



# Schools as student-lead Responsible Reserch and Innovation (RRI) project hubs

The OSOS approach aims to encourage the uptake of project-based and resource-based learning practices and to engage a wider school community (by involving more teachers in the projects and initiatives, technical staff, parents, community members, local industry) in implementing innovative projects in various curriculum areas, as well as to reflect on the use of tools, resources and practices through the systematic assessment methodology that will be set in place to act as a reference system for the school development as an Open School. This phase aims to create the steady and supportive development of new learning methodologies, leading to sustained improvement.

The development of strong communities of practice around the school-lead projects is regarded as a crucial element in the success of proposed interventions. At this phase, the OSOS offers numerous tools for the school communities. Apart from community building and support tools numerous content creation and content delivery tools will be available for students and teachers. The aim is to help them to become creators of educational activities which will reflect on the real educational needs of their classrooms as well as they are providing solutions to their local communities. They will be able to adopt existing content, enrich it with numerous resources and tools in order to provide integrated solutions to the local problems. The OSOS team will adopt the following four-step process in guiding students to develop their projects:



- Feel: Students identify problems in their local communities. They can also select topics related to global challenges. Students observe problems and try to engage with those who are affected, discuss their thoughts in groups, and make a plan of action, based on scientific evidences.
- Imagine: Students envision and develop creative solutions that can be replicated easily, reach the maximum number of people, generate long-lasting change, and make a quick impact. They are coming in contact with external actors, they are looking for data to support their ideas and they are proposing a series of solutions.
- **Create:** Students are implementing the project (taking into account the RRI related issues) and they are interacting with external stakeholders to communicate their findings.
- **Share:** Students share their stories with other schools in the community and local media.

This guide aims to help teachers and students to work collaboratively in the development of their projects. The guide describes in 10 steps the preparatory work that has to be done from the teachers to offer the opportunity to the students to describe and share their project ideas following the FEEL, IMAGINE, CREATE and SHARE approach.

Feel	Imagine	Create	Share
Teachers & students explore local needs / global challenges & trends for new project areas	Students proposing solutions, interact with external stakeholders, collect data and make action plans.	Students create their own projects in the community workspace	Students and teachers share their projects in the network



#### **Prepare Students Projects**

To prepare a Students Project, teachers have to perform the following steps:

**Step 1:** In the school or in the thematic community under interest select **Project**.

**Step 2:** Select Create new project in the Community.

Step 3: Select Option 1 Start a new Project.

At this step teachers have the option to select an already existing OSOS Accelarator and develope their localized projects. Teachers have to follow the same process for both new projects (based on students innovative ideas) or projects based on OSOS Accelerators (project ideas proposed by the OSOS team).

Hints: Key characteristics for the students' projects. They must be:

- Placed: The activity is located, either physically or virtually, in a world that the student recognizes and is seeking to understand.
- Purposeful: The activity feels authentic, it absorbs the student in actions of practical and intellectual value and fosters a sense of agency.
- Passion-led: The activity enlists the outside passions of both students and teachers, enhancing engagement by encouraging students to choose areas of interest which matter to them.
- Pervasive: The activity enables the student to continue learning outside the classroom, drawing on family members, peers, local experts, and online references as sources of research and critique.

These four criteria can provide a useful checklist for teachers formulating their learning designs, but also suggest what a science classroom and a school as an organization needs to offer to become more engaging in itself: a place-based curriculum, purposeful projects, passion-led teaching and learning, and pervasive opportunities for research and constructive challenge.





These activities will be adapted by the Open School members that will involve representatives from educational providers, industries, civil society associations and even students themselves. The activities used in the project will promote collaborations and the opening up of the classrooms to the society. The participating schools will include both primary and secondary education level and activities will be selected and adapted accordingly to fit the different levels.

