Application for project funds

Building Future Skills

Lego Education and the European School have teamed up to give pupils in 3rd Secondary extra training and skills in coding and robotics. We intend to do so by working with 'Green School' which allows us to also educate the pupils on a set of various relevant environmental issues such as 'clean energy', 'clean water', 'sustainable cities and communities' and 'responsible consumption and production' according to the UN Global Goals. Spending a project week focusing on these subjects brings together Science and ICT education along with Engineering and Math (STEM) and provides the pupils with insights in communication, creativity, innovation and the benefits of working in projects with a diverse set of skills.

Introduction

The project was initiated by a parent of three pupils at the European School by bringing together Yann Le Tallec, Director at Government & Public Affairs, Lego Bruxelles and Regin Pindstrup, Science Teacher at EEB1. The three of them are now developing the project with help from Lego Education and approved by Lars Roesen, Deputy Director (Secondary). Furthermore 6-8 teachers are now part of the team that will teach the pupils during the project week. The Lego Education trainers are made available by Lego Education and teachers and developers are all volunteering to make this happen.

There are, however, some expenses connected to making this pilot project an ongoing success and solid learning experience at the European School and we hereby apply the APEEE for funds to cover these expenses.
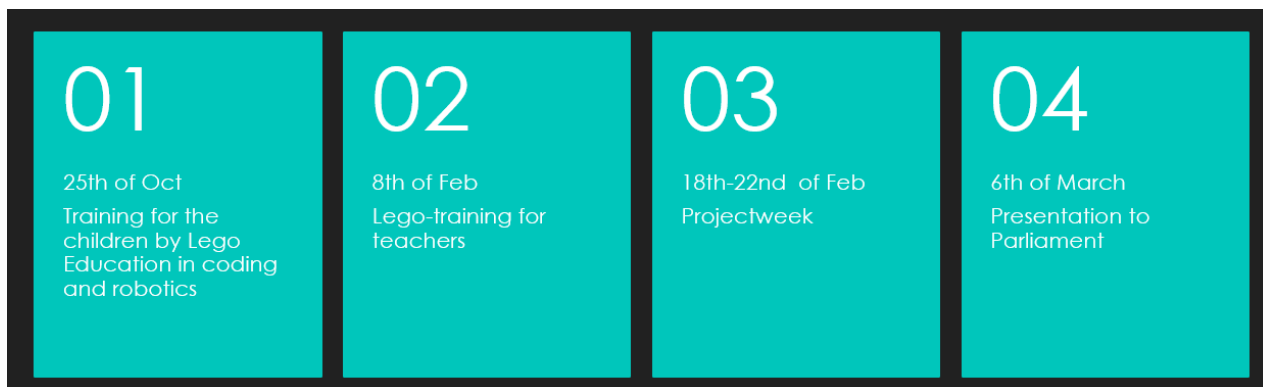
Project description

During the project the pupils will work with Robotics, Coding, innovation, communication, scientific and environmental issues and gain insights in the benefits of working in teams and projects. Furthermore, we want the pupils to present their project to the EU Parliament and thereby strengthen their presentation skills and interact with the political bodies about what are important skills to learn to best meet the future needs. In this way we work with local and global challenges and empower the pupils to reflect on how to create their future.

This project is meant as a pilot to make the possibilities provided by Lego Education within robotics and coding available for future teaching, events and projects at the European School. Initially S3 from the German, English and Danish section will participate, but teachers from other sections will be involved to ensure insights across multiple sections and to increase the possibility of future teaching and projects. All teacher can be introduced to The Lego Mindstorm sets at a pedagogical day. Furthermore it is an excellent opportunity to prepare the students for more advanced projects in the Fab-Lab and the sets can be handled (storing and repairing) by Mr. Perez-Rodriquez. During the project week it will be tested how 3d printing can add to the experience with the Lego Mindstorm to potentially build more customized robots.

