

Final Report

R·A·V·E

SPACE

Raising Awareness of Values of Space
through the Process of Education



R.A.V.E. Space Project Final Report

Raising Awareness of Values of Space through the Process of Education

November 2007

INTERREG III B CADSES
Project No. 5C025



PROJECT
PART-FINANCED
BY THE
EUROPEAN
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Publisher

The Ministry of the Environment and Spatial
Planning of Slovenia

Printed by

Collegium graphicum, Ljubljana

Circulation

500 copies

Ljubljana, 2007

CIP - Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana

711(4):371.2(082)

R.A.V.E. Space : project final report : raising
awareness of values of space through the
education process / [authors Polona Demšar
Mitrovič ... [et al.] ; editors Polona Demšar Mitrovič,
Jurij Rihar]. - Ljubljana : Ministry of the Environment
and Spatial Planning, 2007

ISBN 978-961-6392-56-3
1. Demšar Mitrovič, Polona

236164608



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Teach to live spatially! **R·A·V·E·**

SPACE

Raising Awareness of Values of Space
through the Process of Education

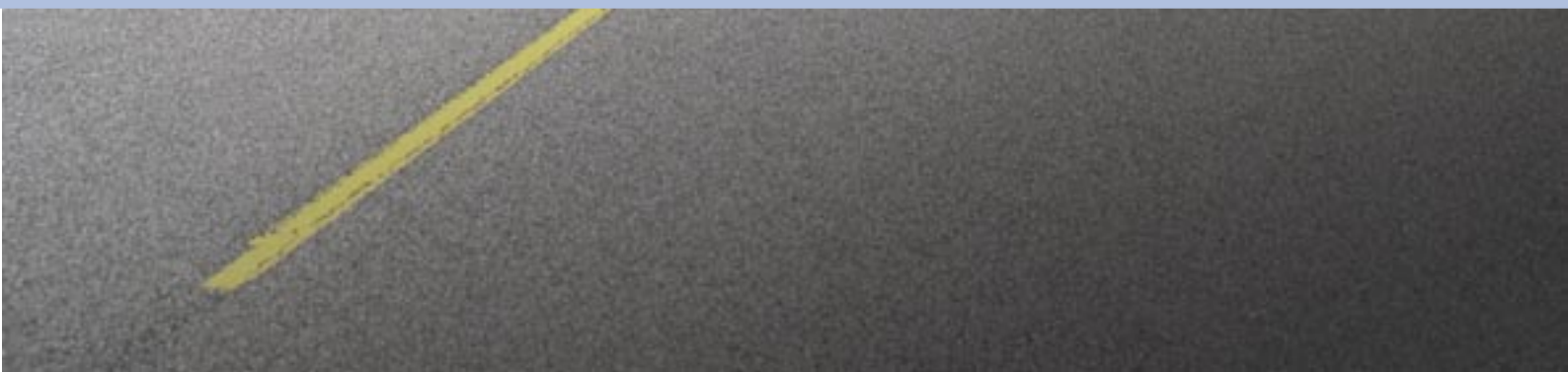


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A Introduction

1 The R.A.V.E. Space Project Basic Concept

R.A.V.E. Space is a project under the framework of the Community initiative INTERREG III B CADSES Program that aims to improve the educational process with regard to the values of space, spatial planning, and sustainable spatial development in primary and secondary schools. The project runs from March 2005 – December 2007.

The R.A.V.E. Space project deals with education issues: spatial planning and sustainable spatial development in primary and secondary schools. It seeks new ways to educate people about spatial development and land use as a contribution to raise awareness of the importance of spatial planning, which is considered a basic tool for responsible spatial management, land use, and territorial cohesion under the terms of sustainable development.

Various activities occur in a given space; some may be complementary, but they are more often in opposition because of the high number of interests in the space. Spatial development of reconciliation falls to the profession of spatial planning on different levels. Any kind of intervention in a space should follow the fact that the space is a limited good that should be treated reasonably and, above all, sustainably, if we want to follow the principles of the UN definition of sustainable development, which should “assure development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

There are nine partners from five countries working on the project: the Ministry of the Environment and Spatial Planning; the Department of Geography of the University of Ljubljana Faculty of Arts; the Anton Melik Geographical Institute of the Scientific Research Centre of the Slovenian Academy of Sciences and Arts; and the Ljubljana Urban Institute (LUZ d.d.), all from Slovenia; the Central European Initiative (CEI) and the Executive Secretariat and University of Trieste Department of Architectural and Urban Design from Italy; the Innovation Foundation from Poland; the Republic of Montenegro Bureau of Education from Serbia and Montenegro; and the Region of Ionian Islands from Greece. The Ministry of the Environment and Spatial Planning of the Republic of Slovenia is the lead partner in the project, which means that it takes all the responsibility for the project management and coordination with regard to the content and organizational levels. Professionals in the field of spatial planning and education are also cooperating on the project, and the interaction of these two professions is essential for the project’s implementation and positive outcome.

