

TEMPLATE FOR THE DESIGN OF A SERVICE-LEARNING PROJECT*

1.- PROJECT TITLE	
Chemistry in the garden	
2. PROJECT SUMMARY <i>(brief description 300 to 500 words)</i>	
This project aims to organise a series of hands-on workshops with experiments based on natural products for children, ages 5-14, in which chemistry will be explained through experimental activities. It involves children from vulnerable categories in practical activities in order to increase their self-confidence, learn science with pleasure and increase their chances to continue their education in high-school and college .	
3.- TECHNICAL DATA	
Higher Education Institution or responsible entity:	Faculty of Chemistry, University of Bucharest
Person in charge of the project in the HE Institution:	Adina Raducan
Number of students participating in the project:	10
Course/age/gender of the participating students:	20-35
Number of final beneficiaries of the service:	30
Project type: (face-to-face, virtual, mixed and/or international):	Face-to-face
Do the students work with social entities or with final beneficiaries of the service?	Yes
4.- BACKGROUND <i>(context in which it arises, if it has been carried out previously, if it is part of a project that already exists or the previous experience from the people involved)</i>	
The project is based on previous experience of members of University of Bucharest, Faculty of Chemistry, in organising outdoor educational activities for children. The experiments conducted by the students enrolled in the Didactics of Chemistry Master program for children of different ages were very successful, so we decided to try to apply this idea to children from disadvantaged backgrounds (especially from rural areas, where a large part of them have a precarious material situation). This project can be a solution for preventing poverty and social exclusion in the long term, acting to prevent disadvantages in education and preventing school dropout, so that there are adequate opportunities for education and vocational training accessible to groups of children and young people at risk.	

5.- GENERAL SOCIAL NEED FOR THE PROJECT (S-L addresses real needs in the community, it is significant and relevant for both students and community partners. Relevant topics related to civic, cultural, economic and political society are explored through the project.)

It is well known to the community that belonging to rural areas is associated with major educational disadvantages: access of children/young people in rural areas to level 3, 4, 5 or 6 (ISCED) studies is almost non-existent: out of the total school population only 12.1% of children from rural areas go to high school (school year 2020/2021). An even more obvious situation is for higher education. Encouraging study through experiments and understanding of physical and chemical phenomena can be an engine for increasing the level of education. Poverty hits those with low educational attainment, so continuing education at the high school/college level is a key priority to establish equal opportunities. For the students, this workshop is an aid in future professional training as teachers. They will have the opportunity to interact with students from disadvantaged areas and see what problems they face.

6.- SERVICE OBJECTIVES (what is the purpose of the project, what service will be provided to address the social need)

Children:

- Increase the confidence of children from disadvantaged areas to learn and practice chemistry/science.
- Increase the number of children from rural areas who graduate and continue their education in highschool/college.
- Develop teamwork skills – working collaboratively with others, particularly around difference and diversity.
- Develop citizenship behaviour – using the scientific knowledge as base to address social issues, as well as developing the skills and habits for critical reflection.

Master Students:

- Preparing students for their career as teachers
- Achieve academic learning goals while engaging students in the community
- Empower students with local issues and needs
- It gives students more responsibility for their learning
- It exposes students to inequality and injustice in societies while empowering them to make a difference
- Students connect theory with experience and thinking with action

7.- LEARNING OBJECTIVES (Specific contents and competences of academic subjects or academic degree, and/or transversal (generic) competences.

Develop leadership skills and confidence in designing experimental activities for young children (5-14 years) with special needs.

Learning abilities to combine theoretical knowledge with practical activities when they teach chemistry.

8.- SUBJECTS/CURRICULAR AREAS INVOLVED (curricular subjects/courses?, a specific S-L course?, program?, etc.)

Master of Didactics in Chemistry students are going to be involved.
The program is going to be part of an already existing course.

9.- ACTIVITIES TO BE CARRIED OUT IN ORDER TO ACHIEVE THE PROJECT OBJECTIVES (both inside and outside the classroom. Activities that deal with the preparation, implementation, closing and evaluation of the project.)

