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Exploring the Ground – Fostering Scientific Understanding in Primary Schools

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Publishable Final Activity Report

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Final

Publishable Final Activity Report

1. Project execution

Soil issues have only low priority in basic education and there is a need to raise the general understanding of soils and issues affecting soils through education and to develop new innovative ways of education. Since the results of the Pisa studies have been published the promotion of scientific understanding in primary schools got more and more attention. The subject "soil" with its various facets and fields of work therefore presents itself as ideal. The ground conditions in the surroundings of the children are very different: roads - plates - garden soil – fields - sandy soil in the sand box. This leads to different experiences. Children gladly work with sand and earth. Here they have a far experimentation field that however emerges out of the focus of teaching when they grow up. But a curriculum for kindergartens does not exist yet. Educators are often isolated in questions of conversion of scientific education.

Exploring the Ground - Fostering Scientific Understanding in Primary Schools (EFSUPS) is an FP6 cooperation project of Science Shops and universities from Romania, Hungary and Germany on country specific soil problems with the aim to

- promote the scientific understanding in primary schools based on the education for a sustainable development (ESD) by focusing on "soil" issues
- promote the understanding of the own environment in the European context
- acquire suitable skills for meaningful acting for "the One World of tomorrow "
- link educational institutions with external partners outside of schools

EFSUPS activities ran from November 2006 until October 2008. Cooperating in this project were Wissenschaftsladen Bonn (Wila Bonn),Germany, Universitatea Politehnica din Bucuresti, INTERMEDIU, (INTERMEDIU), Romania, Bacau University, Research Center for Civil Society (Inter-Mediu), Romania, Fachhochschule Lippe und Höxter (FH Lippe und Höxter and in the meantime renamed to Fachhoschule Ostwestfalen-Lippe), Germany and the Community Outreach and Volunteer Center, St. Istvan University (SZIE) Hungary. The project was coordinated by Wissenschaftsladen Bonn.

The "EFSUPS" project aims at developing and testing specific components for primary school education, which promote the scientific understanding of children in the basic school age and enlarge their skills, expanding its activities to a target group of pupils from 5 to 8 years age, and so covering the different ages of entry to the school system in the different European countries (kindergarten and primary schools).

These objectives should be achieved by

- The development of a curriculum for general knowledge instructions and a teachers' guide and tool book on "soil" issues,
- Training seminars for teachers, courses at schools and three national workshops, and a website for the dialogue between participating kindergartens and primary schools and beyond as well as for the exchange of experiences and project results.

These objectives were achieved by the development of a curriculum for general knowledge instructions, a teachers' guide and a toolbox on soil issues. With the described methodology and the developed teaching modules, worksheets and technical instructions for elementary experiments appropriate to preteens and giving a country-specific focus teachers and pedagogues now can lead pupils in an advisory manner and guide them in the learning process

Training seminars for teachers, courses at schools and three national workshops as well as a website, supplying the teaching material, pictures and examples of the work children produced during the teachings accomplished the project work in the reporting period.

Teaching material

The evaluation of the existing teaching material was carried out in each participating country (Romania, Hungary and Germany) by the consortium. Random research was also done in the English speaking literature. By an extensive literature research a catalogue of the best practices was produced, with examples of teaching soil issues in primary schools and kindergartens. Structured data collection was carried out in libraries and specialist institutions. Teaching materials were identified and compiled by all partners and presented according to the major themes and chosen country focus (erosion/pollution/sealing). The discussion on the materials extended to relevant websites, manuals, teacher's and children's books, lesson plans.

The catalogue was the starting point to develop a complete training material for general knowledge instructions. The training material comprises of a curriculum, teaching units and a toolbox with background information, worksheets and technical instructions, which was prepared with elementary experiments appropriate to preteens and giving a country-specific focus.

The curriculum for general knowledge instruction "soil" developed in EFSUPS gives information to teachers on organizing the complete teaching unit on soil issues. It is either possible to adopt the complete unit or to pick up parts of it. This curriculum consists of three parts. The first one is the curriculum text, giving theoretical information on teaching objectives, performance objectives, and methods for achieving the objectives with national specialities in governmental curriculae. In each of the subchapters the theoretical information is dealing with the soil itself, with Agenda 21 strategies and the Intentions of "EU Science Calls".

