

Background of the School

School name: ESCOLA VIROLAI

Main information:

- Number of teachers: 85
- Number of students: 1310
- Ages of students: 0-18 years
- Typology: Semi-private
- Location: Barcelona

Methodology:

Virolai is an affiliated school of Barcelona, inclusive, open, and respectful of the different views on life, which continually reflects, learns, and improves in response to the new challenges that it encounters. In addition, its goal is educational excellence; that is, to offer the best education to students and their families. It uses a system of learning based on effort and student involvement in classroom strategies working globally and following PBL methodology through interdisciplinarity, the connection between different curricular areas, and through work in real, everyday situations. Tutoring is one of the pillars of its educational project. Through the work of self-knowledge, acceptance, and personal improvement and tutorial partnership are essential for empowering and accompanying all the students in their personal growth.

Plan implementation

Name of the project:	Barcelona, a smarter city
Problem to solve:	Propose new tools to make Barcelona an smarter city.
Main goal of the project / Guide question:	Can we improve our city?
Subjects involved:	Science (physics and chemistry), History, Geography, Technology, Spanish, Catalan and English
Topics reached with the project:	Speed and motion. Chemical reactions Sustainability Code with arduino materials and their properties History of Barcelona Demography Climate
Competences developed:	Learn about the evolution of the city of



	<p>Barcelona (from the Roman period to the present) Study the impact of traffic and pollution on the city Find sustainable alternatives to transport within the city Increase the green areas of the city Make a proposal to remodel a unused space or building in the city Design a model of the city Programming with Arduino and finding smart solutions for the city Know the means through which the citizens have to contact the city council. Develop cognitive-linguistic abilities. Implement some Sustainable Development Goals.</p>
<p>Planned time: 1 term</p>	<p>Real time spent: 1 term</p>
<p>General description:</p>	
<p>In groups of three, they will research about the evolution of Barcelona, new technologies and sustainability to write a request to the Council of Barcelona, proposing some improvements for the city. They will also build a model of the city adding mechanisms than work with arduino and representing these improvements.</p>	
<p>Final product and publicity:</p>	
<ul style="list-style-type: none"> •Write a request to the Council with a report explaining the project to improve the city. •Organizing of the Smart City Expo Virolai Congress •Design the invitations •Beginning and closing talks from experts proposed by the students •Families and students visit the Congress 	
<p>Assessment and feedback of students:</p>	
<p>Using rubrics Constant feedback of teachers and classmates Coavaluation and self-assessment.</p>	
<p>Resources:</p>	
<p>Sites created by teachers than include all the information needed by students. https://sites.google.com/virolai.com/barcelona-smarter-city/inici https://sites.google.com/virolai.com/barcelona-a-smarter-city-eng/guide-question</p>	



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Theoretical time saved by the project:

15 hours of languages

Science, History and Technology is only worked in the project.

Evidences of the process:



<http://blogs.virolai.com/index.php/2018/12/19/ii-smart-city-expo-virolai-congres/>



Reflection and evaluation : success and difficulties

Evaluation tools	
Marks comparison Forms Students opinion Teachers opinion	
Success	Aspects to maintain
We collected data of the improvement of the students using rubrics to unify the standards of assessment. The weekly meetings gave us the opportunity to share information, feelings and observations about the progress, the students and the project.	weekly meetings feedback tools co-evaluation
Difficulties	Aspects to change
To modify the schedule every week. To coordinate teachers than weren't involved in the organization meetings.	Use the templates created this year to work on them next year. Allow teachers to attend organization meetings.