Energy issues, European citizenship, CLIL methodology How a Comenius Regio project helps improve students' competences and teachers' professionalism ICT Conference for Language Learning Florence, 14 November 2014

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Open questions

How can the question of energy sources and the development of European citizenship be related? How can CLIL methodology be a valid and useful tool for students and teachers to research and explore today's scientific challenges in Europe in order to propose alternative solutions? How can a Comenius Regio project (in which various stakeholders – politicians, schools, institutions and associations - cooperate) contribute to setting up an innovative way of working together at distance, through ICT and social networks?

The aims of the project: Science for ActiVe citizEnship in Europe- SAVE EU Scientific learning paths to face future challenges

- to build up innovative learning paths focused on scientific issues inside Europe and on the learning of a foreign language in an integrated way;
- to adopt a new methodology (CLIL and the use of social networks - web 2.0);
- to develop teachers' professional competences and students' knowledge and skills as concerns Active Citizenship inside the EU and in the two partner countries (Italy and Denmark).

Partnership

The two partner countries in which the territorial institutions are set and work are:

- Italy: Province of Pisa (coordinating institution); 3 secondary schools; the professional association of *lend-lingua e nuova didattica*);
- Denmark: Municipality of Fredericia; 4 secondary schools; UCSyd, University College Syddanmark, Haderslev.

The target groups include: the staff of the involved schools (teachers of scientific subjects, history, philosophy and English, teacher trainers, mentors); the students from 14 to 16 years old as "second addressees"; other stakeholders such as teacher associations, headmasters, researchers.

Planning and implementing scientific paths

A planning chart for the CLIL scientific path/unit on the themes of energy issues (renewable and nonrenewable energy sources) and their environmental impact, a sort of "backbone" for all schools, but subject to changes according to the level (language and content) and the age of students.

A very active methodological approach (the 5Es: engagement, exploration, explanation, elaboration, evaluation), stimulating students to research, analyze, interpret, discuss and produce.

Three steps

- 1. Scientific research and survey in one's own areas on energetic needs and policies adopted at local and national level, on European documents and recommendations for common solutions and political action.
- 2. An ecological footprint test on behalf of the students and their comments (lifestyle for being more eco-friendly).
- 3. Reflection and debate upon the chosen issues, presentations, reports and videos (loaded on the platform)

The theme of European Citizenship as a *fil rouge*

- A class has started from the notion of citizenship (what it means and implies in terms of duties and rights, how you can acquire citizenship in the European countries and what the differences are between being a citizen of a national state and a citizen of Europe).
- A mock European Youth Parliament Plenary Session has been arranged in another school context, in which students have discussed possible proposals for energy policy and presented their resolutions respecting the rules and procedures of the European Parliament.
- Another class has mainly focused on the results of their ecological footprint test and have debated personal attitude and lifestyle, thus becoming conscious of the urgency of the energy question and getting to feel more "European"!

Outcomes

- a web-platform for teachers, researchers and all stakeholders to exchange opinions, experiences, materials (http:// saveeu2013.wordpress.com/);
- guidelines and suggestions for CLIL methodology;
- learning and e-learning CLIL scientific paths implemented at school;
- videos and reports documenting the experimentation phase;
- self-evaluation questionnaire for teachers and one for students (inner evaluation).

Teachers' competences

Among the eight key competences indicated in the European teacher profile

✓ language and communication
✓ science
✓ digital skill
✓ civic competence
✓ sense of initiative and entrepreneurship

Monitoring and evaluating

Two tools have been adopted:

- a questionnaire addressed to students as feedback on their work at the end of their activities;
- ⊘ a self-evaluation questionnaire filled in by teachers.

The former asked students to reflect on their learning experience – interest, attitude, feelings – as concerns energy issues and the use of the foreign language in dealing with a scientific topic.

The latter focused on a few areas of analysis (*teachers' motivation, organization of the whole project, teaching in class, outcomes, communication, interpersonal relationship, strengths and weaknesses* emerged so far) and aimed to make teachers discuss their personal response to the whole project and to their innovative didactic practices.

Teachers' results (1)

- As concerns *motivation* all teachers started the project and continue it feeling a strong motivation to cooperate and work together.
- The organization sounds good on the whole, especially as concerns the division of roles and responsabilities.
- As for *teaching in class* on the average teachers seem to be satisfied with their work (more with students' response and activities, a bit less with timing).

Teachers' results (2)

✓ The level of *students' products* is indicated as good.

 The *effectiveness of* communication is recognized, but as concerns the means there has been some difficulty at the beginning in managing the platform.

In the section strengths and weaknesses, the positive aspects are the richness of this professional experience of work and cooperation among colleagues and the strong professional motivation stimulating them.

 Also students' response is seen as a strength. The negative comments underline the problems of funding, resources and the means of communication.

Students' results

As for the students the great majority of them have considered the learning experience inside the CLIL scientific paths very important or important and useful for their future. Most have found out that learning a subject in a foreign language is fairly easy, but they have also underlined a few difficulties such as: "understanding scientific notions in English"; "interacting in the foreign language"; "reporting what has been researched and analysed".

The methodologies they have mainly appreciated have been the scientific method and multimedia.

Dissemination

O The dissemination of the outcomes of the project has already started (online and in presence): this has led to a deeper reflection on the project itself and is also paving the way to the second phase, the 2nd year of experimentation in classes (planning, implementing and evaluating new learning paths on scientific challenges!)

Reflections

- If we go back to the initial questions focusing on the core of the project and on its various aspects - topics and methodology - we could conclude that SAVE EU has brought to innovative methodologies and strategies, to valid educational policies.
- Teachers, students and the institutions in both countries have become aware of the scientific challenges Europe has to face in the near future in particular as concerns energy sources, and have been developing a feeling of European citizenship.

Future perspectives

We expect that in the second year of the project the four "threads" of it - local autonomy and education, common scientific challenges, the CLIL teaching/learning process and European citizenship - will interrelate more closely in order to bear further good fruits.

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