



D3.2 Report on the adaptations of OTTER's programme to each region and country

VERSION 1

Project acronym: OTTER

Project title: Outdoor Science Education for a Sustainable Future

Call: H2020-SwafS-2018-2020



Project no. 101006482

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Call: H2020-SwafS-2018-2020

Start date of project: 01.09.2021

Duration: 30 months

Deliverable title: D3.2 Report on the adaptations of OTTER's programme to each region and country

Due date of deliverable: 31.07.2022

Actual date of submission: 03.08.2022

Deliverable Lead Partner: CARDET

Work Package: 3

Keywords: Education Outside the Classroom, Programme adaptation, Quality Standards

Please cite as:

Tampakis, Alexandros (2022). Report on the adaptations of OTTER's programme to each region and country. Nicosia, Cyprus, 21 pages



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History

Version	Date	Reason	Revised by
01	12.07.2022	Version 1	LS / GEO
02	01.08.2022	Version 2	GEO



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OTTER project

OTTER is an H2020 funded project that aims to **enhance the understanding of Education Outside the Classroom (EOC) methods and pedagogies** and how they can help **improve the acquisition of scientific knowledge and transferable skills in students, specifically in the field of environmental sustainability and the reduction of plastic waste**. It aims to increase interest in scientific topics among young people while also contributing to the range of innovative educational projects and the increase of scientific citizenship within the EU.



OTTER aims to strengthen educational outside-the-classroom (EOC) **networks within Europe**, connecting experts from four different regions within the continent (**Finland, Hungary, Ireland and Spain**). The strengthening of these networks will be utilised to carry out a programme of EOC pilot schemes and analysis of the effect they have on the performance of participating students, including their levels of sophisticated consumption and scientific citizenship, to increase understanding of the effects of education outside the classroom on EU citizens. The pilot schemes will share a common theme revolving around issues of plastic waste and recycling in order to build upon recent momentum in tackling related global educational, social, and environmental issues and due to the close relationship between reducing plastic waste and the need for more sophisticated consumers.

Project Consortium



Geonardo Environmental Technologies
(**GEO**)



European Science Foundation (**ESF**)



University of Groningen (**RUG**)



University of Limerick (**UL**)



Bridge Budapest (**BB**)



Learning Scoop - oppimisen osuuskunta (**LS**)



The Big Van Theory (**TBVT**)



Center for the Advancement of Research &
Development in Educational Technology
(**CARDET**)

ADAPTATIONS OF OTTER'S PROGRAMME TO EACH REGION AND COUNTRY



1. Executive Summary

This task will guarantee a fitting adaptation of the OTTER EOC programme without hindering high-quality data collection to each country's national scientific curricula and needs. Considering the 4 countries where OTTER will be implementing the OTTER Outdoor Labs, CARDET will ensure that the quality standards set in task 3.1 are maintained when each adaptation is carried out by having one leader per country. While LS, TBVT, BB and UL will lead such adaptation, all trainers will participate in the adaptation of the programme for their own country.

2. Report on the adaptations

This **first version** of the Report on the adaptations of OTTER's programme to each region and country has been generated taking into account the conclusions and key findings of *D3.1 Methodological protocol to develop transformative EOC activities designed for specific age groups*, the expected impacts of the project description and CARDET experience, as coordinators of the task.

A template examining each country's restrictions was designed by CARDET and distributed to the four partners (UL, TBVT, LS, BB). A period of 10 days was provided for the partners to provide their information. The template can be found in Annex 1

