

## Educational Programmes on a Sustainable Architecture. The Educational Function of Architecture

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**Abstract:** This study investigate the motivational element for the Environment Responsible Behavior in the field of social issues and search for some local and international examples on ways and methods to promote the education on participative design process and a sustainable architecture and development.

**Keywords:** architecture, education, sustainable development, environmental responsible behavior.

### 1. TO BE OR NOT TO BE SUSTAINABLE

Beyond trends, beyond superficial imitation of sensational models, been sustainable is an attitude an reference to the self, to the world, to the others, human been, living creatures, domestic or wild animals, to the rural or urban landscapes, to the rocks, walls, pathways, birds, trees, grasslands, mountains, rivers, oceans or cities, to the environment of the day-to-day life. Being sustainable is to live convenient trough a judicious use of resources for our children and for the next generations heritage. Traditional civilization manage to adapt to the environment trough an exchange relationship in which the natural regeneration was possible ( cutting woods permit the regrowth of the forest, the rotation of cultivations fields ...). In traditional societies the built environment calibrate to the nature trough a permanent exchange between them.

Today we forgot the nature outside and built an crystal palace to protect us from cold and heat, from rain and snow , from hurricanes or sandy winds, from swamps and deserts, from wolfs and beasts, so the urges of nature cannot touch us anymore and we can experiment the pleasure of well being protected. Do the today modern lifestyle make us don't care about the outside world? Are we indifferent or too busy ?

Being sustainable means a state of mind, is to feel complete with us, with others and with the whole world. Did we forgot to adapt to the environment? Do people really don't care about the natural ant built environment?

How can we motivate people to think and act sustainable for their own environment?

### 2. HUMANS AND ENVIRONMENT

In his study "Humans Nature and Environmentally Responsible Behavior", Stephen Kaplan, professor at Department of Psychology of University din Michigan, Ann Arbor, published in 2000 in Journal of Social Issues, propose the

Reasonable Person Model as an evolutionary, cognitive, motivational approach to understand human nature. Analyzing the motivation for an Environmentally Reasonable Behavior, Kaplan find that "the circumstances in which people find themselves that may play a central role in their behavior". The author argues that the motivation based on altruism, the guilty feeling or sacrifice do not have much effect on the human been.

The interdisciplinary field of cognitive sciences demonstrate that "people are exceptionally adept at processing information", and in many areas as language understanding and object recognition exceed the capacity of high performance computers.

According to the studies of evolution this remarkable capacity is no accident, says Kaplan. "When our primate ancestors came down from the trees to live in a savannah environment, they found a terrain already inhabited by well adapted competitors." In these situation adaptation on the existing environment trough rapidly and skillful information processing, foresight and flexibility, supplemented by a good knowledge of the environment, of the potential predators and possible pray, made possible the surviving on the margins. "Those early humans who survived must have had an inclination to behave quite differently in circumstances supportive of their information-processing capability as opposed to circumstances that made that activity difficult or impossible", says Kaplan. From this point of view humans are active, curious solving problem animals. Those first humans which made with pleasure this situations of environment adaptation has had an decisive advantage, since they inclined to practice them in free time, an activity referred as "play".

The Reasonable Person Model is described in these cognitive and affective preferences for circumstances which support motivation. As a first step, the author, S. Kaplan and colleagues identifies three aspects of processing information important on motivation and the change of behavior:

▲ people are motivated to know, to understand what is going on – they hate to be confuse and disoriented,

▲ people are motivated to learn, to discover, to explore – they prefer to accumulate information on their own pace and on their personal questions,

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^ people want to participate, to play a role in what is going on around them – they hate to be incompetent and helpless.

The last principle is mostly important, says Kaplan; in a situation in which people cannot act effectively to solve problems or implement new solutions became extremely distasteful. The people will try to avoid the situations which may lead them to the helpless feeling. From this point of view, “helplessness would be one of the most important motivational issues to consider in the context of behavior change”, mention the author.

### 3. MOTIVATION

The helpless feeling is not the only but the pivot of element in the environment responsible behavior it is mentioned in the same study of Kaplan. Studies cited shows that the increasing amount of information on environmental problems do not lead to a greater concern on these problems, but to the increasing of the helplessness (Levin, 1993). This decline is attributed not to the apathy, but to the futility feeling (Donn, 1999).

“Those which seem to be not interested on environmental problems choose to put them on a distance to avoid the helplessness”, mention Kaplan, and not because these problems do not interest them. This make us to search for the motivational elements which reduce this helplessness feeling and in the same time are sensitive to theirs necessities and inclinations.

The solution is the participative implication in solving problems. “Participative” refers that many people are implicated in an action. “Solving problems” remind that the aim of the action is not the implementation of some plans already draw by someone, but the finding of innovative solutions for the participants problems.

The participative implication on solving problems must be applied on specific, practical problems. First than saying to people what to do or not to do, they need to now on which particular problem should find the solution.