Lego Mindstorm is an excellent way to spark interest and skills within coding and robotics as it gives the student a physical experience of being able to affect the world around them. Please get to know Lego Mindstorms here https://www.youtube.com/watch?v=1nLASx-vWs8

Project activities

Below you will find the main activities in the project.

01	02	03	04
25th of Oct Training for the children by Lego Education in coding and robotics	8th of Feb Lego-training for teachers	18th-22nd of Feb Projectweek	6th of March Presentation to Parliament

After finishing the project there will be an evaluation of the project for future events.

We are still working on designing the best pupil/teacher experience during the project week, but below you will find a draft of how the project week could look like.

Monday	Tuesday	Wednesday	Thursday	Friday
Introduction to the projectweek and kick-off Research, brainstorming, selecting, building solutions, testing, presenting, giving feedback	Building solutions, prototyping, brainstorming	Building solutions, prototyping, brainstorming	Finishing the project Evaluation of the projects What did we learn? – meta-reflexion on the skills needed for the future	Communication skills Preparing a presentation - e.g. booths with posters and a pitch Presentation for parents and other stakeholders from 14.30 to16.00

Objectives

✓ Have an innovative pedagogical nature

✓ Promote high-quality education

☐ Contribute to the well-being of students

✓ Promote equality, tolerance and/or diversity

✓ Promote sustainability and healthy habits

☐ Prevent disciplinary problems and risky behaviours

☐ Promote a wide participation by parents in school life

☐ Help in finding solutions to problems which parents face regarding their children's education

☐ Improve communication between parents and the school

Sections and classes involved

S3 German Section

S3 English Section

S3 Danish Section

If the APEEE decides to support the project ICT-teacher in S3 will use the Lego Mindstorm sets for coding and robotics insight for all ICT-students in year S3.

The year S3 was chosen considering the level of coding skills of both the students and the school and to make sure that the students will grasp the concept instead of being overwhelmed by the complexity of e.g. building a computer. By using Lego Mindstorm the focus will be on building a robot and coding its actions.

Estimated number of students impacted

53 – potentially all pupils in S3 (15 sets should be just enough to support teaching ICT in year S3 – should APEEE want more years to be included then more sets are needed).

Estimated number of parents impacted

Parents of the 3 classes will be invited to a presentation of the prototypes and ideas created during the project week.

Specific parties involved

Lego Education

Yann Le Tallec, Director Lego Brussels

Regin Pindstrup, teacher at EEB1 + 6-7 colleagues

Marlene Schneekloth, Parent and consultant on innovation, presentation/communication and project management

Total budget

A total budget can not be delivered as we do not have insights in Lego's costs (preparation, providing trainers and educational material, project management etc) and all the hours spend on preparation, project management and communication by teachers and parents are on a voluntary basis.

Contribution requested with a description of costs

In order to create the best learning experience during the pilot project and to support future events and projects there are some expenses that we hope APEEE will consider funding:

	Cost
16 Lego Education kits	5.990,05
LEGO® MINDSTORMS® EV3 Core Set – 2-4 students could share a set. We have also received an offer of 30 sets which will cost 10.979,30 – please consider if 30 sets will be needed for future teaching	
Materials for prototyping and presentations	250

To spark creativity and make interesting presentations we will need extra materials such as coloured paper, fabric, cardboard boxes, markers, glue etc.	
Catering	250
– e.g. for external trainers, and the presentation event at the end of the week	
Total 16 sets	**6.490,05**
Total 30 sets	**11.479,30**

As you can see from the project timeline the first training with the pupils are the 25th of October. The school and Lego Education will provide the Lego Mindstorm sets, but if possible we would like to purchase the Lego Mindstorm sets before the projectweek (18th-22nd of feb 2019) as it will spare us a lot of work assembling the various parts, it will be more efficient and the new Lego Mindstorm sets will be testet before future events.

Attached you will find the original project idea. Please do not hesitate to contact us for further information.

On behalf of the project team,

Best regards

Marlene Schneekloth