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**EMPIRICAL STUDY ON ENVIRONMENTAL EDUCATION IN  
PRIMARY CLASSES**

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***Abstract***

Over time, it has been found that there are relatively only a few psychological studies related to the importance of environmental education in primary classes in Romania. Some of the topics that could be discussed at this level could be grouped into the following categories: - the relationship between man and nature at children's; - children's competences related to geographical space, local horizons; - geographical / spatial preferences for children; - recycling possibilities proposed by children; - children's reactions linked to environmental disasters and nuclear weapons. We conducted an experiment at the school from Poiana Codrului, Satu Mare County, on a number of approximately 180 children with the average age of about 12 years. The following aspects were tested: Human-Nature Relationship, as well as Psycho-geographic Competencies developed at children's. The children were put in the situation of a fictitious "outdoor center" case, in the middle of nature, where they had to motivate their choices. The used didactic methods were: participation, play, project, etc. Thus, analysing the expectations presented in Piaget's theories of cognitive development, the hypothesis that at the end of primary classes the children's are able to make a deeper and more complex analysis of environmental issues centered more on causal problems is confirmed. The study attempted to emphasize at the same time another aspect related to the various forms of environmental organization in the case of children's.

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**Keywords:** Nature, involvement, experience, fantasy, competencies.



## 1. Introduction

This study wants to highlight the Human-nature relationship in children's vision.

The promoters of the study in question were Leena Aho in 1984, Horvat in 1974 and Voelker and Horvat in 1976. In the case of the present study the testing took place at the Poiana Codrului General School, Satu Mare in the school year 2016-2017 on a number of approximately 180 children with the average age of about 12 years.

Stoltenberg (2011) in her master thesis shows that the education for sustainable development wants to empower people with nature, not to live against them.

The tested group it was composed of children's between the ages of 9 and 16, and items were created both as negative and positive expressions related to the human-nature relationship.

### 1.1. The role of the educator / teacher

- The educator is a role model and thus enables a natural identification process of the children with the educator, whom they respect and appreciate and whose behavior can be their orientation on a moral level (Piaget, 1947).

- It supports the self-efficacy of children.

- He accompanies the children, in the sense of participatory observation, but also in the sense of Mittun, guided by their own interest.

- He accompanies the children in the empathic perception of the world through verbal and non-verbal expressions of their own empathic feelings.

- The educator wishes to understand the children and to perceive and accept their interests and subjective coping skills.

- He is willing to give time and attention when a child needs it.

- He supports the promotion of social, empathic behavior between children.

- The educator is an accompanying communication partner, also in conversation with the parents, in common learning and experiencing processes.

- He observes to recognize a child's innate competences, thus providing a starting point for dealing with challenges in other areas (Bernáldez, Gallondo, & Abell, 1987).

- It is not up to the educator to increase the childish readiness to explore. But he can offer help. Stumbling blocks on the way to a realization should be cleared out of the way of the children as far as possible or together with the educator.

- In-depth, highly focused children who have reached the state of "flowing" and are thus at the peak of a learning process are not bothered by the educator.

- Nothing in nature is meaningless, meaningless. This awareness supports the educator by a respectful and careful dealing with nature.

- The educator pays attention to the observance of rules.

## 2. Problem Statement

Are presented some aspect which should be taken in consideration and what can we do to improve our learning system.

**Participation:** taking children seriously and trusting them is a new perspective today. Therefore, they are expected to participate in sustainable development. In educational processes, learning should be made possible through participation in sustainable development. Participation is understood as a fundamental principle of living together or as a method in order to learn "how the knowledge and the perspectives of all those involved can be used for consensual and sustainable solutions" (Aho, 1984; Skolnick, 1978).

**Game:** Learning processes take place in children, especially in the game. In the game, children invent and use methods that adults often find difficult: simulating, inventing rules, improvising, experimenting, trying out and looking for alternatives (Piaget, 1947).

**Promoting Imagination and Alternative Thinking:** Thinking in the long term also means being able to deal with ignorance and risks by teaching children to ask what-if questions or find alternative solutions. This requires creativity as well as openness to other people and new situations (Sabo, 2012).

**Informal learning:** By the way, learning can be made possible in the sense of sustainable development by the game materials, the food or the ways in which people in kindergarten are chosen for sustainable development. The kindergarten has to take its role model as a place of experience, learning and design seriously in this regard and should therefore be reconsidered from a sustainability perspective and redesigned.

**Projects:** In projects, topics that can be examined under the aspect of sustainability are especially taken up. In the process, questions from the children are taken up in order to generate a new awareness of the relationship between man and nature. Scientific experiments can open up a new way of explaining the world (Bernáldez et al., 1987; Sabo, 2012).

**Experience and action orientation:** Methods and working methods should address all approaches to perception and understanding - through critical questions, through aesthetic means, through trial and error, through offerings for imitation, through excursions. This means kindergarten children should learn by their own actions and own experiences (Sabo, 2012).

