

## Hugues de Varine

Ecomuseums originated in France, the concept being developed by Georges Henri Riviere and Hugues de Varine, who coined the term 'ecomusee' in 1971.

The term "eco" is a shortened form for "ecology", but it refers especially to a new idea of holistic interpretation of cultural heritage, in opposition to the focus on specific items and objects, performed by traditional museums.



## ... about eco-museum

The eco-museum is a revolutionary reality compared to the traditional concept of a museum insofar as it adds the social dimension to the traditional museum.

The environment is narrated through history, culture, landscapes, activities, and society, interrelating the material and spiritual aspects of life and linking them to the places, territories and the culture that created them.

The eco-museums, being a bottom-up process, help people managing the territory by focusing on cultural heritage preservation, with an eye to the future ...

## 1. The pilot project "Towards an Ecomuseum of the Castelli Romani"

The project, proposed and implemented by a group of researchers of the Laboratory of Education and Science Communication of the INGV in collaboration with the Regional Park of the Castelli Romani, involved the students of the Classical Studies High School and Socio-Pscho-Pedagogical Institute "Falcone Mancinelli" in Velletri (Rome) during the school year 2009-2010.



- The project in its complex structure set the following objectives:
- foster in students a knowledge and appreciation of local resources;
  - experiment new teaching methods, which through direct involvement (design, implementation and use) led the participants to develop a phenomenological-existential kind of knowledge;
  - encourage the acquisition of deep ecological thinking based on the awareness that human beings are part of an ecosystem;
  - experience the application of methods and techniques for the evaluation of a training/learning project.

### Innovative elements of the project .

- The memory of places can be recovered through a process of empowerment of young people, who are assigned the task of returning the heritage of surroundings to the society that inhabits those places. "He who fails to learn in his youth loses the past and is dead for the future." (Euripides)
- The knowledge of the territory is facilitated by the multi-disciplinary approach that allows the students to capture all the aspects of the anthropological and geological complexity of the area.
- It introduces an innovative teaching tool: the creation of an eco-museum itinerary.
- It fosters the experimentation of an innovative teaching methodology: participatory planning. The students, led by experts and teachers, enter actively in all stages of design: choosing the itinerary, identifying training needs, doing the scenic works enabling them to build the eco-museum route and, finally, conducting the process evaluating the effectiveness of the entire project.
- the project methodology places the school world not as the final recipient of knowledge but as a viewer and at the same time a partner who takes an active role in the dissemination of knowledge.

## 2. Activities

### 2.1 The construction of the eco-museum routes

The itinerary choice: the students were asked to choose between two routes for the ecomuseum construction: the Sacred Way and the Nemi Lake. Based on the urban-geological, historical, archaeological, literary, and natural-ecological characteristics of the paths, the students decided to design the ecomuseum on the route of the Nemi Lake.

The exploration of the trail: the students, led by experts, went to explore the area, divided into groups they were able to conduct an observation of the environment assuming specific roles (I was ... a writer, a historian/archaeologist, a natural/environmentalist, a volcanologist/geologist, what would I observe?) This procedure permitted them to grasp the full complexity of the environment.

The training activities: after the guided observation of the trail, the students identified their training needs on the basis of which the experts then planned the activities of detailed exploration. These activities, aimed at the acquisition of knowledge of the area, were divided into thematic meetings with experts in geology, volcanology and geochemistry, history and literature (mythology and geomorphology), anthropology, archeology and art history, ecology and biology of the area.

#### Nemi Lake Itinerary

We subdivided the itinerary into three items

- 1) The Roman Ships Museum devoted to the ships that Caligula the Emperor ordered to built (37-41 B.C.)
- 2) The Lake itself: of volcanic origin as the whole area and its emissary is an example of roman engineering (V-VI century B.C.)
- 3) The Diana temple: Diana Arcana Myth together with The Rex Nemorensis are linked to fertility.

From a naturalistic point of view, aquatic birds as grebes, cormorants, pochards, coots  
 Vegetation as reeds lake, chestnut, mimosa



The Didactic workshops of psychodrama and creative writing aimed at the development of skills and attitudes useful for the realization of scenic works included in the construction of the eco-museum route.

The presentation of the project: during the twentieth edition of the Week for Scientific and Technological Culture the students displayed their presentation skills, telling the public about the project they were implementing.



### 2.2 Evaluation of the Training Project Efficacy

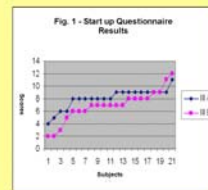
The students of Class III-F of the Liceo Socio-Pscho-Pedagogico, after having participated in the activities aimed at the exploration of the area and in the training activities, conducted an evaluation of the effectiveness of the project checking the work carried out by class III-A during the construction and implementation of the Lake Nemi eco-museum route.

