

ENERMAN Erasmus + project

Management schools challenge Assessment of pilot experiences – IO4

1- Challenge dynamic

The concept of the management school challenge is presented in the Manual – IO3, developed in the framework of the ENERMAN Erasmus + project.

The tools – IO1 necessary to its good implementation have also been identified and gathered in the framework of that same project.

The challenge is based on a participatory approach of children and a concrete approach to energy at school, at the recreational center... It enables children's involvement in the management of energy within school and the organisation of learning outcomes on energy, in relation with school curricula.

The challenge dynamic starts with a participatory audit carried by the children themselves: they discover useless energy consumption in the school; they suggest solutions to change this... then they get organised to implement them.

2- Pilot experiences

The pilot challenges have been designed and developed by the project partners, based on the pedagogical pathway – IO2, prepared in the framework of this project. Each challenge is unique as it is specific to the institutional context where it is tested and to the profile of the children involved.

Those pilot challenges are described in the Manual – IO3.

Experimentations have been carried out in the 6 following institutions:

Croatia : Srednja skola Braca Radic (Elementary School) – Koprivnica.

Spain : Institut d'Ensenyament Secundari Sucro d'Albalat de la Ribera – Valencia

France : Collège Jacques Prévert – Marseille

Ecole maternelle et primaire (kindergarten and primary school) – Mosset

Mas de la Coume – Fondation Krüger (recreational center) – Mosset

Sweden : Vimmerby Gymnasium - Vimmerby

This sample is made of a diversity of institutions:

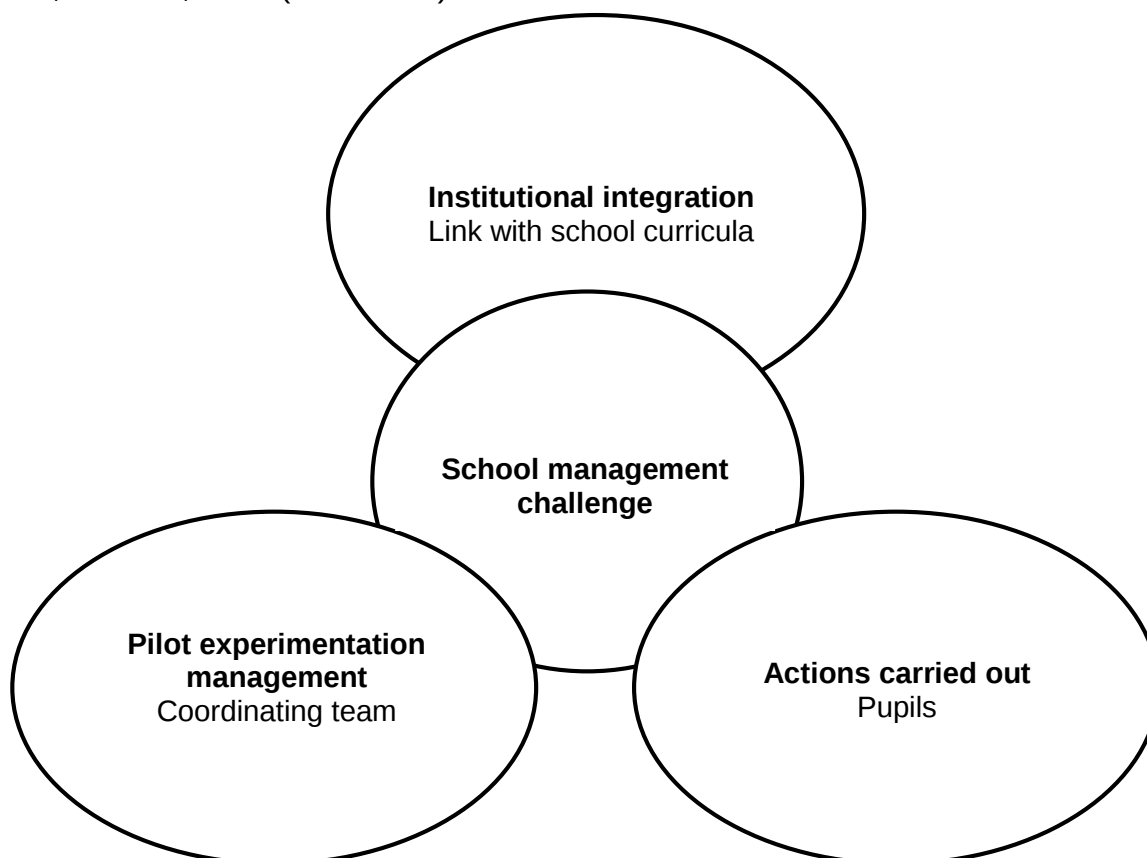
- small primary school;
- primary school with extra-curricular activities;
- secondary school;
- large secondary school;
- scientific secondary school;
- recreational center.

The project partners have coordinated the preparation, the follow-up and the necessary support of the pilot experiences carried out by voluntary educators within those educational organisations.

3. Evaluation method

A logic of self-assessment was preferred, by the on-the' ground teams team who have developed the experimentations, with the support of the ENERMAN project partners, involved the coordination of the experiences.

Evaluation guidelines were proposed by the Belgian partner, CIFFUL of the University of Liège. They are made of a range of questions organised according to 3 perspectives: institution, children, team (see annex).



This assessment was completed by a consultation of the children during which they were able to express their level of satisfaction. Specific questions were proposed by CIFFUL to that purpose (see annex).

4. Assessment of the experiences

The results of the self-assessment of the pilot experiences have been analysed by CIFFUL.

The synthesis of these results is structured according to the same points of view as the guidelines: institution, children, team.

