

EBPB's Report of Work Package 4: Pupils' Pilot project

1. Strategies and experiences to implement the YEP project in schools

a. Realisation

1. School recruitment (process, selection criteria)

EBPB wrote a letter containing information about YEP to 130 comprehensive and secondary schools. 30 out of the 130 schools contacted were interested in the YEP project. EBPB visited all 30 schools and had an initial meeting with the head master of the school to present the YEP project. EBPB also had the chance to present the YEP project at the school conference at all participating schools, so all teachers were made aware of the project. The main selection criteria were implementation of YEP in other subjects (apart from physics and science), as well as motivated and interested teachers to work with. EBPB had several meetings with the most interested teachers and discussed with them how to implement energy topics in the normal curriculum. EBPB collected and created materials for the teachers so that they could use them in their lessons.

2. Model frame work (what did we plan to do and when did we plan to do it?)

After selecting a class at each school to take part, EBPB presented the YEP project to the pupils. In the first two months the pupils had been taught by their teachers about the basics of energy saving, energy management and energy efficiency. EBPB delivered several lessons to the participating schools and supported the energy tour of the school building.

3. Contact & Communication with the teachers (how did you find your contact?)

EBPB had a first meeting with the interested teacher(s) of each school. The implementation of the YEP project was discussed in detail with each teacher individually. EBPB was continuously in contact via e-mail or by phone with the teachers and there was good collaboration.

4. Help needed (teachers' questionnaires)

Most of the teachers involved in the YEP project have already taught their pupils about energy related topics, for example energy use behaviour, renewable energy, energy efficiency etc. EBPB provided the teachers materials for teaching energy related topics in subjects (apart from science and physics). The most interesting part for the teacher was the energy tour of the school building supported by EBPB.

5. The pupils' knowledge before the action (pupils' questionnaires)

When EBPB presented the YEP project to the pupils, the pupils' were asked to fill out the questionnaires. The pupils' knowledge of energy issues was very poor. In a few cases the pupils had difficulties understanding the questions.

6. Energy education in school (energy team, energy day, classes etc.)

In each participating school a student energy team was recruited. In general the teams consisted of a whole class (20-28 pupils). In one case the school energy team consisted of 5 pupils from different classes. The Energy Saving Team had the following targets:

- Carry out an energy survey of the school building
- detect weak points of the school building
- collect and evaluate the data
- measure the temperature in all class rooms
- create a temperature profile
- create a list of measures to be implemented
- report the results to other pupils via school homepage or school newspaper
- close windows
- adjust thermostatic radiator valves (if possible)
- turn off lights
- turn off electrical devices which are not in use

7. Reducing energy consumption (change of behaviour, tune valves, etc.)

The main reduction potential for energy saving at schools is in the central heating systems and electricity consumption for lighting. The heating system differs from school to school. In some schools the heating system is centralized and it is not possible for the pupils or teacher to adjust the thermostatic radiator valves. In other schools staff and students can adjust the heating valves.

In a few of the schools EBPB had created a one day campaign and measured the temperature in all rooms of the school. It was found that in most of the rooms the temperature was above 22°C and the windows were open. The thermostatic radiator valves were checked and it was discovered that they were set to '5' whereas '3' is the ideal position for a good room climate.

Another way to save energy in schools is to change the user behaviour e.g, by encouraging users to turn off the lights when they not necessary, or turn the radiator valves to position 3 (if possible), or open the window just for a short time. However this is not an easy task because the pupils are at a difficult age and do not care much about these sorts of things.

8. Used tools

The tools used by EBPB in schools were:

- Energy tour of the school building
- Activity book

9. Experiences

The energy tour of the school building proved to be a good tool for enabling the students to get to know the school building from the perspective of an energy consumer. The pupils were extremely interested and motivated when carrying out the temperature and light measurements, as well as detecting the weak points of the school building. They really liked this kind of practical work. The pupils learned how to collect and evaluate the data.

10. Pupils knowledge after the action (pupils' questionnaires)

Pupils' knowledge about energy related topics increased a little bit after the action.

b. Goals

1. Emphasis of the pupils

- The pupils were able to transfer their knowledge.

2. Emphasis of the teachers

- Teachers involved in the project appreciated the support of the external experts, especially in providing educational materials.
- Practical work at school is a good way to impart knowledge. The pupils learn better by doing the things.

3. Knowledge through energy education

- The pupils know how to save energy by changing the behaviour.
- The pupils know how to collect energy consumption data and how to evaluate it.
- The pupils are able to realise energy related correlations.

4. Energy topics in the curriculum

There is already one school with an ecological profile. Environmental and sustainable aspects are integrated. This school has an online system to record the energy consumption of heat and electrical power

5. Reduction of Energy consumption

We did not focus as much on the reduction of energy consumption as changing the user's energy behavior. Most of the school buildings are not in a very good structural condition, so a big reduction potential is in insulating the building, changing old windows and optimizing the heating system.

6. Special qualification of the pupils for the labour market

The main qualification was the knowledge transfer and the data collection and evaluation.

C. Suggestions and Notes

1. Lessons learned

- EBPB selected 5 schools in five different districts. That was not a good situation because we are dealing with five different local school authorities.
- The teachers were inspired by the education materials provided by EBPB.
- The presentation of YEP at the school conferences was a good way to reach and inform all teachers of the schools about the project.
- The focus on pupil's age of 14-16 years meant that only one school type could be considered.
- The selection of comprehensive and secondary schools turned out to be the wrong type of school for that project.

2. Suggestion for the future

- The workplaces should be contacted before the school actions start.
- The needs of the workplaces should be established prior to school action.