

## «FALAS DA TERRA»

### «Nature, literature and education – An exploratory research with children of Primary School»<sup>1</sup>

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#### **Introduction**

Folk and/or contemporary literature is a branch of the cultural heritage, that when spread among children and young people, allows the promotion of more conscious attitudes concerned with nature protection. Moreover, the worth of literary texts, that reflect this issue, is definitely greater.

Thus, we have developed a theoretical and practical research which focuses on a selection of texts, whose main characters are animals.

The conceptual framework that works as reference to the project we intend to undertake is the constructivist – developmental perspective, namely the theories of moral development of Piaget (1932) and of L. Kohlberg (1981).

Analyzing these theories, we can detect that matters of justice and morality have always been studied concerning relationships among people.

The increasing interest for ethics and environmental education (Robottom, 1987), as well as the surveys of Peter Kahn (1999) and of Kahn & Lourenço (2000) have been reminding us of the relevance of extending the theme (matters of justice and morality) to relationships between humans and nature.

Subject areas: \*Psychology; \*\*Children's Literature; \*\*\*Educational Drama -

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According to some investigations already made by previous mentioned authors, everything directs to, that in a nearby future, there will be arguments to state that to the two

forms of more traditional ethics, the ethics of justice (that is, not to treat others unfairly; Kohlberg,1984) and the ethics of carefulness (that is, not to abandon others in need; Gilligan, 1982), we can add a third one, the ethics of conservation, that is an ethics that tells us to protect and to respect nature. Could it be that children apply moral obligation concepts when they think about human relations with nature, namely actions which pollute water and air? Do they worry about the fact that such deeds harm plants, animals and landscape itself? Do they think that animals have rights and an intrinsic worth? Is it, that this type of thinking, called moral-ecological thought, recognizes also changes that come with development? And, that be the case, how do these thinking methods as far as development and culture are concerned vary?

Our project integrates this theoretical reference framework and it was put into practice, in schools, during a period of time between February and June 2004. Its purpose is to observe if throughout a continuous work, based in the exploration, analysis and discussion of themes dealing with human beings' relations with nature, children change their conceptions and environmental values and therefore if there are changes as far as their moral- ecological thought is concerned.

According to Kahn (1999) and Kahn and Lourenço (2000), children demonstrate their concerns with environment since an early stage but these worries give out utilitarian conceptions that are subdued to human needs and desires.

In our opinion, it's up to the school to represent an important role in children's environmental education and as such, instead of reinforcing these types of conceptions, it should promote their reconstruction so that environment protection and respect are themselves a goal to achieve.

It was with this belief that we depicted our survey. Although it is an exploratory study, our purpose was not only to sensitize children to environmental issues, but especially to intentionally promote the development of conceptions more guided to nature's intrinsic value, through the analysis of literary narratives (animal's thematic) and its exploration at a dramatic level.

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At first, the book selection to be analysed within this perspective was made at random – picking a set of twelve books of several contemporary Portuguese authors, aiming at getting a sample of perspectives of approach of the theme of nature, being the animal the main focus. These were the only criteria that made us chose these twelve books and not other different ones.

**They are:**

Selected Books

Agualusa, Eduardo (il. Henrique Cayate) - *Estranhões e Bizarrocos*, Lisboa, Publicações D. Quixote, 2000

Andresen, Sophia de Mello Breyner (il. Natividade Côrrea) - *A Fada Oriana (The Fairy Oriana)*, Porto, Figueirinhas, 2003 (1ªed. 1958)

Correia, Clara Pinto (il. Susana Oliveira) - *A Ilha dos Pássaros Doidos (The island of the crazy birds)*, Lisboa, Relógio d'Água, 1994

Correia, Clara Pinto (il. Susana Oliveira) - *O Sapo Francisquinh (The Toad named Francisquinho)*, Lisboa, Relógio d'Água, 1998

Magalhães, Álvaro (il. Danuta Wojciechowska) - *Hipopótimos. Uma história de amor (Hipopótimos. A Love Story)*, Porto, Edições Asa, 2001

Mota, António (il. Elsa Navarro)- *O Galo da Velha Luciana (Old Luciana's cock)*, Vila Nova de Gaia, Gailivro, 2004