The second to part comes as 'Teaching methodology' and is a table of 29 teaching units. It consists of logistic information about the amount of offers, theoretical or practical ones, their individual duration, the localities where they should be run, group-seizes including gender-aspects and links to the respective teaching modules in part three.

The third part of the curriculum is a table with extended 48 teaching modules, a minute description of all the offers, mentioned in the teaching methodology, using identical numbers. Additionally, all the equipment needed, is listed and if necessary special hints for the performance are made.

By using the prepared material, teachers are able to plan and organize a several days soil project or a sequence of single lessons on soil. All children's worksheets, technical instructions and background information as given in 'The ABC of soil' can be downloaded from the project website www.teaching-soil.eu.

Training and teaching

Mainly those practical offers on the national focuses have been topic for the pre-tests, run in Germany, Romania and Hungary. By using the practical offers, teachers were able to plan and organize a several days soil project or a sequence of single lessens on soil.

The teachers trainings took place in the host institutions in a cooperative way, transforming tasks and timing to local possibilities. From the early stage of the project elementary schools, kindergartens and education authorities were contacted and involved in the development and gave support in choosing the appropriate institutions. The pre-tests at schools and kindergartens were organized in a way to be focused on the most critical parts of the curriculum and teaching units. During the pre-tests the teachers dealt only with topics of their countries' focus. Teachers and

pedagogues were trained to lead pupils in an advisory manner and guide them in the learning process. The only obstacle during the pre-test emerged in a form of a minor time management problem. Since the school time is strictly divided into 45-minute class periods with a timetable distributing time evenly between different subjects. As a corrective action classes had to be changed between teachers and the exercises and activities offered had to be tested in a different time scale.

After the pre-tests in cooperating schools and kindergartens training seminars for teachers of participating schools were held in November and December 2007 making use of the developed teaching material and experiments. Pupils instruction and practical teaching in classes to apply the offered tools started in January 2008 and were organized throughout spring and summer 2008. The school teaching units were, where possible, held as project weeks, which could be organized as one block or a series of lessons for a longer period of time. Because of a strong interest in Germany the seminars were held at 2 schools with 12 classes and 5 kindergartens with 14 groups and about 300 children participating. In Budapest and Gödöllö, Hungary, 2 schools and 6 kindergartens with about 50 children participated and in Bucharest, Romania, 5 classes from 2 schools were involved, whereas in Bacau, Romania, 3 kindergartens with 5 groups took part with about 120 children in total.

Website

At the beginning of the project, a discussion group was established at yahoo groups (EFSUPS@yahoogroups.com)for exchanging information and experiences between partners. For Romania and Germany additional discussion groups at yahoogroups.com were also set up to facilitate the communication between the teachers at national levels. The educators who even would like to contact other groups (in other languages) can subscribe to the other discussion group. The group moderators will facilitate the dialog between members and give additional periodical and also on request information.

The main objective of the project website is to disseminate the new teaching tools, to support the teachers and educators activity from different countries, to facilitate the exchanging of their experience in teaching about soil and to allow contacts between teachers, educators and project partners. The project website was designed by Intermediu Bucharest (Science Shop) and was developed, in the preliminary stage, in English. The general structure was set up during the consortium kick off meeting. In the design process of the website two voluntary students were involved, who are members of Intermediu Bucharest. Also another voluntary student participated at training activities as photographer. The website is the result of a team work, each partner contributed with suggestions and texts, and it has been designed to be accessible and user friendly.

The EFSUPS website now gives an overview of the progress of the project since August 2007, and offers a forum for dialogue between participating kindergartens and primary schools as well as for the exchange of experiences and project results:

www.teaching-soil.eu

www.exploring-the-ground.eu

The prepared teaching material is accessible through the web page. The website offers different language versions: English, Romanian, Hungarian, German, French and Spanish. A chart of the teaching tools gives a clearer view on the connections between the teaching modules, worksheets and technical instructions.