**Step 4:** Provide the main description under the **Project** field.

Complete the following fields:

- **Title:** set the title of the project (in all languages that you select)
- **Description** (in all languages you select): use the rich editor to add multimedia content, images and text
- Keywords: separated with comma
- Language: select one or more languages for the project. If you choose more than one, the Students need to provide their content in all the selected languages
- Subject: select one or more Subjects
- **Learning objectives:** define the learning objectives of the project (separate with comma)
- Age group: select from the available options
- **No of students:** indicate here the number of the Students that work together in this Project (no matter how many will edit the content)
- License level: define if this Project is public or private
- Status: define the status of the Project as draft

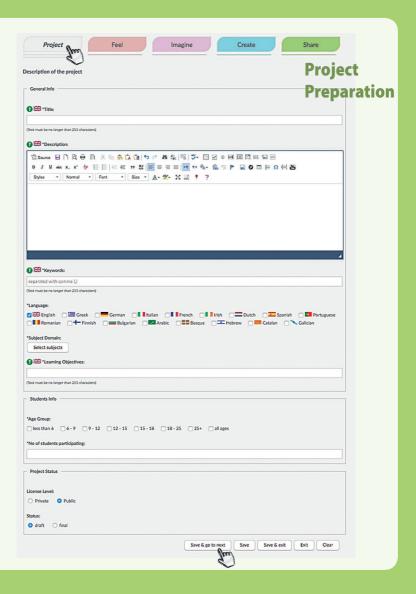
#### Hint: Only students can change the status of the project to final

**Step 5:** Select Save & go to next.

**Step 6:** For each one of the four phases: FEEL, IMAGINE, CREATE and SHARE, add guidelines that the students should follow when working with the project. Don't forget to add links, videos, images using the options of the editor.

Hint: The guidelines are only visible to the students and not publicly



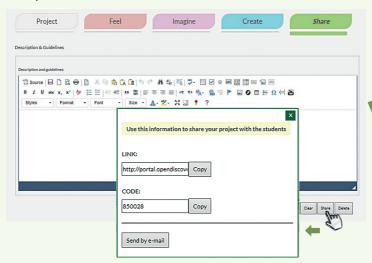


### **Share the Project with your Students**

**Step 7:** Use the **Share** button to present the URL and the CODE that you need to share the project with your students.

**Step 8:** Copy the URL and the CODE and present them to the students.

Press Send by e-mail to create a new e-mail with the information included and send it to your students.



#### **Provide feedback to your Students**

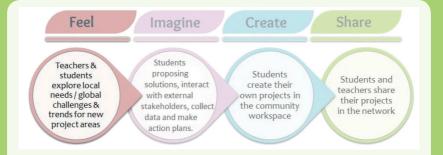
**Step 9:** After students have added some content in the project you have access to it and can add any comments you might have! Visit the summary page of your project (if this is a draft it is available under your profile,

http://portal.opendiscoveryspace.eu/en/my-area)

**Step 10:** Select Edit. In each phase, see the content of the student(s) and provide your feedback in the last field at the bottom of the window and "Save" when you finish.

# Students developing their projects using the URL and the CODE provided by the teachers

	Διο	γωνισμός Αντιλ	ογιών	
	Project code:			
1	Username:			
	Password:			

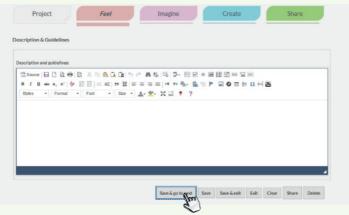


#### Phase "Feel"

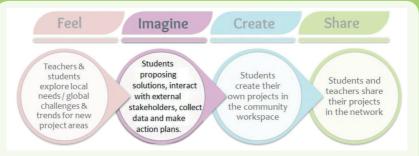
The aim of this phase is to understand the initial problem and its characteristics.

Students identify problems in their local community or related global challenges. They have to describe problems and to discuss their thoughts in groups as well as with external stakeholders like community authorities, experts and researchers.

Students will be introduced into the concept or problem to be solved, and they will have to study the area or topic from the beginning to the more specific areas. They can even ask stakeholders for more information.