Soares, Luísa Ducla (il. Isabel Paiva) - *S.O.S. animais em perigo!... (Help! Animals in danger!...)*, Odivelas, Europress, 1996

Tavares, Miguel Sousa (il. Fernanda Fragateiro) - *O Segredo do Rio (The secret of the river)*, Lisboa, Oficina do Livro, 2005 (1ª ed. 1997)

Torrado, António (il. António Modesto) - *O macaco do rabo cortado (The monkey with the short tail)*, Porto, Editora Civilização, 1992

Torrado, António (il. Manuela Bacelar) - *O Veado Florido (The Flowery Deer)*, Porto, Editora Civilização, 1994



Vieira, Alice (il. Henrique Cayate) - *Rato do Campo e Rato da Cidade (The rural mouse and the courteous mouse)*, Lisboa, Caminho, 1992

Vieira, Alice (il. Rafaello Bergonse) - *As Moedas de Ouro de Pinto Pintão (The golden coins of Chicken, the Big One)*, Lisboa, Caminho, 2003

We can assemble the stories of these books in six categories:

1. The ones that revolve around the different kinds of relation between people and animals in their quotidian lives, which are the most part of them;
2. The ones that take this relation in a historical and critical perspective;
3. The ones that focuses on the animal's life, on their habitat's description and where the human being intervenes putting the animal out of its environment;
4. The ones that are only centred in the animal and in its finding of freedom (in a contrary path referred in the previous category);
5. The rewriting of folk tales focused on the animal and its characteristics.

As a matter of fact, we found three lead character animals that illustrate the two categories we are going to explore: house pets (a chick) and wild animals (a monkey) and others ways of life that may not be so significant (two mice, one lives in the country and the other in people's house, in the city);

6. Finally, a last category of wonderful modern fairy tales which embody elements of folk tales (as the fairy, e.g.) and where the animal also appears.

In the first set, we have a fish that becomes friend with a boy, talks with him and that friendship has a value of its own, without utilitarian perspectives. Nevertheless, at the end the adults didn't kill the fish (in a time of great misery and lack of food) because in the net the fish only brings them canned food gathered from a wrecked ship.

Amazingly, despite the materialistic end, the evaluation that the fish and the boy's father make of the established relation between them is similar. The fish tells how he convinced two foxes to help him pull the net: «(...) I told them that you were my best friend and when people are friends of animals, we, animals, have to repay this friendship» (*The secret of the river*, p.36). And the boy's father tells the family: «(...) Animals are our friends also, not only people.» (idem, p 38).

In another tale, the friendship between a cock and an old woman has its origins in the gratitude that she feels towards him because he saved her from dying in the fire. The compensation is the good food provided by the old lady, but the decision of not selling him is based on the established friendship (*Old Luciana's Cock*).

The book *Help! ... animals in danger!* presents several stories in which the lead characters are, in each one of them, storks, wolves, see wolves, bats and lady beetles. Every one of them is protected by some people that try to sensibilize others to respect animals – by destroying stereotypes, such as the wolf always being aggressive and killing for no reason; or by showing that even the apparently unpleasant animals contribute to environment's balance, essential to all living beings, plants, animals and men.

There are situations in which human beings are temporally transformed into animals and that allows them to put themselves in the animal's shoes.

At last, still in the first category, there are tales in that the worth of life is something that man learns through the reactions of the animal.



In the case of *The Flowery Deer*, the deer loses the flowers of the antlers while a very wealthy man locks him in a golden cage and they only bloom again when he comes back free to the forest. In another story (*The Butterfly Hunter...*), a butterfly is set free by a little boy whom she taught that freedom is more important than collecting butterflies.

In the second category, we only have *The Island of the crazy Birds*, where in a very realist way, the topic about the destruction of nature perpetrated by men during the Discovery Period and throughout the following centuries is brought up. But, five hundred years ago men did not know the harm they were doing, but now in the twentieth and twenty-first century, we have the obligation of not repeating the same mistakes of the past, especially avoiding anthropocentric motives and attitudes exclusively utilitarian of society concerning nature.