During training and teaching, the project partners had the great opportunity of taking photos of children and teachers at work in laboratories, in classrooms, in school garden and parks. Many of these photos are gathered in a photo gallery that tries to show the high involvement of kids and teachers in the experimental sessions. Although the core idea of creating “Eurokids – the Ground Explorers”, a network of pupils from participating kindergartens and primary schools, for exchanging their experiences in small articles, photo series or videos could not be implemented the “Kids’ corner” on

the website still invites the visitors to see photos taken during teaching and experimental classes and also the children "products" related to the soil protection lessons as poems, drawings, written compositions. Reasons for a more or less non-interactive 'Kid' corner' can be found in the age of the participating children and missing technical infrastructure or access to the internet in the participating institutions. Children at this early age (5-8) mostly do not have the skills for online communication. The fact that in Romania technical infrastructure is missing on the country side and the fact that in Germany many educators in public kindergartens are not allowed to use the internet during office hours made the implementation of an international communication structure more difficult.

The selection of the various products was very difficult due to a high number of items received from the partners and also because of their impressive content. "Kids' corner" includes pictures, drawings, poems and a movie made by the Bonn Science Shop during one of the meetings between pilot classes and children's parents. Based on the future teacher's suggestions, other children products will be added from different schools and kindergartens that use the project curricula.

But even by the implementation of this reduced communication platform an exchange of information on a school and pupil level is supported and gives the European dimension of soil problems an education oriented platform and fosters multidisciplinary and intercultural competences.

The website's different language versions have been built on the translations provided by the partners. Due to the fact that the final curriculum and teaching material was available only shortly before the end of the project period, the translation into Spanish and French was not finished until the end of the project. This translation still goes on and the translated material will finally be ready to be disseminated by mid December 2008.

Considering the fact that not all target groups have full access to the internet (in Romania due to missing technical infrastructure on the country side and in Germany due to the fact that many educators in public kindergartens are not allowed to use the internet during office hours) a printed publication of the teaching material is in preparation in Romania and under discussion in Germany. Anyway the website will be continuously updated based on the future developments.

Evaluation

An evaluation report on the experiences of teachers and pupils who took part in the advanced trainings and seminars aimed at analyzing the effects of the curriculum and understanding how the stated goals of the teaching material was accomplished. More specifically it was reviewed how the curriculum was planned and implemented by the teachers; and how it was experienced by the children, what were the potential problems or deficiencies, or the success or failure factors of using 'Dig and Learn'. The predefined key themes explored in this evaluation include gender balance, scientific understanding, experimental learning and problem-orientation (didactics), education for sustainable development, feasibility and manageability of the curriculum.

To collect data for the evaluation questionnaires were used which were handed out to the pedagogues. The evaluation was accompanied by interviews, self reports, written narratives and photo documentation. Data analysis focused on the interpretation of similarities and differences in meaning of the information collected by semi structured interviews with the primary school and kindergarten teachers. Data gathering was organised by each country team separately.

In Romania teachers considered this type of curriculum more like an important step to a new way of teaching on nature issues (for example more hands on activities), rather than a teaching material fostering scientific understanding of kids. One possible solution to this problem would be to develop a series of activities dedicated to science education of primary school teachers on other nature issues.

In Hungary teachers reacted positively to the theme-based approach to learning. They found the teaching material understandable and well structured which initiates personal development, learning with mind and body; using different senses for making sense of the world through group work and field work.

In Germany teachers reacted differently. Some of them were already used to environmental education while others learned about this specific kind of education during the testing and spent a lot of time with preparation. In future they intend to do more of such experiments and excursions, especially in cooperation with the university, because they experienced that preteen kids can be promoted and supported in many different ways. They also asked for more worksheets with detailed tasks for the children.

One of the weak points that were not considered by the project is that early childhood educators and primary school teachers sometimes have low professional status, are not trained for science teaching, and lack the sufficient knowledge on soil issues.

