

MatCH

The focus of this project is the "open problem posing" in contexts concerning situations in real life in order to consolidate mathematical knowledge and to stimulate the acquisition of new methods. They will enable the students to make informed choices and know where to go for help and to take other effective actions to improve their and the general economic well-being. The solution will be made for a variety of cases in different contexts (for example: social-economic, legal, social network, Geography, History) using various mathematical approaches in relation to the age of the students. The project is aimed at students who will work in groups according to their age: 12-15 and 16-17. Each national group of students, in its own country, will collect and work on information about the topics they will then present and compare during meetings which will be held in the different countries. This will give the students the opportunity to get a wider and more complete vision of the problem and to find a common solution to it. The mathematical methods used in the project will be progressively more complex, thus requiring more refined skills the students will learn in progress. During the meetings time will be also devoted to the knowledge of the culture and habits of the hosting country.

All the results got in the different phases of the project will be published in a proper website to be actively used and shared among all the members. Communication and dialogue are therefore possible all through the project giving it an interactive feature. A CD-ISO containing all the documents produced during the project will be made at the end of the project. The languages used will be English and French.

Rationale

During this period of economic crisis and disaffection for maths, the partnership has met because all the partners recognize the relevance of this situation.

A more focused motivation is:

- for students:
 - to break down the wall around mathematics and between the young people's experience and maths
 - to reach excellent and weak students because the mathematical competence is one of the 8-key skills recommended by the European Parliament
 - to improve the PISA-test outcomes paying special attention to the OECD decision of making an international measurement of Financial Literacy of 15-year old students
- for teachers:
 - the opportunity to develop multidisciplinary modules to be then shared with other colleagues of their school
 - availability of CLIL modules

Project objective and strategy

The mathematical and scientific competences are functional "to life" and in this sense they are considered among the necessary competences for a complete development of an active citizen. Therefore, the established partnership has deeply considered these aspects and it assumes the responsibility of forming not only a good student, but also a good citizen.

In particular, this project wants to

1. Encourage curiosity and desire of knowledge, research and updating in students who are European citizens living in a society characterized by complexities and changes
2. Stimulate creativity and logic through mathematical games of the kind of those used in "Mathematics without borders" (competition in which we are involved, see <http://www.matematicasenzafrontiere.it>)

3. Being able to apply Mathematics to the problems of real life, in particular considering the economic aspect
4. Give students confidence in financial vocabulary and the necessary mathematical methods to make informed choices, to take effective action to improve their financial well-being and protection
5. Stimulate their ability to work in a group of the same nationality but also with foreign students of a different culture.
6. Improve the ability to use foreign languages in studying and interpersonal relationships
7. Improve the ability in searching and checking information on the Internet
8. Improve the ICT

The general theme the students will work on is the present economic crisis in Europe. The project will follow these steps: survey on domestic economy using basic statistic instruments; suggestions to improve domestic economy codifying the problem into the mathematical language and try to find solutions with operative research; analysis of economic measures taken by Governments and their impact on daily life, using suitable mathematical technique; consolidation of known instruments and learning specific method (outside the school program). Starting from their personal experience will give less motivated students as well the opportunity to be involved in mathematical problems, taking active part in the group work. During their activities the students will use informatics instruments, with a particular attention to the critical use of the Internet. The meetings in different countries and the publication of the results will consolidate the linguistic competences.