### 4. THE EDUCATIVE FUNCTION OF ARCHITECTURE

How can we stimulate the participative action of our citizens in theirs real, concrete life? After an exhausting working day, the overstimulation of the large amount of information and the effort of selecting this information on criteria needed in practice, after the time on traffic back home, there is no surprise that our citizen don't care much about the deforestation in some part of the globe . . . . The only thing that maybe a person is capable to do is to take a lock and change some words on his child. Because his child spent all the daylong in school, afterschool, piano or English, or math's, or swimming lessons. Parents don't have much time to spent with their children, but the few moments in the evening or in week-end could matter. And here is a possible point to start, with the children. Because they are the citizens of the future and the most precious treasure for theirs parents, the children may inoculate them some sustainable practices they have learned in school or afterschool.

The involvement of the children in participative concrete action could be a benefic approach because children will take any action in play, investing emotion, intuition and imaginative energy (Fig. 1.).

“Architecture and the built environment – our buildings, villages, towns, cities and landscapes – provide the framework for all human activity and interaction. We give it form and it forms us. It affects mind, spirit, body, the ways we move from place to place and the people that we meet. It involves collective, social and critical action. Through symbolic, significant, public and private structures and spaces it represents the values of a community in concrete form” we can find in the missions of UIA Built Environment Education Network, Architecture and Children Program.

Trough play children will learn an sustainable approach of the act of building and how we can live better and more environment-friendly in our cities, villages and landscapes.



Fig. 1. Playce 2006 – Guja Dögg Hauksdottir - Architecture at Eye Level

I will present three educational centers or associations which promote the understanding of architecture and the problematic of sustainable development, and an example of participative involvement in which pupils participate in design process for the rehabilitation of N. Lenau School in Timisoara.

## 5. ARC EN RÊVE CENTRE D'ARCHITECTURE

**Arc-en-rêve centre d'architecture** was founded in Bordeaux in 1981 and its mission is to stimulate cultural awareness in the fields of architecture, urban planning, landscaping and design, while also playing

the role of interface working to improve the quality of the spaces we live in.

"The idea is not to get children "playing at being architects", rather it is to offer children access to the different delights and possibilities that architecture, design, and the city may offer them" mentions Laurent Tardieu in the CONTEMPORARY ARCHITECTURE WITH CHILDREN program: "Learn to love architecture through concrete experiences. Discover architecture in playing with signs, shapes, colors. Understand development by walking in the town, telling the story of one's town, playing at building things together (installations, workshops, educational kits, building sites, hands-on activities, trips, visits, meetings)".



Fig. 2. Arc-en-reve site - atelier "gonflable"

"Inflatable" is an event for children on the age of three (Fig. 2.). It propose an ephemeral architecture trough simple tools and current materials. It creates an medium to experiment the relations between the human body and imaginary situations. It offers an sensitive experience on the space and the basic use and feeling of space: in front, in the back. It is rather an evenement then an object.

The workshop "houses game" (Fig.3.) consist on discovering that building a house is not an individual act but an communitarian action. The material is a lot of miniatures cubic houses made of wood pieces which can be assembled in all directions. It represents an introduction, an conclusion or just a simple step in perception of the city and architecture.



Fig.3. Arc-en-reve site - atelier "jeu de maison"



The workshop “**structure & object**” propose the perception of the architecture in all its dimensions.

Starting from the investigation of materials (wooden sticks and strings) and the spatial arrangement.

Atelier “**assembly**” is a game for children of five years and imply the free assemblage of three geometric elements (cube, beam and plate). Architecture express trough the relation with the world, not only by its construction. The object is not just an product, as a technical completion of an solitaire decision; it bring meaning trough context, in the gap, trough insertion. This is how complexity appears.

The workshop “**between-two**” address to the children of eight, and its purpose is to sensitize on new forms of habitat imagined by architects. Investigate on how architecture may give answers to the evolution of family and ay of life, and to the exigencies of an sustainable development. Working in a team, asserting the own point of view, elaborating an model of the built form, respecting the rules, presenting an situation, arguing an sentence and practicing critical analyses.

Workshop “objects process” (Fig.4.), has an support of twelve international designers chairs (Alvar Aalto • Ron Arad • Tord Boontje • Ronan & Erwan Bouroullec • Tom Dixon • Robert Mallet-Stevens • Jasper Morrison • Charlotte Perriand • Raumlabor • Philippe Starck • Martin Szekely • Roger Tallon).



Fig.4. Arc-en-reve site - atelier “procès de chaise

On this game children play the role of the advocate of defense or accusation, trough different argumentations they learn about contradictory perception. The aim is to understand the process of the designer, the perceive beyond the subjective judgments on things that form the environment. Children learn to see the esthetic qualities of objects, the materiality given by the man who conceive them, designer or architect.

