

Pitoska, Electra; Triikka, Margarita

## Conference Paper

# Environmental Education Centers and local Community: The case of the Environmental Education Center in Meliti

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**«Environmental Education Centers and local Community: The case of the Environmental Education Center in Meliti».**

Environmental Education Centers have emerged more than thirty years ago. Preoccupation with the local environment can lead to a better understanding of universal problems, since local problems are always part of the universal. The trainees fully understand that their everyday choices and their general lifestyle influence the environment, even in very distant areas.

The Ministry of Education in Greece included Environmental Education in the educational system, through various measures such as the establishment of Environmental Centers. The state allocated financial resources to the Environmental Centers and managed to form a small but very creative team of people to teach Environmental Education. Students' participation in programs and activities of the Environmental Centers is assessed to be rather positive.

Retrospection in the bibliography of Environmental Centers in Greece shows that they are still in the sideline of the everyday school life, that only few programs are realized in every prefecture and that when realized there is no consistency or continuity. There is also no essential evaluation of Environmental Education and it is unknown how it contributes to the promotion of sustainability in a personal and in a community level.

In 2011, at the place Meliti in the prefecture of Florina, a field study was organized in order to explore the role of an Environmental Center in distant areas. The Environmental Educational Center in Meliti was established in 2003. The study was carried out by questionnaires that were filled in by personal interview. The questionnaires were addressed to three target groups: High School students, local residents and teachers who work at the Environmental Center. Through the analysis of the study's findings many conclusions arise. Those conclusions concern the relation between the center and the local productive and economic fabric and also the relation between students and environment.

***Key words: Environmental Education Centers, Local communities, Meliti-Florina, Greece***

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<sup>1</sup> Assistant Professor, Financial Applications Department, School of Management & Economics, Technological Education Institute of Western Macedonia, KOZANI, GREECE. Postal address: T. Sotiriou 8, 53100 Florina, GREECE, Tel. number: ++306944258505, E-mail: [ilpitoska@yahoo.gr](mailto:ilpitoska@yahoo.gr)

<sup>2</sup> Student, School of Early Childhood Education, Faculty of Education, ARISTOTLE UNIVERSITY OF THESSALONIKI

## 1. Introduction

The concept of sustainable development prioritizes the need to balance the different dimensions of development, which are the environmental, the economic and the social dimension. The incorporation of the environmental policy into the other policies is of fundamental importance when it comes to successful sustainable development. The European Union promoted the adoption of Strategic Sustainable Development in the European Council in Guttenberg (2001), in Barcelona (2002) and in Lisbon (2005). In Lisbon the presidency created the Friends of the Presidency Group in order to reexamine the Strategy for Sustainable Development, which was discussed in the General Affairs Council in April 2006.

The Summit Council in June 2006 agreed upon a revised Strategy for Sustainable Development, which is now turned into a strategy/framework for the side thematic strategies. Greece records its national goals and means for sustainable development in the National Strategy for Sustainable Development, adopted in 2007.

The United Nations Economic Commission for Europe (UNECE) adopted the text *“UNECE strategic for Education and Sustainable Development”* (CEP/AC.13/2005/3/Rev.1, 23 March 2005, Agenda points 5 and 6) in the meeting of the Ministers of Environment and Education that took place in Vilnius, Lithuania in 17-18 March, 2005. The Strategy aims to the change of mentality of the people by offering them the opportunity to create a safer, healthier and more prosperous world. This kind of world would contribute to the improvement of the quality of life.

The concept of sustainable development is highly connected to the constant education. The more knowledge and experience about environmental, economic and social issues are increasing, the more the concept of Environmental Education (EE) is being expanded. In this course of expansion, EE incorporates the education for the Sustainable Development (SD). SD redirects education according to the principles of sustainability.

