



Dry Grasslands Project

1. Country

Italy

2. Name of the programme?

Dry Grasslands Project is an action research project on dry grassland habitat. Flowers and butterflies are used as bioindicators.

3. Age of the children involved?

From 9 to 14 years old.

4. Teaser/short introduction

During this programme the students collect data on floristic richness and presence of butterflies of a dry grassland near their school. All these data are used to integrated the database of the Province of Mantua. At the end of the year in each municipality there's a meeting among students, teachers and their mayor to understand which behaviours need to change to protect better their dry grasslands. The importance of this programme is due to the fact that both the students and all the community are involved: at first the students and next the community can understand their responsibility towards the nature and they are made aware about the protection of the environment, in a perspective of sustainability.

5. What is the frame?

Behind this experience the frame is that we are responsible for environment around us. We can study this, we can understand his importance and then we can protect it, as a community.

6. What are the goals of the programme?

- To aquire scientific data
- To achieve, at the individual and the local community level, the awareness of living in or nearby important patches of vegetation registered as Natura 2000 Habitat
- To involve all local community in the protection of dry grasslands
- To aquire a scientific method through firsthand experience in a real world situation with a natural and cultural site

7. What values are promoted in the programme?

Through this project students learn to take care of their territory, understanding how bad behaviours can damage environment: respect for nature is a central point, both for this generation and the next ones.

According to the hand model:

- respect for nature and care for the state of our planet
- respect for future generations

8. Which competencies are promoted that empower learners to shape a sustainable future?

The field studies and the data analysis stimulate students to discover the relationships between natural phenomena, human activities and biodiversity loss.

Students will develop basic competences in science to explain the natural world and the changes caused by human activity and the responsibility of each individual as a citizen.

Students are responsible for data collection and from this they can obtain a data analysis that they can show to community, so they are directly authors of this knowledge.

According to the hand model:

- enable learners to be reflective and critical thinkers – considering different perspectives to reach informed opinions and decisions
- empower learners to be creative, flexible and able to take positive action to deal with change
- enable learners to cooperate, participate, take responsibility and learn in a self-directed way

9. Which of the specific scientific concepts does the programme relate to?

The programme relate to the concepts of *stability* and *change*: a large number of species of butterflies live in the dry grasslands, that can pollinate different species of flowers, they are *interdependent* from each others. Often butterflies and flowers are changed together, in a *coevolutionary* way.

10. Which ecological problems are involved, if any, and how? (Refer to mindmaps of 9 planetary boundaries)

Dry Grasslands Project demonstrated that the *Biodiversity Loss* of dry grasslands habitat can be reduced changing the cropping seasons. Students find that, paying attention to what it could be cultivated and when, it's possible to protect not only fields but also all those pollinators closely related with these crops, allowing their survival.

11. Transferability: Which different areas of learning are included and how?

This project include different areas of life of students: both themselves and community, natural environment and non-natural environment, school and citizenship. Students are observers of environment around them, natural and non natural, they are involved as a single individual, as a class and also as a community.

According to the hand model:

- related to learners' communities
- related to the non-natural environment
- related to the natural environment

- related to the learners themselves

12. What educational strategies (learning models, methods, etc.) are used in your programme?

Firsthand experiences and learning by doing. The student have the possibility to discovery by their own the biodiversity in the drygrass ecosystem and will find through analysis data the relationship between biodiversity and changes caused by human activity.

13. How is the programme evaluated? How do you know the programme achieved its educational goals?

Through questionnaire both to teachers and to students, the data quality analysis, the evaluation of the community participation.

14. Describe the programme.

The project takes place in the territory of the seven municipalities in the province of Mantua, Italy: Castiglione delle Stiviere, Cavriana, Medole, Monzambano, Ponti sul Mincio, Solferino, Gonzaga.

First the teachers attend a training course on the subject: (for example the floristic biodiversity of dry grasslands, identification of the most beautiful and representative flowers with simplified keys, evaluation of the floristic and orchidologica richness indices using identification cards, the butterflies of dry grasslands as indicators of biodiversity, the geological substrate of the dry grassland).

Then the students investigate a dry grassland close to the school at various times of the year. They collect data on the floristic richness and the presence of butterflies. All the data collected are elaborated and used to integrate the database of the Province of Mantua.

The students during the project have the opportunity to consult a scientist by mail for questions and for further discoveries.

At the end of the year, in each municipality, it has been a meeting between students, teachers and their mayor to understand how to protect their dry grasslands. In some cases the project will produce some effective results: for example, in a case the community, supported by the student's results of their investigation, has decided to close a motocross track that was changing drammatically the biodiversity of a drygrass near a school.

15. Included resources / materials / tools.

http://www.provincia.mantova.it/context.jsp?area=8&ID_LINK=1025

<http://www.labtercrea.it/progetti-attuali-2012-2013.htm#Progetto%20Prati%20Aridi%20delle%20Colline%20Moreniche%202012/2013>

16. Photos or videos, logos

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