3. Age groups

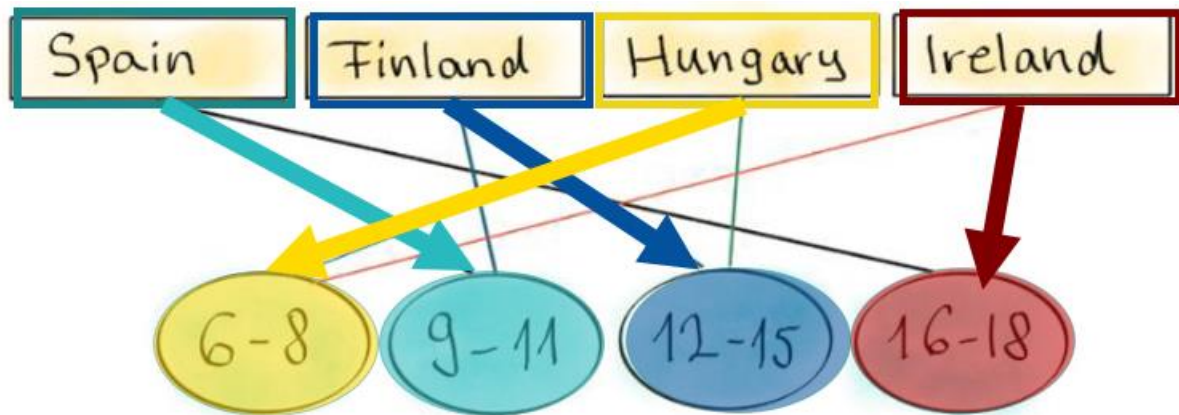


Figure 1- Age Groups

The methodology for the OTTER Outdoor Lab will be implemented in pilot schools. At least 4 methodologies will be defined to account for the 4 different age groups between 6 and 18 years old. Each piloting country will work with two age groups. The methodologies will be adapted to each country needs and scientific curricula.

The youngest ones develop more playful hands-on activities, where observation and discovery is especially relevant for the activities planning.

The middle ones will be “creators”, where they can be involved in local initiatives or promote activities in which they can merge science and artistic disciplines.

The older ones will be “changemakers”, in which they observe, familiarize themselves with the topic, experience and experiment with hands-on activities and reflect on how this knowledge can help to change the world around, promoting a volunteer attitude

4. Procedures

The development of the initial version of the methodological protocol for OTTER outdoor activities took into account the recommendations and major findings of D2.1, the literature review and good practices, the anticipated effects of the project description, and TBVT's experience as task coordinators.

The following diagram represents the methodological protocol that TBVT produced, and partners agreed to follow in the implementation of the OTTER outdoor labs (UL for Ireland, BB for Hungary, and LS for Finland and TBVT for Spain).

	Pedagogical objectives and model definition	Places to develop the outdoor activity	PRE-LEARNING	Outdoor Activity	POST-LEARNING
DAY 1					
DAY 2					
DAY 3					
DAY 4					
DAY 5					

Figure 2- Methodological Protocol

To design and implement an OTTER Lab, teachers will carry out preliminary design and preparation work in three steps (Teachers previous set-up):

STEP 1 - What do we learn: Boost students' knowledge and attitude

STEP 2 - Where do we go: Define Education Outside the Classroom Activity

STEP 3 - What for: Facing environmental issues

Once completed, the second part of the educational process will begin, in which the students will work on a Youth initiative through 4 different stages, such as:

- STAGE 1 - Pre- learning:** Observe and Inquire.
- STAGE 2 - EOC activity:** Discover.
- STAGE 3 - The youth initiative:** Energize.
- STAGE 4 - Post-learning:** Reflect and self-assessment.

The implementation phase includes 2 selected schools in each pilot country that will perform the OTTER Outdoor Lab in their own educational contexts.

The protocol created for the OTTER Labs will need to be flexible enough to work with students of all ages, from 6 to 18 and from schoolchildren to college students with modifications broken down into 4 age groups:

- from 6 to 8 (Adventurers)
- from 9 to 11 (Explorers)
- from 12 to 15 (Creators)
- from 16 to 18 (Changemakers)

In each school there will be one class that will actually implement the OTTER Outdoor Labs (experimental group) and one class that will serve as a control group. The control group and the experimental group will be used in the outcomes evaluation, which will be based on a semi-experimental design. The outcomes of the two groups will be compared using quantitative and qualitative criteria. These tests will be designed to gather data on how well students comprehend subjects that were covered in both the conventional classroom curriculum and EOC activities as well as subjects that were covered in both.

Data for the qualitative assessment may originate from ethnographic observations of students taking part in EOC activities as well as interviews with certain student groups. The development of activities that are in line with the OTTER Outdoor Lab and classroom curriculum of participating schools will employ the collaborative problem-solving assessments created by the Assessment and Teaching of Twenty-First Century Skills project (ATC21S, 2009).