The Ministry of Education, Lifelong Learning and Religious Affairs, taking into consideration the Greek situation, specialized the directions of the Strategy in the context of a new National Strategy for Education and Sustainable Development. The main objective of this strategy is the development of an education that could form values and standpoints that would lead humanity to sustainable development. Some of the primary factors of this initiative are the adoption of the proper political, legal, prescriptive and operational framework for the support of SD. Furthermore, the promotion of sustainability by the means of the official education (schools, universities, institutions ect.), and of the unofficial education (community, family, collectivises, Mass Media, Non-governmental organizations). In addition, the lifelong learning of the educators, development and production of modern educational materials are also some of the primary actions of the revised Strategy. An innovative approach is the use of the internet in order to manage, educate and promote the results of sustainable development. The use of the internet can successfully penetrate to the modern Greek society of technology and information.

## **2. Environmental Education Centres (EEC)**

The Environmental Education Centres were created during the past twenty years and they emerged from the growing interest in the issue of Environmental Education. Of course, the places where EEC are created are places of rich natural resources. The institution of EEC is highly connected to the environmental movement and it is internationally considered one of the most important factors of extra curriculum education.

The role of EEC is very significant and it can be summed up:

- ◆ They plan and realize EE programs in schools of primary and secondary education. They also offer special EE programs for the groups of students that visit EEC.
- ◆ They organize educational and informational meetings for educators or other people interested in the issue.
- ◆ They collaborate with Universities and other Educational Institutions in Greece and abroad in order to exchange information, experiences, educational material and in order to support the programs.
- ◆ They create EE webs.<sup>3</sup>

In Greece, the institution of the Environmental Education Centres was introduced in 1993. Up until now the EEC are operating in a specific institutional framework and their objectives are:

1. Make young people sensitive to environmental issues and environmentally responsible through educational programs.
2. Further educate the educational community on Environmental issues through seminars.
3. Educate and sensitize the local community for local, environmental and social issues through educational meetings.
4. Cooperate with different organizations (scientific institutions from Greece or abroad, NGO, schools ect.) and with members for the web itself.
5. Produce educational material in order to support the programs.

The activities of the EEC mainly concern the student and the educators' community and they include educational programs and informational seminars. The activities that concern the local community are usually restricted in educational meetings.

## **3. Environmental Education Centres and social learning**

Lifelong learning and adult learning are some of the main characteristics of Education for Sustainable Development. In this context, the activities of an EEC should develop in a more expanded and complete way so as to include environmental, economic and social issues that address a wider audience. This expansion should be supported on the concept of social learning. Social learning is a particular kind of learning that can possibly contribute to the realization of a society of learning that is the key ingredient of sustainability. There is no sustainability where there is no learning (Scott & Gough,

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<sup>3</sup> *The EE webs are a group of schools that are preoccupied with the same issue of EE. They are connected to each other and they communicate through the Internet in order to exchange information and materials. Occasionally, some educational excursions are organized in each school in order to present projects. The objective of these EE webs is to create processed pedagogical material for EE, to create a common database in order to collectively deal with environmental problems, in the context of Agenda 21 in Rio for sustainability and for the prerequisites of an efficient participation in the international EE webs. (Kalaitzidis, 1998).*

2003). Social learning is an important tool that needs to be exploited in order to bring sustainability in the communities.

The concept of social learning refers to learning processes that bring people with different backgrounds together. People with different values, learning perspectives and experiences (Wals et al., 2009). The aim of this learning process is for the participants to commit themselves to a creational pursuit of answers to problems that have no obvious or ready solutions.

The purpose of social learning is to motivate people reflect upon hypothesis and frames of reference, trying to create new perspectives and design new forms of actions (Wals et al., 2009). Thus, what is important is the collective process and evaluation of the knowledge that a society of learning produces.

The meaning from social learning emerges from all the people that participate. Differentiation in social learning is an advantage and pluralism is the basic value. The creation of the appropriate climate of trust, acceptance, respect and consistency is a necessary element for the existence of social learning. The “chemistry” that is developed between the people that participate in social learning is the “social capital” (Wals et al., 2009).

#### **4. The region**

The region of the former Municipality of Meliti now consists of the following provinces: Ahlada, Vevi, Itea, Lofoi, Neohoraki, Palestra, Papagiannis, Sitaria, Skopos, Tripotamos. The population of the Municipality is 7120 people and it covers 269.477 acres. The region of the Municipality is mainly lowland and partly highland until Skopos.