The testing of the teaching material gained positive feedback and enthusiasm from kids. Soil is an important and easy to experience part of preteen kids' life and so the topic was especially welcomed. Scientific understanding was implemented through experiments which were developed in a way that indicates in itself if the pupils understood the topic. The teaching material helped to learn gathering observable and measurable evidence and make distinctions (differences in components, colour, smell), to understand logical links between causes and results

'Dig and Learn' creates various occasions to live up to sustainability education by helping the pedagogue to make the most of it. The teaching material brings the world of nature closer to children and teaches them to pay attention to it. Children were aware also that they and their families should make an important contribution to sustainable development. The family education profile is very important: some children were already used to manipulate tools such as magnifying lens, shovels, etc. - for them it was easier to understand the "scientific" aspects like why the water is flowing faster through gravel than sand and garden soil. EFSUPS activities give opportunities to all children to understand and act positive in the benefit of nature and automatically in their own benefit. They soon realize that our actions have effects on the long run (on soil, water, air).

Dig and learn also showed that handicapped pupils can do the same experiments; they just need a bit more time. Teachers could easily make a choice of certain experiments to work with.

At the pre-teen age group gender is a less relevant factor in deciding children's willingness to participate. Home/family education is much more decisive at this age. However the following observations were made during the evaluation: Boys were more proud of their work and more more interested in doing the experiments. They were less pleased by the worksheets, reluctant to document the experiments but did easy with drawing the ground map. Girls were calm and concentrated, more organized and skilful, generally liked the worksheets better and enjoyed to be in the middle of the Nature among their colleagues. They were much more careful about their appearance, they wanted to keep themselves clean (wash their hands) and in the beginning were sometimes disgusted by soil and worms. Gender-mixed teams have been formed spontaneously at small ages. Over 9-10 years old pupils gathered in gendered teams by themselves.

In general it seems very easy to implement the teaching material in the local education systems since the local pedagogic cultures are adaptable to the requirements of the curriculum. Teachers found it trouble-free to usefully complete or further develop the materials for their own purposes. From the technical point of view the curriculum is feasible. Almost all equipment can be found in an everyday household or can be made from simple things or even rubbish. All the necessary materials are easy to purchase and so "Dig and learn" can be used in financially less supported schools as well. But the missing internet access of many schools and kindergartens makes it complicated to get access to the online material. This will be considered when planning further dissemination strategies in each country.

Some kindergartens now regularly want to take up the experiments to the daily work. The experiments in the teaching material are planned to be open to teachers' further adaptations. It is recommended to use very simple tools for the experiments and work with only a small number and same type of tools.

Workshops in each participating country to present the results of the project were organized in August and October 2008 in Hungary, in September in Romania and in October 2008 in Germany. Up to 20 organisations took part in each country



During the reporting period, the project achievements have been disseminated by printed materials, papers and posters at different events, meetings with groups of teachers. A brief presentation of these dissemination activities is presented in the following table. Flyer and Poster can be found below.

EFSUPS Poster and EFSUPS Flyer


As a main achievement in this reporting period all of the games, activities and experiments were tested and carefully selected ones were tried out in the schools and kindergartens. In the present state of the art a fully developed and corrected teaching material is available for further use and dissemination.

2. Dissemination and use

Exploitable Knowledge and its Use

The main exploitable result of the EFSUPS project is a curriculum for general knowledge instructions at primary schools. The curriculum for the teaching units is completed by a toolkit with supporting teaching materials for practical experiments and instructions.
The curriculum for general knowledge instruction "soil" developed in EFSUPS gives information to teachers on organizing the complete teaching unit on soil issues. It is either possible to adopt the complete unit or to pick up parts of it.