Activities proposed:

1. Presenting to students the project and requirements.
2. Documentation and development of the proposed experiments by the students.
3. Series of workshops delivered every two weeks indoor or outdoor (depending on weather conditions). Each workshop will involve 3-5 experiments developed by students. All the experiments should involve green and sustainable reagents; the experiments will be hand-on. At the end of each workshop, a questionnaire will be applied for children.
4. Reflective activity of the outcomes.

10.- LINK TO THE SUSTAINABLE DEVELOPMENT GOALS AND TARGETS (Go to: <http://sdg.humanrights.dk/es/goals-and-targets>)

SDG	TARGETS
4.1. By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.	1.1. Increasing the number of children from rural area entering in highschool/college
4.3. By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.	1.2. Increasing the interest of children from rural areas in science.
8.6. By 2020, substantially reduce the proportion of youth not in employment, education or training.	1.3 Increasing the number of children from rural areas who, after graduating from a higher technical form of education, will have a well-paid job.

11.- HOW IS THE GENDER PERSPECTIVE INCORPORATED INTO THIS SERVICE-LEARNING EXPERIENCE (Equitable distribution of tasks among man and women; use of non-sexist language and images; recognizing and value the existence of multiple gender identities)

Equitable distribution of tasks among man and women;
 Use of non-sexist language and images;
 Recognizing and value the existence of multiple gender identities.

12.- ENTITIES PARTICIPATING IN THE PROJECT (social entities, Public Administrations, educational centers, etc.)

University of Bucharest.
 Elementary and secondary schools from rural areas.

13.- REFLECTION ACTIVITIES (Outline how reflection will be carried out with S-L participants: Reflection about what; when and through what means the reflection will take place. Analysis of different perspectives related to the problem that is being faced, and link of the S-L experiences to the theoretical and methodological framework of the academic subject/curriculum)

1. For children - a survey before and after the workshop.
2. For students - assessment of the fulfilment of the objectives and implementing the activities.

14.- EVALUATION (who evaluates, what is to be evaluated, when will the evaluation take place, and through what means will the evaluation be conducted)

1. Evaluation from the children and their teachers.
2. Self evaluation from each student.
3. Evaluation from the class professors and project coordinators.

Indicators of impact on learning

Indicators of social impact

Number of workshop in which the children are enrolled

Number of children that are going to a high-school in science

Number of children that are increasing their grades in science

Number of students that are going to teach in rural areas

Number of children that improved their ability to do practical activities on their own or in groups

15.- CELEBRATION OF THE PROJECT AND ITS RESULTS (diploma award ceremony, party, meetings, etc.)

Diploma award ceremony

16.- COMMUNICATION AND DISSEMINATION ACTIVITIES (use of social media, internet, YouTube, publications, conference presentation, etc.)

All the experiments will be presented on social media (facebook, instagram, youtube, UB News Bulletin) and will be disseminated to educational events.

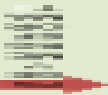
17.- CALENDAR (timeline of the project activities)

The project will be conducted for 14 weeks.

Week 1: activity 1

Week 2-4: activity 2

week 5-12: activity 3



Week 13: activity 4

Week 14: Dissemination and closure of the project.

18.- HUMAN AND MATERIAL RESOURCES NEEDED TO CARRY OUT THE PROJECT
(teachers, students, administrative staff; teaching resources, furniture, etc.)

HUMAN RESOURCES:

University of Bucharest: 10-15 students, 3-6 teachers

Elementary and secondary schools from rural areas: 1 school, science teachers and teachers for primary school. No more than 20 children.

MATERIAL RESOURCES:

Kits with chemical reagents; laboratory glassware and other laboratory tools.

Transport facilities.

19.- BUDGET (income, expenses and co-financing)

Total expenses: 3430 EUR

Transportation to school: 700 EUR

Per diem: 230 EUR

Chemical reagents: 500 EUR

Equipment, glassware; specific materials, etc: 2000 EUR

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*Reviewed by the Subcommittee of the Technical Commission of S-L in the Public Universities and the City Council of Madrid.