5. Things to consider during the implementation

1. Ensure all school policies and procedures adhere during OTTER Labs implementation, according to adaptations proposed below.
2. Maintain a consistent education culture that is well structured, clear expectations, smooth transitions and a calm environment.
3. Foster a supportive environment by checking in regularly with pupils. 'Check-ins' can occur before and/or after lab implementation, or in whatever medium the pupil is most responsive.
4. Be mindful of your interaction with the student; show support, refrain from generalizations, be explicit in your remarks, and maintain a pleasant attitude.
5. Concentrate on student's social development outside the classroom labs, paying particular attention to peer interactions, marginalization symptoms, and problems with self-esteem.
6. Pay attention of students' academic progress and assign make-up tasks to those who have missed class.
7. Identify common and diverse values during OTTER Labs implementation. Create chances for students to express their individual ideas and opinions in order to foster a feeling of community.
8. Avoid remarks that could offend or use culturally objectionable terminology.
9. Adapt your approach to the demands of the individual or specific group rather than taking a "one size fits all" stance. Recognize each student's qualities and talents, and use them effectively throughout the lab.
10. Highlight problem-solving, engaged learning, and curiosity.
11. Promote peer contact through teamwork and group projects.
12. Involve students in all activities of the lab. Whenever it is essential, please encourage them to participate.
13. When possible, deliver information visually and use relevant examples from other fields to promote Interdisciplinarity.

6. STEP Analysis

STEP 1: Pedagogical Objectives, Content and Skills

Time

It is clear from all partners' answers that the implementation of the OTTER Labs must occur during the school year. The programmes will be split up into four parts, preferably distributed over four different days. The overall number per pilot country is 50 students and 2 teachers.

Since the school year does not have the same duration in all partner countries, a simple apposition points to the timeframe from the middle of September until the end of May. During this period, the long school holidays occur on approximately the exact dates.

Adaptation: Since the duration of the OTTER Labs is set, organizations will choose the exact date according to their schedule availability.

Location

The selection of location will vary due to local restrictions. Some areas do not have access to specific sceneries. Therefore, alternatives must be provided during the design of OTTER Labs. Although locations will be chosen in accordance with the OTTER Labs content, e.g. different nature settings, companies involved in plastic waste management, museums or exhibitions, it is expected that not all countries will have access to similar organizations/ enterprises.

Alternatives must be given, concerning the content of the lab and its pedagogical objectives. Virtual or Augmented reality implementation, might also be a solution.

Adaptation: The location must not play a determined role for the OTTER Labs implementation. In cases that the location is part of the procedure (e.g. a seashore for a continental school) at least one alternative must be provided from the designer.

Financial resources

There are no specific restrictions regarding financial resources.

Adaptation: Resources demanded for the EOC labs should be awarded enough time to be ordered in advance

Equality

In most piloting countries, the integration of all students is at the core of their education system; the Irish school makes particular reference in their curriculum.

OTTER project has already identified good practices that aim to promote gender equality in EOC labs, for example:

1. Integration of EOC labs actions aimed at enhancing the engagement of girls in EOC subjects and professions, the introduction of more women in technology education, eliminating social stereotypes, enforcement of equal participation and representation of women in the process
2. Creation and support of girl empowerment programs that combine guidance with education by highlighting the female role.

Adaptation: Piloting partners should read and apply the gender equality guide, expanding its spirit to all students' categories, fostering supportive environment. The final aim is to express unconditional support, to avoid generalisations and singling out the student for criticism.

Quality criteria for each Outdoor Activity

The three pillars of OTTER Labs design, as they have been described in STEP4 of the deliverable 3.1 Methodological Protocol to Generate Transformative EOC, namely

- Learning by doing
- Collaborative learning
- Experimental design

They are supported by the majority of the educational systems of the piloting countries. Some issues may arise from the strictness of the curriculum. Especially in the case of older students aged 16-18yrs, the high stakes exams are somewhat a barrier to introducing new concepts/approaches.

Adaptation: Designing organizations should make connections between the laboratories and the curriculum of piloting countries, so the teachers have the opportunity to cover the learning objectives through outdoor labs implementation

Materials

For the implementation of OTTER Labs, a checklist of materials and resources should be created. Teachers should organise their pupils in mixed groups in order to implement the OTTER Labs. Teachers should be involved in developing ideas, designing and adapting relevant resources to be used during lab activities

Adaptation: The pilot partners have agreed that teachers plan the actual adaptation of OTTER outdoor labs in collaboration with project partners. A check list of materials and resources should be prepared. It is teachers' responsibility to make sure that the outdoor lab is aligned with curriculum.

STEP 2 - Where do we go: Define Education Outside the Classroom Activity

Evidence

Piloting partners should make appropriate referrals to the principal, parent, and any other needed stakeholder / specialist according to school policy. Partners in most cases, have to ensure written consent where necessary, in order to be able to collect evidence when reporting activities (photos, produced constructions etc).