4.1 Institutional integration

Forces :

- subjects tackled during the challenge are related to school curricula;
- in Croatia (Koprivnica), the material and actions developed are coherent with the school curricula;
- in France (Marseille), the challenge fits with the institutional objectives defined in the regional education authority, the school project and the school program;
- in Spain (Valencia), the challenge is developed in the framework of the *Scientist culture* class, which tackles the technological advances and its environmental impact
- Sweden (Vimmerby), the challenge is integrated to the energy-environment lesson, the Swedish school curricula highlights the importance of sustainable development.
- the evaluation of learning outcomes of the challenge is taken into account in the pupils' school report.

Opportunity :

- In France (Marseille), the challenge could become a practical interdisciplinary course unit.

4.2 Actions carried out

Strengths :

- the participative audit of the school is a crucial stage of the challenge, which is appreciated by the pupils who carry it out;
- the saving actions in the school are chosen and implemented by the pupils, based on the results of the audit they have carried out;
- very concrete actions are developed, for example the installation of plugs with a switch and programmers to better manage the equipment;
- using equipment in the process is a source of motivation for pupils;

- in France (Marseille), pupils have asked the school manager to replace the old computers and the coffee machine, which consumed a lot of energy;
- Spain (Valencia), the challenge led to the discovery of a big water leak thanks to the continual monitoring of the school energy consumption;
- Croatia (Koprivnica) : the challenge was focused on water consumption and the energy necessary to its drawing, distribution and treatment.
- Spain (Valencia), pupils developed an awareness-raising campaign as well as an exhibition within the school about the environmental impact of energy;
- In Spain also, the pupils have succeeded in reducing the power used by the school, with a positive impact of its invoice;
- Sweden (Vimmerby), pupils have become ambassadors of energy issues among other pupils.

Weakness :

- the energy saved during the challenge wasn't measured, it was evaluated by a calculation done by the pupils.
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Opportunity :

- the challenge is a way for pupils to discover hidden or hidden parts of the school, it is an attractive aspect of the challenge for them.

4.3 Managing the challenge

Strengths :

- Each challenge was implemented with the agreement of the school management, and even by the local school authority in France (Mosset) ;
- It was appreciated and approved by stakeholders;
- The suggested measurement tools and their use fits the need of teachers;
- In France (Mosset), families were successfully associated to the challenge;
- The involvement of the school management team in the challenge is an asset, notably to purchase the necessary material;
- The participation of an energy "expert" teacher is also an asset.
- Sweden (Vimmerby), pupils were responsible for the whole challenge, until the organisation of sustainable development days with conferences, exhibitions and demonstrations of concrete energy saving measures.

Weakness:

school time is not always sufficient to completely develop cross-disciplinary actions and cross-sectoral learning outcomes

5. Success factors

The following strengths of the challenge have been highlighted:

- tangible and concrete approach of energy
- link with school curricula
- interest of children to discover their school
- agreement and support of from the school management
- the school audit is a motivating start for children

The tasks to carry out beforehand are very important to guarantee the success of the challenge:

- agreement and support of the management team
- internal information and call in order to create a coordination team of the challenge
- involvement of voluntary teachers
- correspondence between the learning outcomes of the challenge and those foreseen in school curricula;
- availability of measure instruments which will be used during the audit;
- preparation of audit grids (waste measurement)
- pre-audit by the management team to identify and purchase the material that children will use to better manage energy (socket with plugs, programmers, led bulbs...)
- definition of the way the management team will be technically supported (by the school technician for example)
- internal information about the date of the audit and its organisations (visit of school rooms during school time for example)

6. Conclusion

The Energy management school challenge, based on the audit-action-learning, contributes to the achievement of the objectives of the school system in each partner country. The participative and concrete approach proposed triggers the support and the satisfaction of school actors, more particularly pupils involved in the audit and in the actions. It contributes to the improvement of energy management in the school. It is an awareness-raising tool to energy transition.

Annex: assessment guidelines

Institutional integration

What are the links between the subjects tackled and the activities carried out during the challenge and the instructions and recommendations of the school reference texts (curricula, school books, school project, official bulletins...) ?

What parts of the challenge were appreciated by the concerned teachers?
Among those, which ones really helped the teachers in the framework of their courses?

What authority approved the pilot experimentation implementation?
Were specific conditions or recommendations expressed/formulated?

How have the learning outcomes related to the challenge been evaluated? Have the results of this evaluation been taken into account in the pupils' school report?

What should be the priority for the challenge to become a teaching practice that can be reproduced every year?

Actions carried out

What concrete actions have been implemented by the pupils/children to avoid energy wastes?

What factors or events have made the implementation of the actions easier or more difficult?

What was the role of the children in the choice of the actions?

What is the impact of these actions on energy consumption? How was it measured?
What criteria, qualitative and/or quantitative, were used?

What key steps contribute to the success of the challenge?

Management of the pilot experience

How was the challenge felt by the teachers, pupils, outsiders from the school?

What parts aroused support or opposition?

What responses were given to the expectations and needs of the teachers?

What opportunities and/or difficulties had an impact on the smooth running of the challenge?

What are the main adjustments to anticipate when re-implementing the challenge?

Further opinion

What aspects do you wish to highlight ?

Children/pupils' point of view

Can you tell us 2 or 3 things you have discovered through your participation to the project?

- I have discovered that.....
 - I have discovered that.....
 - I have discovered that.....
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Since the end of the project, do you do some things differently ?

- Now, at school/the recreational center, I.....
 - Now, at home, I.....
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Can you say what liked most and what you liked least in the project ?

- The moment I liked most was.....
 - The moment I liked less was
-



Whom did you tell what you did in the project ?

- I told what I did and he/she told me that

What is your personal opinion on the project ?

- In my opinion, I

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