In the third category we included a story, which from the first page to the last one, only talks about animal life in their natural habitat, focusing mainly on a toad. But, in the end, a man and two boys show up – pick it up, give it a name, Francisquinho, and take it to the garden of their home:

«No one could ever know if he was happy or not in the garden, because toads do not talk. But the younger son (...) assures that he saw a big and warm tear running from Francisquinho's sad eyes when the mother looked inside the bucket and started yelling, saying she had never seen such an ugly creature.» (*The Toad named Francisquinho*, p 60).

In these three first sections it is always animals that teach important things to man.

In the fourth set of books, there are animals that to the inverse path of Francisquinho – by determination and eagerness of discovery, a fish manages to jump out of the aquarium and find the sea, without man's intervention – unless the one that is implicit in a previous moment to the beginning of the story, when the fish were set in the aquarium («The little fish that discovered the sea», in *Estranhões e Bizarros*).

In the fifth section, the rewriting of traditional stories allows us to say that animals frequently show up interacting with men, not in a human being / nature antinomy point of view but by presenting situations where the animal is smarter than man and manages to solve its own problems.

There are also tales, such as *The rural mouse and the courteous mouse* that illustrate how fantasy can make us wish for something which is not right for us – the switch of life styles between the two mice shows how living beings adapt to space and life experiences and how the «natural habitat» issue can be a problematic concept: each one of the mice wishes to get his former life back; the courteous mouse, according to an ecological perspective, should be very happy living freely in the country, but after all, he rather prefers the stability of living in a house with food on time, than to get used to the uncertainty of living in freedom.

Finally, in the sixth category we meet good fairies and bad fairies, and the protagonist is a fairy that lives in the forest and has been assigned to take care of men, animals and plants, all as equals.

It is a charming tale of modern times that reminds us of traditional tales: «Once upon a time there was a fairy named Oriana». She has got wings and a magic wand, but it does not work to make pretty dresses, nor golden jewels, but to work out the problems of the inhabitants





of the forest: the timber man, the Poet, the deer, the fox, etc. Only the children, the Poet, animals, trees and flowers could see her.

One day, by vanity, she forgets about her task and the Queen of the Good Fairies punishes her by taking her wings and wand away. When Oriana becomes aware of the desolation the forest turned into, she talks with the viper snake, the ants, the mouse, the spider and all reveal a great sense of justice concerning Oriana's punishment, believing it to be fair.

When Oriana goes to the city, she does not get any help from any of the people she meets; it will be a cat and a stray dog that will help her. In the end, Oriana reveals a great generosity, throwing herself from a cliff in order to save an old woman, who was almost blind and lived in the forest, and at this moment she gets her wings and wand back and becomes a fairy once again, because she forgot about herself to help another being. So, everyone is happy again in the forest and Oriana, once more, takes care equally of people, animals and plants.

It is interesting to notice that most of these stories invoke a respect for the intrinsic value of nature, for balance between human and animal's needs, trying to find solutions, not anthropocentric ones but essentially biocentric or tending to these last ones – concepts that we will go through later on this paper.

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After the sample's analysis, we decided to pick up three stories where the animal plays a main role, according to criteria of a possible promotion of the moral –ecological development of the child.

## **METHODOLOGY**

### **Participants**

Eleven children, from the third and fourth year (from 8 to 10 years old children) of scholarship of Primary School of two rural schools took part in this study and so did their teachers (António Melo, school of Aldeia Nova do Cabo, and Manuela Caramelo, school of Tinalhas, in the area of Castelo Branco).

The teachers involved in the study were selected according to the following criteria:

1 They have a complementary scientific and pedagogic education in moral development and drama.

1 They teach in schools which are within a rural context.

### **Material/ resources and Procedures**

In a primary stage, each child was interviewed aiming at knowing their environmental conceptions and values and so, getting an initial ecological profile of the children (Pre-test) (Kahn & Lourenço, 2000). The interviews present the shape of semi- structured interviews, being characterized by the asking of the same questions to all interviewed children.

The interview's script was written based on questions used by Kahn (1999), Lourenço & Kahn (2000) e Lourenço (2002) in a research made in Portugal and it is composed by thirteen questions, which go around the four elements of nature: earth, air, water and fire, based on the following themes:

- Water pollution
- Air pollution
- Earth pollution
- Forest destruction
- Human beings relations with animals.