#### 6. PLAYCE-ARCHITECTURE EDUCATION FOR CHILDREN AND YOUNG PEOPLE

“Developing the architecture education of children and young people is a central objective in the Finnish Government’s Architectural Policy Program. And not without reason: we are all users of the built environment. Architecture, be it in an urban milieu or

a rural landscape, has such an influence on our lives that corresponds to at least a couple of mathematic formulas or Finnish language inflections, but a surprisingly small number of lessons in our comprehensive school syllabus are dedicated to understanding the environment and architecture” mention Esa Laaksonen in ON AN IMPORTANT MISSION of the document published by the Alvar Aalto Academy, Arts Council of Helsinki Metropolitan Region in 2006 (Fig.5.).

The Soundings workshops have generated a new international network of the architectural education of children and young people based in Finland: the PLAYCE association (play+space). The members of PLAYCE are pioneers in the field of early architecture education and top professionals in the field: they meet frequently around the world:

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Fig.5. Playce 2006 – Mie Svennberg - Democracy in practice – working with architecture in school

- A Nordic children's architectural education workshop and seminar in Lahti from 19 to 20 April 2012
- City as source of energy, September 1-4, 2007, Gothenburg, Sweden
- Dialogue with Surroundings, September 14-18, 2006, Warsaw and two villages of Mazovian region, Łucznicza and Osieck, Poland
- seminar, 5-6 October 2005, Helsinki, Jyväskylä – Finland, workshop, 8-9 October 2005, Jyväskylä -Finland. As a result for the seminar and the workshop Alvar Aalto Academy published the book: play + space = playce [with articles](#) and the main guidelines for [PLAYCE](#)
- Architecture for Well-being, 1-4 March 2005 at Sheffield, UK
- Designing for the Environment, 21-22 August 2004, Jyväskylä - Finland
- Elephant City and Butterfly Park, 27–31 July 2003, Jyväskylä - Finland

## 7. DE-A ARHITECTURA

Association *de-a arhitectura* recently founded in Bucharest by young Romanian architects, designers and collaborators, and promote education on built environment trough an lessons collection for an optional discipline on primary school (Fig.6.).



Fig. 6. Site de-a-arhitectura – Lessons for primary school

The study of the built environment is for children a key to understand and involve in the environment of living space, to find what gives it quality and how can we improve it now and later, for stimulating the civic sense. It is also a way to improve the visual culture, to learn a new vocabulary, to exercise creativeness, curiosity, personal initiative, the critic analyze, communicating abilities and community sense.

Because the education on build environment is a complex discipline, the presented lessons collection

operate connections between all the curricular areas studied in the primary school, been an instrument of recapitulation and application of acquirements.

Changing the architectural urban paradigm of the actual Romanian society cannot be done other way than starting with our children's education, future citizens and indirect changing opinion of their parents. Our purpose is to help children to understand architecture and the build environment and the complex processes that transform the environment

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they live. Home, school, neighborhood, city and community form them as future citizens, giving them a message about their place in the world, and affect the physic and psychology qualities of their lives. The quality of the architecture and built environment of tomorrow depend on them. As future adults, users and decision factors, they will participate actively to the modeling of the world we live and create, trough cultural heritage and innovation, healthy and harmonious environments.

Long term objective of the cultural program proposed by *de-a arhitectura* is to insert in school an education on built environment as optional discipline and the facilitation and guidance of the teachers to use the built environment and architecture as resources for learning in other disciplines.

## 8. PARTICIPATIVE-DESIGN PROCESS IN TIMISOARA

Examples on participative implication of communities on design process or environmental problems are often present in Europe and rare in Romania; this is why we appreciate it when it happens.

The project of rehabilitation of Nikolaus LENAU Lyceum is a special case and we hope that the power of this example will bring more similar approaches. The old building need repairing and refurbishment because of moral fatigue and the lack of investment in the last fifty years. The complete refurbishment of the building in two phases: the firs regarding the facades, the roof, and the inner courtyard, financed as pilot project of [KFW \(Kreditanstalt für Wiederaufbau\)](#) trough an contract between the German State and the Timisoara City Hall.

The works begin to the end of this summer, announce the architects, and beside the exterior rehabilitation of the historic building will include the works that will bring the inner courtyard greener.

The next step will concern the interior spaces refurbishment, a better natural lighting of classes, the access for persons with disabilities, and new wardrobe and rest room for the sport facility. Students will participate in the design process by choosing an slogan for the frontispiece of the building and choosing the colors of the interior panels in every classroom.

The project must be an “good example” of sustainable development, so it propose innovative architectural and technic solutions and the use of renewable resources. The building will use solar energy for the warm water and a part of the interior lightening system trough conthorised systems exposed to the students on boards. “The educative aim is attained every time anyone can see and understand that the use of renewable energy is functional, and could be applied in his own house” said the architects.

## 9. CONCLUSIONS

The development of a country, region or district depend on the people that inhabit it. People that inhabit an region are the most precious resource, because of their motivation to know, to explore, to learn, to act and play o role on what is going on around them. Sustainable is about an harmonious organization of living with the environment.

Poverty could be an signal for action.

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