Exploitable Knowledge	Exploitable Products	Sector of application	Timetable for use	IPR protection	Partners involved
New curriculum and teaching materials for science education on soil issues	1. Curriculum 2. Teaching units with modules 3. Teachers guide	Education	2008 -	Free for public use (reference quotation)	EFSUPS consortium

These project results were developed by all consortium partners in cooperation. Partners were Wissenschaftsladen Bonn (Wila Bonn), Germany, INTERMEDIU, Bucharest and Inter-MEDIU, Bacau, both Romania, the Community Outreach and Volunteer Center (ESSRG), at St. István University (SZIE), Hungary and the University of Applied Science (FH) Lippe und Höxter, Germany. (meanwhile renamed to Fachhochschule Ostwestfalen-Lippe OWL). The FH Ostwestfalen-Lippe took the coordinating responsibility for the development of the exploitable products. Every partner gave a specific view on his/her country focus (soil sealing for Germany, erosion in Hungary and pollution in Romania) when developing the teaching units and practical experiments.

The developed materials are free accessible at the project website www.teaching-soil.eu or www.exploring-the-ground.eu. All materials can be used in teaching settings in schools and kindergartens. The materials are originally available in English. The texts are translated to Romanian, Hungarian, German, Spanish and French. Translation into French and Spanish is still in progress and the final publication on the website is expected for January 2009. When using the material a reference quotation is expected.

Teachers and educators can choose and download all or single instructions for teaching units on soil issues in kindergartens or primary schools. The project offers give a clear time frame, as well as objectives for each unit and offers for practical experiments. Instructions for the arrangements of experiments and the construction of special equipment are added.

Dissemination of Knowledge

Overview table

Date	Event	Size of Audience	Type of Audience	Countries addressed	Observations
December 2006	A project press release in English		General public	Germany, Hungary, Romania, international	The coordinator drew up the press – translation by the other partners.
December 2006	WILA inform Nr. 53 • 12/2006		General public and partners	Germany	Title of the article: *EU-Projekt: Kinder lernen das Experimentieren,* http://www.wilabonn.de/WILAinform_53.pdf
January 2007	Announcement in hungarian eco-school newsletter		Teachers	Hungary	Call for schools to participate
January 2007	Article on the Hungarian science shops website		Students	Hungary	Here we were searching for university students to take part in the project.
February 2007	Meeting of teachers of Forest Kindergartens	**50**	Teachers and educators	Germany	
3rd of March 2007	1st presentation of the EFSUPS project during the training program for teachers at "House of teachers" Bucharest	**29**	Teachers	Romania	In this program the teachers are train on environmental issues like (air, water, soil pollution, waste, environmental monitoring)
March 2007	Flyers for EFSUPS project presentation		General public, schools and teachers	Hungary, Romania, Germany	English version designed by Partner 1 (the Coordinator); it was translated in the other national languages.
2nd of June 2007	2nd presentation of the EFSUPS project during the training program for teachers at "House of teachers" Bucharest	**28**	Teachers	Hungary	In this program the teachers are train on environmental issues like (air, water, soil pollution, waste, environmental monitoring)
8-9th of June 2007	3rd Symposium "Educație pentru un mediu curat" [Education for a clean environment], Bucharest	**about 50**	Teachers	Hungary	Presentation of EFSUPS at the opening of the first day. The comments coming from participants emphasized the need for the development of understanding based on experiment in all curricula. EFSUPS flyers were distributed.
June 2007	Project presentation on the www.wilabonn.de/646_1997.htm?h317		General public	Germany	Coordinator's website
August 2007	Launch of project website		General public	International	www.teaching-soil.eu
August 2007	Project Poster		General public, teachers	International	
29 Aug - 1 Sep 2007	The 3rd Living Knowledge conference, held in Paris	**330**	Science Shops, students, researchers	International (50 countries represented)	Poster *"Dig and Learn- Boys and Girls Explore the Ground"* presented by the coordinator, see programme http://sciencescitoyennes.org/IMG/pdf/Programme_LK3_final_final-2.pdf (page 39)
1st September	Regional event: Soil Action Day, Bonn		General public	Germany	Part of a one week lasting event in Bonn on soil issues (Boden-Aktionswoche), Exhibition, poster and experiments
October 2007	Article in the Hungarian Eco-School newsletter		Teachers	Hungary	Article on the EFSUPS project for educators.