Additional attention must be paid to collecting any type of personal data. Since OTTER Labs address students of different age groups, partners must keep in mind that younger students are less aware of the risks and consequences of sharing data and varying their rights. Any information addressed explicitly to prime age groups should be adapted to be easily accessible, using clear and plain language.

Adaptation: The pilot partners will respect GDPR regulations, and other regulations derive by their [National Data Protection Authority](#)

Drop-out

Participants' dropout rate is a percentage of the total population who did not complete the lab for diverse probable reasons such as technical hurdles, lack of interest, and an unclear purpose of the procedure.

Since the labs are designed not to disturb regular school schedule and curricula, students are expected to attend them as part of their school teaching hours. However, piloting partners and the project cannot demand students' attendance.

Adaptation: Every participant should be able to dropout at any point of the OTTER Labs research. Piloting partners should provide a form, informing participants about this right

Teachers

In total, at least 8 teachers (at least 2 teachers per country) will be actively involved in the planned activities outside the classroom. The programme will take into account the specificities of each of the selected schools and teachers.

Those teachers will be involved in the testing to refine the OTTER Outdoor Labs methodology that could be implemented in schools. Therefore, the methodology will be adapted to each group and a personalised pedagogy might be used, according to the specific needs of both students and teachers.

The project foresees teacher training, and guidelines for teachers interested in EOC approaches; although in some piloting countries selected teachers are familiar with EOC methodology, practical instructions and guidance from the pilot partners is still needed.

Adaptation: Teachers will be supported and provided with practical instructions and guidance from the pilot partners before and during the implementation of OTTER Labs. Quality criteria must be set regarding their training

STEP 3 - What for: Facing environmental issues

Implementation Evidence

Evidence, in multiple forms, is a foundation of scientific approach. Through the project activities, the knowledge, skills and competences of the students is strengthened. In contrast, the implementation of the activities and the use of the materials allow them to enjoy the process.

Adaptation: Evidence during the OTTER Labs implementation will be gathered in the same form for all partners

Trainers' satisfaction rates: Questionnaire

Trainer feedback: Feedback Rubric that will help Trainers understand requirements for each assignment.

Student data: Surveys (Pre and post), Pictures of class work/artefacts related to EOC activities in respect to GDPR requirements

Communication

Piloting partners have different procedures to handle communication with relevant stakeholders (schools, parents, teachers and students). For some, the consent form is not mandatory regarding EOC activities.

However, in parallel with the activities, the project will also contact research, gathering qualitative and quantitative data. For those activities that is demanded, piloting partners and teachers may need to obtain some form of permission for students to participate in the OTTER Labs.

Adaptation

School: Invitation letter and letter of confirmation of engagement.

Parents: Information letter and letter of consent

Teachers: Information letter and letter of consent

Students: Information letter and letter of consent

Annex 1

Organization	
Country	
Responsible for age group	

STEP 1 - What do we learn: Boost students' knowledge and attitude

Element	Country's restrictions	
Time	Are there any restrictions regarding the timeframe of the labs? (e.g. must be completed in schools curriculum time schedule)	
Location	Are there any specific locations that are impossible to reach due to your geographic location? (e.g. there is no sea shore in some km distance)	
Financial resources	Is there any specific procedure that you have to follow in order to acquire financial resources for the implementation of the Labs? (e.g. some graphiocentric protocol that requires XXX months in order to be granted by the school's authorities?)	
Equality	Does your education system has an Equality guide/protocol? How do you plan to deal with students with special needs ?	
Quality criteria for each Outdoor Activity	Does the curriculum support: <ul style="list-style-type: none"> • learning by doing • collaborative learning • experimental design 	
Materials	How do you plan to include the EOC labs in the school curriculum?	

STEP 2 - Where do we go: Define Education Outside the Classroom Activity

Evidence	Will you be able to collect evidence when reporting activities (photos, produced constructions etc.)?	
Drop-out	How do you secure that every participant can drop out of the process at any point, facing no penalties?	
Teachers	Are your teachers familiar with EOC basic requirements <ul style="list-style-type: none"> • series of data • concepts • methodologies 	

STEP 3 - What for: Facing environmental issues

Implementation Evidence	How do you normally gather evidence (quantitate and qualitative) regarding the trainers' <ul style="list-style-type: none"> • satisfaction rate • feedback 	
Communication	Are consent forms mandatory in order for students to participate in EOC activities? How do you plan to acquire a consent form from <ul style="list-style-type: none"> • School • Parents • Teachers 	



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Contact



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