

Good Practice examples in Germany, France, United Kingdom, Spain and Finland: Environmental education using the project method

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1. Environmental Education using the project method

The project method has a high potential in procuring complex, multilayered and interdisciplinary phenomena. Used in environmental education, the project method not only can improve the pupils' knowledge but also develops key competencies such as applying methods (data gathering and analysis) as well as social and organizational skills. As recent studies show, well planned and organized project methods in schools lead to significant improvement of overall (networked) knowledge as well as high motivation and growing interest for the project theme. On the other side, studies also state that there are a lot of projects taking place in schools that factually aren't projects. Furthermore, especially concerning interdisciplinary topics, the initial/additional workload often discourages teachers to implement the project method in school.

2. Environmental Education in selected European Countries using the project method

The mentioned examples here are denominated as "good practice" instead of "best practice" for as the latter denomination is in need of a specified dimension (aims, school type, age group, environmental topic ...) in which environmental education has to be evaluated.

The project method represents important measures that support the overall environmental education in schools. Being taught interdisciplinary or partially even extracurricular, projects are carried out within a short time period (ranging from half a day to a week or two). Depending on school type and age group, projects observed on local school level reveal different didactical approaches towards practical environmental education. These can be generally characterized as task-based learning, situated learning, and place-based education. Another important point observed is that environmental education mostly takes place interdisciplinary linking both natural science and social science.

2.1 Germany

Most of the projects tackle environmental issues with *task-based approaches* covering topics such as biodiversity or water protection. Here pupils take an active part in the research process (e.g. biotope mapping, water sampling and analysis etc.), draw conclusions and make a final presentation. Such projects are often supported with additional information, special course material or even research equipment (e.g. Aqua Agenten).

Situated learning describes an active learning process, in which knowledge is created between pupils (field study, literature, discussion ...) and not being mediated from teacher to pupil. In terms of environmental education, situated learning for instance can take place as a *role play* (e.g. "Natura 2000 macht Schule), Here pupils play different roles ranging from citizens, municipal government and private stakeholders to environmental experts. The process of interaction and consensus seeking simulates real life problems and conflicts thus leading to a deeper understanding of urban planning. Similar concepts are used in *management games* (e.g. Klima und Co). Here pupils are encouraged to develop energy efficient solutions at their school with the best project being realized.

Place-based education is often realized project-based, focusing on local environmental problems or entities. Place-based education often takes place in a defined time period ranging from one day to a whole project week also including task-based approaches. Investigating local river ecosystems or water pollution control are common examples here (e.g. Oereler See or Auenprojekt Pulheimer Bach). In this context, one needs to mention the classical concept of a school garden which makes environmental education (especially education for sustainable development) "tangible". School gardens are used as supplementary teaching scenarios in teaching natural science, especially biology.

Finally, environmental education does not essentially cover a whole class. For instance the initiative of the "energy spokesperson" focuses on individuals. Being elected by class, they scrutinize energy efficiency in class, inform classmates, meet and receive additional training.

2.2 United Kingdom

A large part of environmental education in England happens with the help of *environmental education centres*. There, *workshops* and / or close-to-nature tenders are offered that can be visited by schools. These centres are established by interlinked organizations that are committed to the protection of the environment such as the National Grid Environmental Education Centres. The schools themselves often take part in international programs such as Eco-Schools and GLOBE. There they log on with their projects in order to obtain the various awards that are announced by the programs.

As for other countries, there is a strong focus on *place-based activities* especially concerning the topic of biodiversity (environmental encounters). This project features a series of curriculum-linked, outdoor-based learning sessions, focusing on science and geography topics for key stage one and two. Other projects tackle the topic of sustainability by focusing on *task-based approaches*. (RecycleNow schools, Sandwich Technology School).

2.3 France

More strongly than in other countries, environmental education is centrally promoted via various programs, prizes and competitions mainly carried out by the *Fondation pour l'éducation à l'environnement (Foundation for environmental education – FFEE)*. The label “Eco-Ecole” can be considered as the most important program here. *Task-based approaches* that include *collective problem-solving* are often encountered (Water consumption and wasting of water, Composters for the school canteen).

2.4 Finland

Finland, like other Nordic Countries and Germany may be seen as pioneers and European leaders with regards to environmental education. Whereas the 1970ies revealed increasing use of natural environment for educational experiences; growth of outdoor centers; teaching about conservation and study of the built environment (outdoor education, field studies centers, conservation education,...), today's *place-based and task-based education* focuses on Local Agenda 21 topics (e.g. Project Baltic Sea). In addition to that, there is a remarkable focus on *implementation of ICT* in projects (GIS, data transfer, monitoring ..., e.g. ENO-Environment Online).

2.5 Spain

Environmental education by project method in Spain often takes place in specialised (private) environmental education centres. Private initiatives such as *Corazon Verde* (Green Heart) for instance offer activity-based courses on sustainability whilst state-owned programmes like the “CENEAM” also feature situated learning such as experimental games about forest management.

3. Conclusions

- The project method has a high potential in procuring complex, multilayered and interdisciplinary phenomena that can improve the pupils' knowledge but also develops key competencies such as applying methods (data gathering and analysis) as well as social and organizational skills.
- Depending on school type and age group, projects observed on local school level reveal different didactical approaches towards practical environmental education. These can be generally characterized as task-based learning, situated learning, and place-based education.
- Most of the national agenda feature a (Local) Agenda 21 transfer process operationalizing the abstract concept of sustainable development. Thus Environmental Education mostly takes place interdisciplinary linking both natural science and social science.