### **3. Research Questions**

What is important for a child:

- in environmental education, especially for this age it is important to create free playgrounds in nature,
- the correct choice of these spaces (Nash, 1981),
- to provide the safety of these places (trust in the chosen place, proximity to the educator ... etc.).

Important in making this study is that children have prior knowledge of nature related mainly to: plants, animals, fire, air, rain, drought, forest, protection, recycling, waste, and various activities like climbing in the tree, collecting, observing, games in nature, shapes, smells, surfaces ... etc.

In the primary classes it is remarkable to be favourite the aspect of Pastoralism followed by sensation-seeking Antiquarianism. Especially it is also distinguished the Environmental trust, Urbanism and Environmental adaptation. During the 4-6 classes, stimulus seeking increases, while Antiquarianism remains the same.

Very well developed is the aspect in which children are open to everything that is directly related to nature: to learn, to test, to express. The desire to live in the city at least at the end of the middle classes is often poorly developed, which we can conclude that in Romania, the foundations of a true, ecological education are outlined and well defined (Balling & Falk, 1982; Piaget, 1947).

#### **4. Purpose of the Study**

The aim of this study is to investigate the Human-Nature Relationship, Psychogenetic Competencies developed at children's, and testing the Child Reaction on Environmental Threats. The study attempted at the same time to underline another aspect related to the various forms of environmental organization at children; their reactions and visions at the age proposed in the study regarding environmental issues. The scope also was to observe if learning through experiences stimulates the child's correct development in environmental education, targeting only children from rural areas.

#### **5. Research Methods**

In this study are presented four experiments related to the relation children and nature, in this experiments the children's were put in diverse situation.

##### **5.1. Methodical competence**

- sustainability as a model of ecological, economic, social and cultural thinking and action
- scientific connections, ecosystems, cycles in nature
- care and conservation of nature
- environmental pedagogical concepts, tasks and goals of environmental education
- nature experience and environmental exploration
- children as researchers
- basic scientific knowledge for the planning and implementation of age-appropriate scientific experiment (Skolnick, 1978).

##### **5.2. The experiments**

**The first experiment** - The children were put in the situation of a fictitious "outdoor center" case, in the middle of nature, in which they had to motivate their choices: between to construct or not in the middle of nature after the motto "myself and nature". They could use Lego cubes to build a block, a house. After the study we found that approximately 50-60% of the children brought arguments of an ecological, social and ethical type. And, between 25-30% used strictly ethical arguments in their choices. So that "nature or peace of nature" is a "value itself".

Most of the children could well imagine creating this center and automatic what would be the consequences of its creation in the relationship Man and Nature. As Piaget pointed out in his studies, older children are able to argue their choice by using arguments such as: if-then, on the other hand (Piaget, 1947).

In the study we could concretize an impressive aspect of what PRO-education means for the environment, what we can synthesize "conserving the nature". Regarding the moral aspects of human

behavior toward nature have been underlined less. Instead, the small children have a positive image of the future, totally different from that of older children (Schwebel & Schwebel, 1982; Skolnick, 1978).

#### *Psycho-geographic competences developed at children's*

As can be seen in Piaget's studies the cognitive development at children in this period, shows that children may refer to environmental issues only egocentric, in part. For the children from Central Europe, it will be much harder to understand the issues related to the tropical forest because they do not have a concrete perspective on this aspect from a geographic point of view. That is why the cognitive, geographical aspects are very important for the study of environmental issues. Likewise, the space in which the child moves, the size and the extent and the knowledge of the child play an important role.

**The second experiment** - We tried to show a picture and put it in reverse position. It is remarked one remarkable phenomenon that, as from a very early age, man just as animals has the ability to orientate ontogenetically. So at the younger children the retention and orientation in space is very good and it grows gradually with age.

Strictly related to the aspect of Pastoralism, the environmental issues are increasingly associated with certain notions such as holidays, relaxation, leisure, silence, downtown, industrial areas.

We are tempted to classify the environment and somehow to automatically pass it on to children. Very intriguing appears the appearance that inside of these spaces to create the so-called subspaces. For example, a walk in the woods offers perspectives: fir forest, deciduous trees, savannah ... etc. Children prefer small forests or with fewer trees, prefer brighter spaces than dark spaces (it recognized the presence and the feeling of fear).

The feeling is not very different from those from the city, who avoid crowded spaces, subways, spaces with some odours or noisy.

Regardless of the so-called theories "space identities" some spaces are more appropriate than others in child's development (Nash, 1981).

The space in which the child develops, plays and learns is very important. This also resulted from our study. Children report that their closeness to the environment is much higher in leisure time, holidays with parents. There is this tendency to qualify nature as being "beautiful" aspect most often involuntarily passed on to children. For example, images such as savannah, tropical forests and coniferous trees have been featured. Very interesting to note is that children chose the savannah. As can be deduced from Balling and Falk (1982) theories the psycho-geographical man is programmed to choose this space, to find it "beautiful", rather to argue that it is a habitual choice. It can be asserted with certainty that most of the children of the studied age reflect some spaces as "preferential".