The questions of the interview are organized as follows:

1- questions that intend to obtain data about participants ecological consciousness, namely the importance subjects give to plants, water, animals, forests and green spaces, so as the knowledge they have about some problems that destroy environment;

2 - questions regarding actions that they propose or develop to avoid the same problems;

3 - questions that aim at knowing the conceptions children have about animal protection and rights and about living in harmony with nature;





4 - questions that have as main target knowing the measures they would implement in order to solve pollution of air, rivers, forests, etc if they were in power.

Each child was still asked to analyse individually a story which focused on two dilemmas:

- to take or not to take the animal out of his habitat
- to take care or not to take care of the animal

At the end of the scholar year, we applied the same instruments used in the beginning of the study (Post-test) in order to verify if there was an evolution in the environmental conceptions and values of the children after a pedagogical intervention.

This pedagogical intervention was made after a pondering with the involved teachers about the pertinence of an environmental ethics and education, about school's role and children literature in the development of an ecological consciousness more guided to an intrinsic value of nature itself, so as about the guidelines of the work that we were going to develop with the children.

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Bearing in mind these concerns, the three selected stories from the set previously mentioned are the following:

1. « O peixinho que descobriu o mar» («The little fish that discovered the sea»);
2. «O caçador de borboletas» («The Butterfly Hunter») (by José Eduardo Agualusa, ilust. Henrique Cayate, in *Estranhões e Bizarrocos*, Lisboa, Publicações Dom Quixote, 2000);
3. *Hipopótimos, uma história de amor* (*Hipopótimos, a love story*) - chapter «Hipopótimos» (by Álvaro Magalhães, ilust. Danuta Wojciechowska, Porto, Edições Asa, 2001).

1.

«The little fish that discovered the sea» tells the story of Cristóbal, a fish that was born in an aquarium, where there are more than 37 fish (his cousins, uncles, grandparents) and an old turtle. Sometimes the elder fish told stories that they had heard from their grandparents. Some said that beyond the aquarium glass walls, far from there, very far from there, there was water, so much water that a fish could spend his whole life always swimming straight ahead without ever hitting a glass. That immense water was called the sea, where the first fish were born.»

It became a tremendous demand for Cristóbal to make this dream come true, though the old turtle said that the sea didn't exist. So, one day, he got the courage and jumped out of the aquarium. It was then that he saw a cat, which thought immediately of eating him. But the fish didn't know what a cat was and asked her for help. After all, she was an extremely beautiful cat called Verónica that felt sorry for him, when he told her that he wanted to see the sea. So, Verónica caught him carefully with her mouth, put him in a bowl of water and went to find Nicolau, the albatross. Well, the albatross used to eat fish out of the sea, but he also decided to help Cristóbal. He flew during a long time with him inside his beak and when they arrived at the sea, he opened his beak and let Cristóbal go.

«Far from there, the cat thought of Cristóbal. From that day on she was unable to eat fish ever again. Poor thing, today she only eats vegetables!

2.

In «The Butterfly Hunter» we meet Vladimir, a little boy who receives many Christmas presents, preferring among them all the kit to hunt butterflies. One afternoon, he went out to hunt and had already caught five butterflies, which he had kept within a glass jar, when he saw an extremely beautiful butterfly that he managed to capture. «Now you are mine»- he told it- «and all your beauty belongs to me.» But this butterfly begins to talk with the boy, saying that he cannot imprison its beauty and tells him that one day, long time ago in India a good and wise man called Buda picked up a hand full of flowers, threw them in the

wind and said: «Fly!». And that's how the first butterflies came to existence.

The boy insists on keeping it because he is a butterfly hunter after all. But the butterfly explains him that there are things that cannot be kept such as the moonlight, the soft breeze of an apple trees orchard or the stars. Nevertheless, we can collect stars and find them again and again every night....

«If I free you now, will you be mine?»- asks Vladimir. It answers «I am already yours (...) and you are mine. You know? I collect butterfly hunters!»

Vladimir came back home happy like a bird. The father wanted to know if he had made a good hunt. The boy showed him the empty jar:

- «A very good one!»- he said- You see? I let the most beautiful butterfly in the world escape!»



3.