#### Training/Learning

The starting point of the evaluation activities was the training session on evaluation, during which the experts provided the students with the basic knowledge needed to support the development of specific skills. In the meeting the objectives of the evaluation were defined according to the results expected from the project. Then the class, led by the representative teacher and the experts, worked to implement all the stages of the process: the construction and calibration of the instruments, the administration, the collection, the organization and processing of data and the presentation of the final results.

#### Tools used for monitoring the construction of the ecomuseum routes

Tools	Purposes	Administration
Start-up Questionnaire	To evaluate the pre-project knowledge level of the students on the four areas (geology-vulcanology, environmental, historical-literary, mythological/anthropological aspects) of the Lake Nemi area	Administered after the training activities to the experimental group and the control group not involved in the project. This procedure was necessary since it was not possible to administer the start-up questionnaire to the experimental group (III-A) before the beginning of the training activities.
Observation Grid	To evaluate the "Presentation/dramatization skills" of the students involved in the scenic work-up of the routes.	During the performance/presentation of the ecomuseum route
Final Questionnaire	To verify the efficacy of training and the appreciation of the Project.	At the end of the project

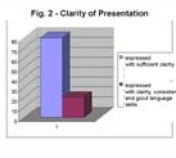


#### Summary of the results of the peer evaluation

The start-up questionnaire data, through the comparison between the experimental group (class III-A) and the control group (class III-B), indicate that students do not generally have a prior knowledge of the territory inherent to Lake Nemi and that the project is an opportunity and an exclusive means for acquiring knowledge of the area (Fig. 1).

Regarding the Clarity of presentation of the ecomuseum route it is clear that the students revealed an average ability to express through psychodrama and good language skills (Fig. 2).

The following results emerge from the processing of the final questionnaire:  
 Learning of knowledge and skills: 67% believe they have enriched their knowledge; 53% think the project contributed to improving their respective operational capabilities.  
 Appreciation: 52% think the training lessons were presented in a clear and comprehensive manner; 57% believe the teaching methods used were effective.  
 Academic activity and outside teachers: 70% consider overall positive the participation of outside teachers; 67% believe they had good clarity of exposition; 51% believe they were willing to take on the proposals and suggestions of the students in the construction of the project.  
 Teamwork and participation: 62% of the students is convinced that the project made them feel more involved in the activities of the class; 57% were satisfied with the work done in the group.



## 3. Impact of the Project

#### Comparison between the results achieved and the objectives set

Through the participation and the realization of the project the students have acquired:

- competence and ability in identifying the training needs required for the construction of the routes linked to the disciplines (geophysics/volcanological, historical/literary, mythological and naturalistic/anthropological) identified in the ecomuseum path;
- knowledge of the area through the multi-disciplinary exploration process and in depth training with experts;
- knowledge and experience in psychodrama and creative writing through dedicated laboratories;
- experience in group work aimed at socialization and collaboration;
- experience in the transmission of knowledge gained through the performance and dramatization;
- experience in the construction and implementation of a process of evaluation of educational programs.

#### Areas for improvement

The analysis of the routes construction activity revealed that the lack of involvement of a significant number of teachers had a negative impact on the availability of time to devote to work with the class, the possibility to involve all students in the class, and the final outcome of the project.

For the evaluation of the activities, some organizational delays and the involvement of the III-F class in the activities created a number of complications in the design and implementation of the evaluation, which started while the project was already underway. This drawback created difficulties in the first stage of evaluation of the project and left the class unable to calibrate assessment tools prior to administration. This led to a misunderstanding in the interpretation/meaning of the questions, and as a result generated uninteresting data not always in line with the indicators to be measured. In addition, the students of the Classic Studies High School (III-A) showed resistance to participating in the evaluation, questioning the role of peer evaluators (students of III-F).

#### Strong points

For both activities carried out by the two classes, we can say that the design and construction of educational itineraries was fully shared with the students (participatory design).  
 Group work was found to be a teaching method effective for the project and it worked well with both classes, albeit with differing degrees of involvement. The different involvement of the classes can be largely attributed to variables extraneous to the project: previous specific relational dynamics between the two high school diploma courses, the lack of involvement of teachers in the project, etc.

#### Conclusion

The project has achieved most of the objectives pursued: it has promoted the knowledge and appreciation of local resources in the students, enabling them to develop a kind of phenomenological-existential knowledge. The entire project experience provides the basis for promoting the permanent involvement of secondary schools in land management through the development of educational and training activities that may enable students to design and manage ecomuseum itineraries in their local environment. We believe that promote this kind of projects in the schools could further the development of a culture which considers the local territory and environment a heritage shared by those who inhabit it.

#### participated in the project:

M. Crescimbeni, A. Frepoli, F. La Longa, T. Lanza, L. Pizzino  
 Istituto Nazionale di Geofisica e Vulcanologia

E. Pizzicannello, G. Tortorici  
 Ente Parco dei Castelli Romani

Students and Teachers Institute Falcone Mancinelli "in Velletri"

Classes: III-A - Classical Studies High School  
 III-F - High School of the Liceo Socio-Pscho-Pedagogico