A percentage of the inhabitants are cultivating the land (the area between Sitaria and Vevi used to be a big estate during the Ottoman rule). Others are working on animal husbandry and apiculture. The place hosts many beehives.

The subsoil ground is rich in lignite. The lignite mines of Ahlada and Vevi employ a large amount of people. The construction of the steam-electric unit is an important investment for the area but it has negative impact on the environment. The emissions of carbon from the lignite unit of Melitis (Florina) were 1.955.721 in 2005.

In the borders of the Municipality there is the Industrial area of Florina where entrepreneurial units of the secondary sector, units that alter cultural products and the Centre of Transitional Trade are located. The forests of the area are very significant natural resources of ecological and aesthetic value.

#### **5. The Environmental Education Centre Melitis**

The EEC Melitis was founded in 2003 and was staffed in January 2004. It is funded by the Ministry of Education, Lifelong Learning and Religious Affairs and by the Cofinanced Development Programs. It is housed in Vevi. Among other, the centre accepts schools of the primary and secondary education. 70% of them are from the neighbour prefectures and the others are from the rest of Greece. What is more, the centre organizes seminars-meetings on environment (local, national and

international). The pedagogical team is comprised by teachers from the primary and secondary education.

#### PURPOSES AND TARGETS:

- Information and sensitization of students, educators and other social groups.
- Understanding of the problems that emerge from the relationship between humans and the natural or structured environment.
- Find solutions regarding sustainability.
- Development of a responsible standpoint and attitude and understanding of one's personal and collective responsibility.

More particularly, the most important objective of the program is to make the students capable of understanding the value of the water ecosystem and the particularity of sour water as a natural resource. It is also crucial for the students to adopt a positive attitude towards the environmental issues.

The educational programs developed by the EEC Melitis are:

Program: "The treasure was... carbon!"

Program: "A journey to the land of the lignite mines"

Program: "A journey to the Land of the Lakes"

Program: "The school goes to the Lakes"

Program: "Water... with a taste!"

Program: "The routes of the water in the basin of Pelagonia"

In the context of the Longlife Learning for Adults, the EEC Melitis introduced three projects (from March until June). The projects were developed in cooperation with the School of Visual and Applied Arts in Florina, University of Western Macedonia and with the State Primary schools and High schools of the prefecture of Florina. The theme was: "Artistic Recycling".

The objectives of the project "Artistic Recycling" are multiple:

**Educational objective:** the students realize the artistic value that lies with every material, even those that seem worthless.

**Education of teachers:** teachers learn how to use recycling material in the process of education.

**Cultivation of ecologic conscience:** the participants (students, teachers, educators) work hard in order to improve the environment of their cities and consequently their quality of life.

**Development of the sense of social responsibility:** the collective process of making art, cleaning the river Sakouleva makes the participants realize the importance and the dynamic of team work and social responsibility.

**The first action** and beginning of the project was the organization of a meeting-laboratory for 20 students from the School of Visual and Applied Arts and 30 professors from primary and secondary education, especially teachers of art and other specialties as well. The aim was to familiarize the educators with the techniques and methods of artistic utilization of everyday and already used materials. This activity helped to promote the idea of creative recycling, waste reduction and finally to form an ecological conscience.

**During the second action** the educators and the college student were given the methodology and are ready now to transfer it to their students from the primary and high schools of the prefecture of Florina. The students learn how to be creative using old materials or changing the utility of new ones.

Finally, **the third action** took place on the day of Environment (5<sup>th</sup> July) and it was an exposition of the artworks that were produced during the second action by the river of Florina.

At the same day another activity took place, **“The treasures of the river”**. Members of the EEC Melitis, students from the School of Visual and Applied Arts, educators and students from the participant schools participated in this activity. The activity was to clean a part of the river Sakoulevas and the creating of a piece of art using the waste found in the river. The aim of the activity was to embrace the whole city. Sakoulevas is the backbone of the city. This process relieved the river from all the burden of the concentrated waste.

Finally, the EEC Melitis was released a number of significant publications, which are electronically available.