«Hipopóptimos» of Álvaro Magalhães is the third story handled by the children in our exploratory study. It's part of a longer tale in which a boy *in-love* is transformed into a hippopotamus. A pun is made with the title of the story because he is going to be part of a group of animals that protect children - therefore they are called «hipopóptimos» (hipopótamo - hippopotamus and óptimo- *great*).


When the boy, already transformed into a hippopotamus, arrives at a bank of a wide and deep river, which lies across a small wood, he finds other hippopotamuses and feels like one of them. He even begins to fall in love with a female hippopotamus. At a given

time, he meets the Great Hippopotamus, that is, the group's chief. Then the Great Hippopotamus tells the boy a story similar to the Great Flood and Noah's Ark, but in this story, where it rained 40 days and 40 nights and the whole earth was flooded, it was a hippopotamus that, in secrecy, saved a group of small girls and boys, taking them to the top of the only mountain that was not submersed. Great Mother Nature had decided to punish men who hunted and exterminated animals but afterwards these boys and girls who were saved became different and they opened their hearts to nature and animals and all of them had a little *grass* in the heart, symbolizing their connection to nature. And so it was throughout the centuries, all the children having a «hipopóptimo» to protect them.

But when they achieve a certain age, the children go through a metamorphosis, being transformed into an animal, to learn a lesson about other animals. «How could you ever know how they are if you don't transform into one of them?», asks the Great Hippopotamus to the boy. So the boy with his hippopotamus look goes through the experience of being taken to a Zoo and being exposed to the visitors' eyes. Thus, the children won't let the little grass inside their hearts die, always respecting animals and Great Mother Nature.

### Pre-test and Post-test results' analysis


**Table nº 1**  
**Children's Environmental  
Consciousness**  
**PRE-TEST**



"Environment altering issues" / Issues that affect environment	%
To throw garbage on the ground, to rivers and forests	46
Fires	21
To pollute air	15
Not to take care of animals	10
To cut trees down	6
To hunt endangered animals	2



We have already presented the methodologies used in the approach of each story and we worked along with the teachers the common guidelines/ strategies for its analysis. The selected methodologies emphasize in the group work made by the children for we believe that the opportunities of social decentralization (putting oneself in the other's shoes) are instigators of changes, allowing to see the world in a more plural, multiple and relative way, always having the sensibility of not conditioning the opinions and conceptions of the children.



**Table nº 2**  
**Children's Environmental**  
**Consciousness**  
**POST-TEST**


"Environment altering issues"/ Issues that affect environment	%
To throw garbage on the ground, to rivers and forests	47
Fires	5,8
To pollute air	14,7
Not to take care of animals	5,8
To cut trees down	3
To pollute water	9
Not to respect the environment	14,7

In all approaches, diversified proposals of dramatic improvisation were included.

In some cases, the methodology is centred in the discussion that came up from the story, in other cases the approach of the story appears in the sequence of fieldtrips, in the direct contact with nature and, in others, by the confrontation with other texts, for example the Human Rights Universal Declaration, Children Rights and Animals Rights.

Now we shall present the results of the Pre-test and Post-test analysis:






**Table nº 3**  
**Children's Environmental**  
**Consciousness**  
**PRE-TEST**

Attitudes referred by children to protect the environment	%
Not to pollute	31
To take care of animals	25
To grow / take care of plants	19
To separate / recycle garbage	13
Not to set fire	6
Water-saving	6

As we can observe in table 1 and 2, the children are aware of the environment altering issues and they show behaviours and attitudes to solve those problems.


The answers to this question in the Pre-test are descriptive, factual and life-experienced. In the Post-test, the concepts are more explicit and the children manage to characterize and classify the problems in broader classes. Having the strategies of a developed work as a reference, we can hypothetically state that the children evolved from a particular/ accurate conception to a wider integrative conception, which can be exemplified by the fact that in the post-test the concern about the respect for environment popped up, suggesting the possibility of talking of an ethics of conservation.



