

## STEM in Early Childhood and Care (Italy)



### NATIONAL POLICIES

STEAM education in Italy is present in all school curricula, from pre-school to secondary school. When used in pre-school and primary school, robotics can be an extremely effective tool for STEM disciplines or STEAM disciplines because we can introduce concepts from an early age (4 years old) that will later be useful for learning and consolidating science, maths and technology disciplines.

### GOOD PRACTICES

#### EARLY: Education Advancements through Robotics Labs for Youth

An Erasmus+ Project for enhancing development of the teachers from primary schools, providing online educational resources in 3D printing and coding

**Mind Maths:** The aim is to develop new methodologies for bridging skills gaps for university students working in primary schools and teaching processes for students with maths anxiety problems by developing dedicated videos and teaching scenarios

**ALGOLITTLE - Algorithmic Thinking Skills through Play-Based Learning for Future's Code Literates**

ALGOLITTLE is an EU-funded project that aims to integrate algorithmic thinking skills into the pre-school education system, with the aim of raising future digital citizens from an early age.

#### EARLY CODE

The aim is development of a curriculum for a university course for students of Education Sciences who wish to specialise in teaching children in pre-school (3 - 6 years old). In particular, the aim is to propose tools and methodologies to promote computational thinking in young children.



### CPD

In Italy, it is mandatory for every teacher to carry out refresher courses during each school year. These can be internal and carried out by the school itself or external and therefore contracted out to third-party training bodies. These bodies must be recognised by the Ministry of Education. Despite this, there is still an important gap in the use and teaching of STEAM subjects, especially in pre-schools and primary schools. In fact, most of these tools and technologies are used from secondary school onwards.

## GAPS & ROOM FOR IMPROVEMENTS

1. Missing comprehensive approach
2. Missing of preparation during university courses on STEAM subjects
- 4 Missing of the time management to prepare interactive and digital activities
5. Missing of sufficient knowledge and materials



## MAIN CHALLENGES



Develop high quality courses and materials for teachers working in pre-school and primary schools.

Raise teachers' awareness of STEAM skills for use with younger students.

Create more attention on the topic of using STEAM subjects to involve more teachers and students through engaging and stimulating activities

## MORE

It is essential to develop stimulating and engaging lesson materials for teachers and students in order to create more attention and interest in the use of STEAM subjects in schools and especially in pre-school and primary schools.