Date	Event	Size of Audience	Type of Audience	Countries addressed	Observations
16th November 2007	"Cooperating society for sustainability?" Regional conference for environmental consciousness, Jászberény, Hungary		Teachers	Hungary	Presentation of the project to environmental educators.
26-28 November	SOKORI platform meeting	**12**	CSO, science museums, teachers association	France, Italy, Latvia, Iceland, Spain	A meeting for project preparation in a different context was used to draw the attention to EFSUPS activities
September 2007	Participation at Bonn's Soil Week and presentation of the Project		Public	Germany	
16th November 2007	"Cooperating society for sustainability?" Regional conference for environmental consciousness, Jászberény, Hungary		Teachers	Hungary	Presentation of the project to environmental educators.
26-28 November	SOKORI platform meeting	**12**	CSO, science museums, teachers ass.	France, Italy, Latvia, Iceland, Spain	A meeting for project preparation in a different context was used to draw the attention to EFSUPS activities
31 January – 2 February 2008 -	"Communicating Science to the Young – Future Networks" ECFUN SYMPOSIUM – VIENNA.		Teachers, science educators and communicators, students	International	Meeting with several science education project participants, establishing networks, disseminating results of "Exploring the ground" project. ECFUN symposium materials: http://ecfun.univie.ac.at/Cocoon/
27 – 29 March 2008	TRAMS, Science Shop training workshop under FP6-2003-Science-and-Society-7, Brasov		Science Shop staff and voluntaries	Romania	outcomes were presented to Romanian Scienceshops presented at the meeting ("Apropierea de stiinta prin experiment – cunoasterea solului in invatamantul primar si prescolar")
26/28. April 2008	Article in different local newspapers about the participation of a school in Alfter		Public	Germany	
Mai 2008	Article in local newspapers 'General-Anzeiger' about the participation of a school in Troisdorf		Public	Germany	
3 –5 May 2008	Cuexpo 2008 – "Community-University Partnerships: Connecting for Change", Victoria BC, Canada.	40	Researchers, Students, CSO	International	
10 May 2008	Open lesson, broadcasted on TV 'Alfa Bacau'		Educators from Bacau kindergartens	Romania	Kindergarten no.15 Bacau, by educ. Patrantas Sandica based on "Exploring the ground" teaching modules
June 2008	Final workshop Hungary		Teachers and educators, Teachers associations, NGOs	Hungary	Press release and announcements on various websites: Website of Hungarian science shop Greenfo - the green compass of the web [origo] news portal Ecoservice Foundation website Salad newsletter - green ideas for

Date	Event	Size of Audience	Type of Audience	Countries addressed	Observations
					schools Ecoschool newsletter Forest schools and green kindergartens
5 June 2008	The Environment Day, Bacau		Public	Romania	Borcea" museum from Bacau. The drawings made by children from Bacau kindergartens was exhibited.
6 - 7 June 2008	4rd Symposium "Educatie pentru un mediu curat" [Education for a clean environment]		Teachers and educators, environmentalists	Romania	Politehnica University of Bucharest, Bucharest. During the first day it was presented the "Exploring the ground" development. The paper "Sa cunoastem solul, ne jucam si învatam!" ["Knowing, playing and teaching about soil"] was elaborated by a Bucharest and Bacau partners of the project.
August 2008	Presentation of the EFSUPS project in Maxéville, France, during summer activities of the Petits Débrouillards Lorraine	15	PD staff and coordinators, animators	Region Nancy, France	http://blog.debrouillonet.org/6TLorraine/index.php/tag/Boutique%20des%20sciences%20de%20Bonn
22. August 2008	Article in the weekly journal ‚employment market environmental protection and science‘	2200	Job seekers in the field of environment and science	Germany	
27 August 2008	Final workshop in Budapest		Teachers and educators	Hungary	organised in the garden of the Humusz House. Publication printed in 300 copies of printed documentation was distributed to educators.
September 2008	The kindergarten in Thomasberg wins the environmental award 2008 of the FDP (Free Democratic Party) for participating in EFSUPS Newspaper reports		public	Germany	
12.-14. September 2008	Presentation of the project at the annual meeting of forest pedagogues	**50**	Teachers, educators	Germany	
19 September 2008	Final workshop in Romania		Teachers and educators	Romania	Organised by University of Bacau
October 2008	Broadcast on the local radio station ‘- Radio Bonn-Rhein/Sieg’ and presentation of the project		Public	Germany, Bonn region	
25. October 2008	Final Workshop in Bonn	**26**	Teachers, educators	Germany	
27.-29 October 2008	Conference “Working Together on Education for Sustainable Development”, Bordeaux, France		Teachers and educators	International	Presentation by InterMEDIU Bucharest
17 November 2008	Video published on MTV Hungary		Public	Hungary	A video presentation of the project is now available for the hungarian public: http://www.mtv.hu/videotar/?id=31140