**Table nº 4**  
**Children's Environmental**  
**Consciousness**  
**POST-TEST**

Attitudes referred by children to protect the environment	%
Not to pollute	56,2
To take care of animals	6,2
To grow / take care of plants	6,2
To separate / recycle garbage	19
Not to set fire	6,2
Water-saving	6,2


Comparing tables 3 and 4 we can confirm that there are not big differences in the children's answers in both tests, nevertheless by the given arguments we can attest that the answers in the Pre-test are more affective, close to their livelihood, and above all concerning the care towards plants and animal (care ethics). Meanwhile, in the Post- test their ecological consciousness is centred in the need of avoiding global pollution issues: consequently the attitudes of not polluting increased, becoming clear a specification about air pollution as well as the importance given to recycling.



**Table nº 5**  
**Children's Environmental Consciousness**

Importance given to animals and plants


PRE-TEST	%	POST-TEST	%
Plants are important	100	Plants are important	100
Animals are important	100	Animals are important	100
Gardens / green places are important	100	Gardens / green places are important	100
Forests are important	100	Forests are important	100



**Table nº 6**  
**Importance given to house pets and wild animals**

PRE-TEST	%	POST-TEST	%
House pets are more important than wild animals	64	House pets are more important than wild animals	54,5
House pets are as important as wild animals	36	House pets are as important as wild animals	45,5






**Table nº 7**

**Moral - ecological reasons presented by children concerning animals**

PRE-TEST	%	POST-TEST	%
Anthropocentric reasons	51	Anthropocentric reasons	45,5
Biocentric reasons	38	Biocentric reasons	45,5
Both reasons	11	Both reasons	9

As we can see in table 6 the children's conception regarding the importance given to wild animals increased. The justifications given in the Pre-test revolved around the idea that the wild animal is an animal potentially dangerous to the human being and in the Post-test it was enhanced the need of their existence and the respect for all animals even the ones who are not house pets.



**Table nº 8**

**Conceptions about harmony with nature**

PRE-TEST	%	POST-TEST	%
Physical harmony	64	Physical harmony	55
Experimental harmony	18	Experimental harmony	9
Relational harmony	0	Relational harmony	18
No answer	18	No answer	18

The antropocentric explanations are all those which show the need for the preservation and care with the Environment, having the goal to satisfy the needs of the human being (company, nourishment, dress,...)

The biocentric explanations focus on the need to preserve the Environment because of its intrinsic value (to preserve the habitats, to respect the freedom of animals,...).

Some evolution was detected, decreasing the antropocentric reasons in the Post-test and increasing the biocentric ones, this being according to us the result of the development of the activities promoted by the teachers, having the short stories about animals as support.

**Table nº 9**

**Solutions presented by children to solve environment issues**

PRE-TEST	%	POST-TEST	%
Prohibitive strategies	64	Prohibitive strategies	60
Compensatory strategies	29	Compensatory strategies	33
Technological strategies	7	Technological strategies	7

As far as the conceptions about Harmony with nature are concerned, we observed that some children showed difficulties in understanding the meaning of Harmony, so in these cases an explanation of the concept was given to them.

Through the answers of the children who solved the question, we understood that the Physical Harmony, based in actions, thought whether in a positive way («to protect animals»....) or in a negative way («not to set fire,» «not to pollute air». ...) was always the most referred in the Pre-test and in the Post-test. The Relational Harmony («to talk with trees,» «to play with dogs,»...) only came up in the Post- Test and the Experimental Harmony

(feeling comfortable with nature: «quiet place to rest...») decreased, losing in the Post-test to Relational Harmony. No answers were found concerning Sensorial Harmony (anything we can apprehend through our senses), or Compositional Harmony (relating with nature in a balanced way, without breaking some limits). In this last case, we know that according to previous surveys, this conception of Harmony (Compositional) is a characteristic of older individuals with a more elaborated social-cognitive development.

**Table nº 10**

**Moral – ecological Dilemma**

Kind of reasons			
PRE-TEST	%	POS-TEST	%
Anthropocentric reasons	73	Anthropocentric reasons	27
Biocentric reasons	18	Biocentric reasons	64
Both reasons	9	Both reasons	9

The solutions presented by the children to solve environment problems, if they were able to set them in practice, most of them were Prohibitive Strategies («I would put in prison», «I would have more guards to watch», ...), in the Pre-test and in the Post-test. This finding checks with the moral judgment of 8 to 10 children years old children, guided to obedience, to constraint and to unilateral respect (moral heteronomy); a moral guidance that does not appeal to perspectivism and reversibility.