**The third experiment** was "Littering" how does a child behave regarding this aspect?

In a close study regarding environmental education it can be noticed that space and environment can often be both positive and a destructive factor in the development of a child but also of an adult.

In the case of children it can be seen that one of the negative effects on the child would be to force him / her to have certain behaviour, most of the time being sanctioned so that in the future this aspect could be avoided. For example, the child's behavior regarding waste.

The specialists recommend that in the case of a bigger number of children, the effects should be rather positive, motivating the pupil, rewarding him for a positive thing, favourable to the environment (Horvat, 1974; Voelker & Horvat, 1976).

Unfortunately, both in politics and education, things remain only theoretically, but we should put much more accent on practice: educating in favour of environmental protection must be profitable!!

From a pedagogical point of view, it is necessary to have an "own initiative" type of education or "moral" to co-exist in one way or another according to the environment depending on the individuality of each child. Therefore teaching, explanation, the provided examples, the selected and applied didactic methods must take into account the individuality of each child.

That is why the research in question shows that the use of direct methods, the type of interference to do something often leads to an effect such as "I behave on the contrary" - a kind of stubbornness, an opposite affect than the desired one (Piaget, 1947).

The use of slogans, often lead to this effect. Effect tested also on adults even in different areas. Example: Forbidden smoking or alcohol harm to health.

**The fourth experiment** was testing Children's response to environmental threats

This has been tested in various researches since the 1980s, how much are children taking these threats seriously and how are they emotionally affected and how they look to the future.

In the vast majority of cases environmental issues generate fear and nightmares for children. For example, showing some images with terrain slides, nuclear explosions and floods (Schwebel & Schwebel, 1982; Skolnick, 1978).

The more children grow older; these worries, problems decrease, turn into pessimism, especially when the children find that their effort does not lead to any result or the result is too small.

One of the worries that prevail in children is that they can lose their parents and remain alone, which may cause them to become enthusiastic activists at an early age. Among the dangers we can mention the war and its consequences, pollution and industrialization (Horvat, 1974; Jürgens, 1989).

## 6. Findings

The results of this study show that:

- Older children are able to take a more complex view of environmental issues, to argue a problem from different perspectives;
- Pros and cons of parallel prospects were presented so that the right decision could be taken;
- The pupils tend towards to a Pro-nature vision;
- Older children do not focus so much on sentimental aspects.

Thus, analysing the expectations presented in Piaget's theories regarding the cognitive development, the hypothesis is confirmed, that at the end of primary classes children are able to make a deeper and more complex analysis of environmental issues centered more on causal problems.

This study attempted to emphasize at the same time another aspect related to the various forms of environmental organization at children.

This makes it easy to outline aspects such as:

- Pastoralism, that positive dimension regarding environment, the pleasure of being outside in the environment. Are remarked expressions as "I am very pleased to enjoy the summer nights".
- Urbanism, that inclination towards the city, towards a human created environment;

- Environmental Adaptation, that optimism, lack of care in the middle of the environment, care for the technology and environment to harmonize;

- Stimulus seeking. That stimulus to experiment, to discover new things;

- Environmental trust, meaning trust in any form, place in nature, or place created by man, lack of fear;

- Antiquarianism, emotions to the past, nature, landscape, historical places "I like to live in a house 100 years old";

- Need privacy, attraction for quiet places, the idea of freedom, and distance from noise;

- Mechanical orientation, interest for various structures and manual activities, lack of mechanization.

## 7. Conclusion

Psychological development in environmental education is still in its infancy, an oscillation between possibilities and reality and may require more research.

It is certain that little children are more sensitive, sometimes even pessimistic about environmental issues; they provide more pedagogical and practical facts than adults, because they experience more and are much more innovative.

In my opinion, we should learn a lot guided by the principle "trial and error". That is, no attempt without reflection, no model without evaluation, no measure without the awareness of the after effects. Here's how to learn through experience requires a continuous process of optimization.

That is why the psychological fantasies, models, experiments should stimulate the correct development of any child in terms of environmental education.

- Children are actively involved in their learning process and have their own sense of purpose.

- Children learn through active engagement with the world and with the help of all possibilities of perception.

- Contents, methods and ways of working are in accordance with certain values and goals of the underlying education concept, which deals with the present and future challenges, responsibly derive from the educators and educators.

- Children are to be involved in educational work with their specific questions and points of view.

The design of the learning environment and learning opportunities take place with a view to the sustainable development of the world.

### *Design of the nature*

We can structure these concepts in the following principles:

- Allow children freedom and enable free play

- Choose suitable locations

- Give safety; Familiarity with the environment

- Give orientation value

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