinary experience.

The results indicated a great heterogeneity in the elaboration of poetry, because some children made complete stanzas and others only sentences. In all, there were 8 poems with a single stanza and one with only one sentence, 7 children created poetry with more than one stanza and two children did not complete the activity. It was also noticed that some children had difficulty in the elaboration, because they did not have knowledge in how to make a poetry. All children received the necessary support to complete the activity.

The vast majority of children focused only on being able to finish the sentence rhyming and, for this reason, many poems lost the focus of the proposed theme or became meaningless.

As an example of this, a child wrote: *"The lion eats beans to get big, but there is still a lot left to it."* Another child also wrote: *"The Lion who ate the bread; the ostrich the couscous; the lion was big; the rattlesnake is afraid of paper."* Three children who wrote a stanza, quoted the zoo.

The first one wrote: *"I loved this week at the zoo; we gave popsicles to the monkeys. The animals are here to live, obviously; before they were taken, people made a deal, which said they would take care of the animals. But what I realized this week, this zoo is really cool."*

Another added: *"the zoo is great; I learn very nice things from it; all this I learned in only one week and I had a lot of fun."* Another quoted: *"at the zoo I learn about animals; I understand about the lion, monkeys, jaguars and tigers. Animals are beautiful, they are all beautiful."*

From the seven children who wrote more than one stanza, six cited the zoo. One child cited the significance of the zoo: *"I learned the importance of the zoo; I had fun, of course; some things I learned: preserving nature to leisure; research to environmental education; I met every animal. The best week of life; a beautiful experience."*

Another child talked about the zoo, cited what he learned and how important the holiday camp was: *"this week was really nice; the zoo is cool; in it I learned more about the animal world. I learned many things; and I gave food to the animals; I even saw the fox playing with his friend. I learned about trafficking; and how harmful it is; and looking at the graph; I discovered that the humans are really stupid. Animals are important for the environment; and it is impressive how they help us. This week was very cool; and I will tell my family that it was very rad."*

Children live little with poetry, and when this coexistence occurs, several didactic misconceptions also appear (Souza, 2012). The author points out that poetry is usually defined only as a set of verses and stanzas, leaving aside the content and the expressive plan. This statement is consistent with the elaboration of poetry by most of the children, who sought words to complete the rhyme, but did not pay attention to the text, making it meaningless and inexpressive.

However, when used well, poetry frees the imagination, and sharpens the sensitivity of children (GOBBI, 2010; MARINHO and AZEVEDO, 2021), thus creating criticality on various subjects. Poetry reestablishes the child's playful experience, as it is seen as a toy, a fantasy and as a game that is not devoid of creativity (SILVA, 2006).

In addition to the ability to develop creativity and writing, poetry stimulates memorization, rhyme and Phonology awareness (Botelho, 2017). Therefore, in a playful space such as the holiday camp, children can

express the knowledge obtained in the activities and demonstrate their feelings with informal writing.

### **3.3.5 THE HOLIDAY CAMP AS A TOOL FOR EE CRITICISM**

The insertion of the so-called "holiday camps" in zoos can become an extremely effective tool in this EE process, since it is a time when children are unconcerned with tests and school work. In addition, the development of playful activities, interaction with animals and activities in groups, are great attractions for children and even for family members, who often have nowhere to leave their children while working during the school holidays.

Through the activities developed, the critical perception of the children about the problems caused by man to the environment became clear. The non-formal environment of the zoo also contributes to autonomy, as the children feel free to discover, make mistakes and get it right, and the mediator must value the mistake and the rightness (SARAIVA; FERREIRA, 2019). Corrêa and Barbosa (2018, P.134) point out that "for the implementation of an EE vision, it is not up to recipes or prescriptive activities, it is up to planning and executing reflective activities that place the subjects involved as an active part of the educational process".

It is also relevant to highlight the possibility of working on interdisciplinarity in a zoo holiday camp, such as arts, geography, history, theater, among other areas. In this aspect, the zoo presents a wide spectrum, in addition to animals, accounting for many teaching possibilities (ZAREVA-SIMEONOVA et al., 2009).

The camp, with all the EE activities developed, proved effective in the process of creating critical and emancipatory thinking. However, education is a continuous process and, according to Barreto et al. (2008), requires time and an engaging methodology, seeking to sensitize the students.

Thus, it is important that EE is worked in several spheres and in a continuous way, so that the future generation grows up sensitized about the problems caused to the environment and that they actively and critically seek ways to mitigate these problems.

## **4. FINAL CONSIDERATIONS**

Over the years mankind has been advancing in the various areas of society, but in order to achieve this progress, too many natural resources have been used, which has caused several problems for the environment. EE appears as a mitigating means through sensitization, in which the student is led to question the problems caused to the environment through criticality, participation, the creation of reflections and to seek actions to alleviate these problems and seek increasingly sustainable alternatives for development.

The future of the planet depends on the next generations, and that is why the work in EE is so important with children, so that they learn from an early age to take care of natural goods. Given this, the holiday camp aimed to use the zoo to work on EE, which was found to be of great value, since the children's interest in learning and curiosity was clear in all the activities developed.

The non-formal axis of teaching makes the children more comfortable to express opinions and answer questions, sharpening the criticality of these, when dealing with the most diverse subjects. Moreover, the zoo was a space with great capacity to work EE because of all the wealth it presents.

Thus, the holiday camp played a great role in raising awareness and stimulating criticality in children



about the interaction between human beings and nature, the importance of a balanced ecosystem and the need for good zoos for animal welfare.

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