A decreasing of the Prohibitive Strategies was noticed highlighting the Compensatory strategies («I would put more garbage containers»,...) nevertheless these and the Technological Strategies («I would put filters in factories», ...) present similar numbers in the two tests.

No answers concerning Transformative Strategies (educational, mentality change) and the Affirmative Strategies (alternatives, giving insurances,...) were found, what is compatible with the cognitive and social-cognitive development of these children.



**The following dilemma was presented:**

**António found a fox cub in a den and decided to take it with him to his home. He got him a big cage and put it in the woodshed. As it was still very small he fed him cow milk mixed with plenty of water. Because the animal didn't drink much of the milk, at night he got it little bits of smashed meat, supper leftovers, so that he could eat more and left them there.**

**On the next day, António went to school early and when he came back to lunch he forgot about the fox cub. In the afternoon, when school was over, he went to play with some friends and only before dinner did he remember to check on the little animal. To his great disappointment it was dead.**

**1. Do you think that Antonio was right or wrong about bringing the fox cub in to his home? Why?**

**2. Do you think that if Antonio hadn't forgotten to take care of the fox cub, was it still correct from him to have it at home? Why?**

The children's answers show difficulties as far as the analysis of the question as a whole is concerned, focusing only in one aspect of the question and ignoring others. Some children answered that the child was wrong in the first question and left behind the fact that he took the animal out of his environment in the second question: would it be fair to have the animal at home if the right conditions for his care were provided. Since you do not hurt someone (in this case the animal) it is not considered to be a moral transgression by them.

They still display anthropocentric answers, however in the Post-test it was noticed a percentage increase in the biocentric answers, showing up justifications that reveal explicitly the notion of Habitat.

## **Conclusion**

Through the analysis of the children's answers it was remarkable to see that they integrate some conceptions conveyed by literary narratives. It was easy to single out the explicit inference to concepts, ideas, conception, explanations and comments expressed in the narratives and in the guidelines/ discussions proposed by the teachers, as well as in the research the children were invited to make about the theme.

In the Post-test and in the work made, we can notice that the environmental conceptions

given by the children are less strict and in some cases conceptions that were not identified in the Pre-test showed up.

Nonetheless, as we compared the results of the moral-ecological profile with the results of the Pre-test and Post-test, we acknowledged that these changes do not origin restructuring concerning their moral-ecological reasoning.

It becomes important to enhance that the pedagogical intervention was processed in a relatively short period of time, what would hardly lead to significant changes. We are compelled to believe that, by the previous stated reasons, if this intervention were stretched during a longer period of time, it would allow a more striking journey of moral-ecological development.

A fact that we consider important to point out, whether in the Pre-test whether in the Post-test, is that the children used arguments centred in the care ethics (Gilligan, 1997), displaying worries that are more relational, affectional and empathetic.

Since the handled stories revolve around the theme of animal, it was in the answers concerning this theme that the evolution from anthropocentric to biocentric conceptions became clearer.

It was also in these answers, as well as in the work made in school (text writing, drawing, debates) that concrete examples taken from the stories came up in order to illustrate their reflections and valorisation of animals.

In the drawings, for exemple, there is a great predominance of animals and of elements related to their environment. The human figure hardly appears.

As it was previously stated, although there was an evolution from anthropocentric to biocentric justifications in the theme of the animal, regarding the justifications given to the problems handled in the slides about children ecological consciousness, they are mainly anthropocentric justifications, that is they subdued to human necessities and motivations.

Concerning the «conceptions about harmony with nature», the subjects of this survey express different conceptions of living in harmony with nature, which include physical harmony, experimental and relational harmony. We have not found conceptions of sensorial harmony (one of the most basic ones) nor compositional (the most complex).

As to the proposed solutions by the children in order to solve environment issues, if they were in control or if they had power to change the world, no elaborated strategies were mentioned, that is, transforming and affirmative strategies.

As a whole, the results show that these children reveal worries with environment and such worries tend to be looked at as if they were moral obligations, restating the surveys made by Kahn (1997, cit. in Lourenço, 2002).

These findings check with the hypothesis of «biophile»: «according to which, there is a relatively natural tendency in human beings to be affiliated with nature» (Wilson, 1984, cit. in Lourenço, 2002, 111).

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