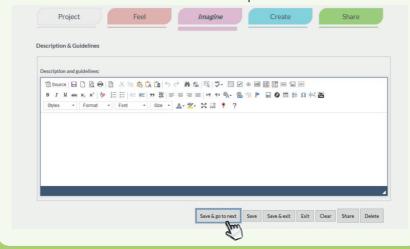






#### Phase "Imagine"

In this phase, students imagine possible solutions to the defined problem. To do this, students have to work in groups and to present a pool of solutions with questions like "what can solve or improve the issue?" or "how do you imagine the situation in a better way?" They can ask stakeholders for further support. Since they should be working on teams, brainstorming and voting methodologies are important to developed and proposed a shared solution. This situation can also be shared with external agents to figure out the best scenario to work on. Students have to develope an Action Plan.





Our workshop started with four meetings where some teachers told us about , cosmetic and homeopathy.

Later we went for two weeks at a chemist's: a close contact with work.

Finally we visited a cosmetic company.

#### THOUGHT BEFORE THE DEVELOPING OF THE PROJECT

- . Learn something new
- . Empower me because I had to relate with people unknown
- . Come into contact with the world of work



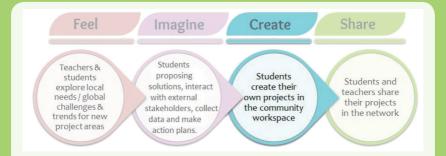
#### Fears

- . I was afraid of being exploited by the company and not being comfortable with the managers
- . I thought it was boring and useless
- . I thought I was thin considered
- . I thought I was in the way
- . I was worried to make mistakes
- . I thought I was learning more slowly



Phase "Imagine" **Examples** 





#### Phase "Create"

In this phase of the project, students will need to develop and to present their solutions to the problem. The projects can vary widely depending on the type of activity and the solutions they seek and the level of the problem students are trying to solve. They have to implement the project and interact with external stakeholders to ask for support and guidance. It is very important to note that the proposed solutions have to be based on scientific evidences and research results. Students have to be engaged in experimentations and data analysis to provide optimum solutions. Close cooperation with the local communities in necessary.

#### Hints

- Plan and document your idea, trying to figure out your needs. Everything should be written into the OSOS portal, since it will act as a "diary". Think about resources, materials, tools, etc.; you may ask external agents for further support.
- Implement/execute the idea you have planned. It is important to document the issues you have faced.
- Share the results with your classroom (in case there are different workgroups)
  and within the stakeholders that have been involved in the project.



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#### Phase "Share"

In this phase of the project, students have to disseminate the solutions that have created throughout the whole project. They are encouraged to use social networks, contact local newspapers, etc. They can also organise small scale activities between students, stakeholders, families to present their projects in the local community. Contests, infodays are ideas that the students can explore in this framework. Open Doors events where schools are presenting the students projects and activities are ideal cases for sharing the results of students work. Large scale events (e.g. virtual visists to research centers or science centres and museums) could be also organised. OSOS is also promoting the school to school collaboration so events where schools are collaborating and sharing experiences are highly recommended.

#### Hints.

- Ask them to add here the contact details of their team.
- Ask them to share their story with other schools in the community and local media.
- Point out that they need to be careful with the information they are adding NO PERSONAL DATA!!!

Apart from the wonderful journey and the experiences we gained, we will never forget the connection in real time with the scientists on Bioshpere 2.

We had the opportunity to ask questions about the difficulty of this enormous experiment, but also about specific issues regarding Bioshpere 2 and a possible future manned trip to Mars and received very substantial and detailed answers from the scientists. In addition, we all had the unique experience of seeing live images from the outside environment (tropical forest, ocean, crops) and from the interiors of Bioshpere 2.





School Contest "Build your own seismograph

At the end of this wonderful journey, our sch



oving also provides assistance in case of emergency after earthquakes







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