



Project Title: **“Do Well Science”**

Project Number: **2017-1-IT02-KA201-036780**

Project Coordinator: **Liceo “MACHIAVELLI”**

PROJECT SUMMARY

CONTEXT

Science education is a key factor for European economy and society’s future competitiveness. This is why, indeed, basic literacy in STEM is an Horizontal priority of the Erasmus+ Programme and one of the benchmarks of the ET 2020 and Europe 2020 well known European Union’s strategies.

Over the past 20 years science education has been on the top of the educational policies in most European countries. Such policies usually have a dual purpose:

- to promote science literacy among all young people
- attract young people to science in secondary education

Teachers as they are identified by the project partners as the facilitators of the building of a new approach towards scientific knowledge.

OBJECTIVES

The general objective of the DoWellScience project is to increase secondary students learning results in STEM (maths, physics and natural sciences).

The specific objectives are:

- Provide valuable support to STEM teachers in promoting an interdisciplinary and inquiry based learning approach to increase students capacity in problem solving, critical thinking, active research and curiosity towards scientific subjects
- Develop innovative pedagogies for science teaching and learning based on the use of youngsters most diffused communication and information tools as apps for smartphones and tablets and the web
- Make full use of ICT communication potential to promote among students a cooperative based and peer to peer learning practice in order to stimulate their commitment to learn scientific subjects

RESULTS

Availability for STEM teachers of a consistent, scientifically and pedagogically validated, innovative and highly transferable set of operative teaching materials. The teaching materials, available according to a OER principle both on the Web and through 3 dedicated APPs, will combine real life learning scenarios and gamification methods.

Availability of a set of learning materials on STEM subjects, for secondary students, accessible through the use of their communication and acquisition of information patterns and tools (ICT and Mobile). The learning materials will put students at the centre of their own learning process in order to motivate them to learn maths and sciences.



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Availability for STEM teachers, academic researchers and policy makers with a Manual for the analysis and understanding of the obstacles that demotivate students in learning scientific subjects, and for the planning and implementing of effective strategies to remove those obstacles making use of the most innovative pedagogic approaches.

Secondary School STEM teachers:

24 of them directly involved in the creation of the 2 Intellectual Outputs
12 among them will be involved in the Short-term joint staff training events
80 STEM teachers involved in the testing of Intellectual Output contents
30 teachers participating in Multipliers events

Secondary School students

The project will impact on the underachieving results in STEM of a foreseen number of 2244 secondary school students, that is 20 students for each of the 104 teachers involved

Policy makers and School leaders

30 policy makers participating in Multipliers event

METHODOLOGICAL PRINCIPLES

Inquiry based teaching approaches to enhance students awareness within their learning path and motivating them to learning through proactive problem solving challenges

Use of e-learning environments based on learning management system (LMS) and content management system (CMS) with which the teachers and the students can be protagonists of a continuous variation and adaptation of the contents.

Implement cooperative learning, for learning in teams and stimulating the comparison among students both in classrooms activities and at transnational level, building a European learning community in STEM

IMPACT

The project foresees long term impact on

Secondary school STEM teachers:

- Increasing their skills and competences to plan and adopt innovative methods for motivating students to study scientific subjects through enquiry based approaches
- Improve their capacities to make full use of ICT teaching materials to raise students achievements in maths and sciences
- Providing them with didactic contents developed through a strong cooperation pattern with academic and technical experts to ensure that the available materials are scientifically and didactically reliable and usable in their real everyday life teaching activities

Secondary school students underachieving in STEM by:

- Enhancing their pro-active attitude towards their learning process in STEM using their means of communication i.e. Web and Mobiles/Tablets
- Reinforce their problem solving capacities as a strategic approach to learn STEM issues and motivate them to overcome their difficulties on the matter
- Stimulate their willingness to learn through enquiry based approaches within which they are not only asked to be able to solve the problem but to share, discuss and explain the solution.

Link to project card: [Show project card](#)



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