Dissemination activities for the EFSUPS project were performed on different levels and addressed different audiences. The media and methodologies used have been internet via own project website as well as posting videos and project information on other websites, press releases, poster and flyer, presentations in seminars, workshops and conferences, personal talks and TV and radio broadcast. The audience addressed have been teachers and educators, special interest groups such as teachers associations or 'Wissenschaft im Dialog (WiD)', NGOs, environmental groups etc., students and researchers, other projects such as Science on Stage, but also the general public. All workshop, seminar and conference activities have been accompanied by press releases.

Further project activities will focus on dissemination of the teaching units and teaching materials. By publication in specialized magazines on education and by publication of a text version of the produced material at least in Romania (publication by the University of Bucharest) and Germany (contact to Bildungsverlag EINS) additional attention will be drawn to the project outcomes.
For further dissemination in France the Association Française des Petits Débrouillards (AFPD), www.lespetitsdebrouillards.org, will be involved. Contacts have been set up during a project presentation in the Lorraine region and within youth cooperation projects in 2008. A dissemination strategy in Spain will be discussed with the Spanish translator of the University of Barcelona.
Additional dissemination of the outcomes will be reached through announcement in the Living Knowledge Network, the international network of Science Shops.
One of the teachers that participated in one of the EFSUPS dissemination campaigns in Romania, invited InterMEDIU Bucharest to join a project proposal that will include some teaching modules (adapted for high schools). In Romania there is a great gap to be filled in teaching soil aspects to all age groups in schools (in this case in a more scientific way for high schools).
Other activities of InterMEDIU Bucharest will include an EFSUPS curriculum presentation to each group of teachers that will be trained in "Teaching Environmental Protection in Schools" by the InterMEDIU team. The course is organized by the "Teachers' Association" from Bucharest (around 3 sessions per year, 100 hrs each session) and financed by the Romanian Ministry of Education and Research.
In addition the final outcomes of EFSUPS will be presented in the symposium "Education for a clean environment" (5th edition) organized by InterMEDIU Bucharest in Bucharest on 8-9 May 2009. A festival of science (similar with educational events developed in other European countries) for children will be initiated on 8-9 May as a pilot event. Children will present their scientific projects under their teacher supervision. Some of EFSUPS curricula experiments will be promoted. (estimated participants 100).
In Germany it is intended to continue with the teachers training sessions due to a big demand from teachers and educators. These trainings will be set up within the activities of the Bonn Science Shop's education center in cooperation with the University of Applied Science Ostwestfalen-Lippe and will run in economic settings. This means that participants will have to pay a fee for their participation.
Other discussions within the consortium and abroad focus on transferring the methodology developed and applied in EFSUPS on other topics such as biodiversity or climate change. The EFSUPS coordinator therefore is in contact with the European project 'Science on Stage' as well as with other stakeholders in the field of biodiversity.
For further dissemination in Hungary partner organisations (public authorities or NGOs working on the field of environmental education) are to be convinced to take part in the accreditation of the EFSUPS results. The accreditation has a fee and an official 'expert' process in Hungary which cost around 2500 euros. Finally accredited professional development of teachers could be developed and offered by the partner organisations. Further dissemination activities will be done through the teachers who where already involved in the project and also Agnes who will organise workshop at the MindenGyerek (AllKids) conference.