## **5. The empirical research**

### ***5.1 The methodology of the research***

In 2011, at the place Meliti in the prefecture of Florina, a field study was organized in order to explore the role of an Environmental Center in distant areas. The Environmental Educational Center in Meliti was established in 2003. The study was carried out by questionnaires that were filled in by personal interview. The questionnaires were addressed to three target groups: High School students, local residents and teachers who work at the Environmental Center. Through the analysis of the study's findings many conclusions arise. Those conclusions concern the relation between the center and the local productive and economic fabric and also the relation between students and environment.

The questionnaires were completed by personal interviews. Then the number of days in the month of December (31) was multiplied with that random number and rounded down to the nearest integer, thus producing a random day in December 2011.

$RANR () = 0.727154$

$Random\ day = 31 \times 0.727154 = 22.541774 = 23$

In this way the day chosen for the investigation was Friday 23<sup>th</sup> of December 2011.

The time of the research was chosen according to the habits of the inhabitants.

Around 7-9pm they have completed their responsibilities and they gather in the local coffee shops. 30 interviews were completed on the whole.

The questionnaires were different for the educators and different for the students. They were completed in a working day of November. The questionnaires for the students were completed in the school environment, after the consent of the staff of the school. Nineteen students completed the questionnaires during their daily timeline in school.

### ***5.2 The findings of the research***

The participants in the research were totally 30. They are all make from 25 to 75 years old. 100% of them are aware of the Environmental Education Centre that operated in their region and they think positive of it.

Their evaluation for the contribution of the EEC on the local community is recorded in the following table.

**1<sup>st</sup> Table: Contribution of the Environmental Centre on the local community**

Factor of contribution	Degree of Contribution		
	Minimum	Moderate	Important
Local community	12%	60%	28%
Profit from visitors	32%	32%	36%
Local Pride	4%	32%	64%
Future contribution through the environmental education of the children		20%	80%
Children become familiar with their land		24%	76%
Children become familiar with their parents' professions	4%	20%	76%

The assessment of the educators for the contribution of the EEC in the local community is presented in the following table.

**2<sup>nd</sup> Table: Assessment of the educators for the contribution of the EEC in the local community**

Factor of contribution	Degree of contribution		
	Minimum	Moderate	Important
Local community		40%	60%
Profit from visitors		60%	40%
Local pride		20%	80%

The students that participated in the research are permanent inhabitants of the area and they are from 11 to 13 years old. 74% are boys and 26% are girls.

37% of the students answered that their parents work in the lignite mines or in the Public Power Corporation.

All of them have visited the Environmental Education Centre and have participated in an educational program. 89% of the students have visited, through the EEC, the lignite mines and have watched the program "The treasure was carbon". They are informed about the amounts of lignite, the history of its mining, its economic and environmental dimension, the operation of the Public Power Corporation and the production of energy.

74% of the students have visited the EEC and attended a program from 2 to 5 times. 10% of the participant students have visited the EEC from 8 to 10 times and they are the older students. The younger students (16%) have visited the EEC only once.



The degree of satisfaction according to the students for the EEC and its programs is in a scale of five choices (not at all, little, moderately, very, and extremely): 63% of the students are very satisfied and 37% are extremely satisfied.

## **6. Conclusions**

The Environmental Education Centres were created during the past twenty years and they emerged from the growing interest in the issue of Environmental Education. Of course, the places where EEC are created are places of rich natural resources. The institution of EEC is highly connected to the environmental movement and it is internationally considered one of the most important factors of extra curriculum education.

The operation of Environmental Education Centres influences the students and the local communities, especially when the centre operates in peripheral and disadvantaged areas.

The EEC Melitis has a positive impact on the local community. To be more particular, it brings profit to local businesses (coffee shops, restaurants, ect.), it empowers the local pride, it makes children familiar with the natural and economic identity of their area and with their parents' professions. Most importantly, the children are being environmentally informed and they can evolve into future protectors of sustainability.

In the crossroad of education and sustainable development, Environmental Education Centres can play a very important role for the development of lifelong learning activities in a local community. EEC redirect the purposes and the learning approaches that are implemented according to the Social Learning. They can contribute to the evolution of a local community into a community of learning that embodies creatively everybody. This is how a community creates the perspective to achieve sustainable development.

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