Background Information 2



Central and Eastern European countries have gone through a transformation process in the last 15 years, following a period of centrally-controlled economies and totalitarian political systems. As the economy has made a transition from state-planned to an open global market economy, the spatial planning activities supporting economic development have lagged behind in assuring its long-term sustainability and proper public participation in the spatial planning process and decision making in issues concerning every member of society.

In addition to the situation in Eastern Europe, partners from the whole project area shared the opinion that awareness of values of space in the target population of all participating countries, as well as understanding of the importance of public participation in spatial development processes, is insufficient. This could be due in part to the lack of spatial-related contents taught in the educational process.

There are many issues related to the spatial development of Europe of which its citizens are not satisfactorily informed. Specialists within the domain may not be understood and activities in the political sphere are not appreciated. Thus, aside from practical planning issues, we must work on preparing future users of space. We can state the thesis that the starting point of the spatial-economic transformation process in Central European countries is an increase of knowledge of spatial problems, or even realization of their existence. The awareness of challenges and space management perspectives, mastery of scope and education methods, and reaching new environments are all challenges for effective management of development processes.

Spatial development, as a practical skill and a discipline, depends on society's level of awareness of the need to manage space properly. Spatial planning functions should be promoted as the tools of development policy – they should convince people that the region will not be developed as smoothly as possible without a wide understanding of the importance of an interdisciplinary approach to development. Thus, this knowledge and awareness of the growth of space value should be disseminated more broadly. We should know how to talk about space, its values and problems, and about the instruments available to solve the problems. We should also go beyond the model of educating only the planning document creators. Only this can raise the level of understanding and appreciation of this discipline. This, in turn, may be very important for further development, although not everyone is aware of that yet.

The R.A.V.E. Space project partners saw the lack of knowledge and recognition of spatial development problems, and the low awareness of citizens' rights to be actively involved or at least well informed on the processes of spatial use of the environment they live and work in, as an issue requiring immediate action on both the national and transnational scales.

The prospective aims of the project are to do the research, implement the methods, and distribute the results in all the countries of the CADSES area and in other European countries. In particular, Central and Eastern European countries – as members of the Central European Initiative (CEI), whose secretariat is a R.A.V.E. Space project partner – are anticipated targets for further dissemination of project results and products via the existing CEI network of transnational cooperation and support in education, the environment, and spatial development.

Project Origins 3

In order to raise common knowledge of spatial planning and values of space, the Ministry of the Environment and Spatial Planning of the Republic of Slovenia began some activities in this area on the national level in 2003. This experimental project has confirmed the need for further work but has also indicated the need for a broader research framework. The Community Initiative INTERREG III B CADSES, with its programme and cooperation area, was a perfect opportunity for various experts to cooperate on a transnational level. It led to the development of a specific cross-sector project that was intended to fill in some gaps in the field of education and sustainable spatial development, with the purpose of raising citizen activity and preparing the general public for more active and constructive participation in the spatial planning process.

All project partners have actively participated in the preparatory phase of the project and contributed to the quality scheme of the project with their particular knowledge and skills.

R.A.V.E. Space in Context with other Relevant Content and Activities

The project originates in the following European documents and activities:

- UNECE Strategy for Education for Sustainable Development;
- European Spatial Development Perspectives;
- Lisbon strategy;
- The Congress of Local and Regional Authorities – Council of Europe: Resolution, Memorandum, Recommendation;
- European Landscape Convention;
- Habitat Agenda;
- Eco-Schools;
- RTPi Education and Sustainable Development Network;
- United Nations Decade of Education for Sustainable Development (2005-2014) / UNESCO Schools;
- The “Bristol Accord” – Informal Ministerial Meeting under the EU presidency of Great Britain about sustainable communities.

Taking into consideration all the current education-related activities for sustainable spatial development, the project results are universal and widely applicable, and in certain parts also serviceable to cover certain activities in the international documents mentioned above.



B Project --- Implementation

1 Project Purpose and Objectives

The main purpose of the R.A.V.E. Space project is to raise the awareness of primary and secondary school students about the values of space and the importance of spatial planning for sustainable development. It is significant for young people as future users and managers of space to recognize that space is a limited good and values of space are an important component of quality, healthy and safe life in a given space. Each and every one of us has to play a role in the spatial planning process, which is also a remarkable recognition, and the wider public should be prepared to cooperate in the decision-making process within the spatial planning system.

The responsibility has to be taken over on a personal and community level. We all need to know more about spatial planning and the impacts and consequences of its decisions. It is essential that all inhabitants become aware of information regarding sustainable spatial development systematically within the framework of their regular educational process. In order to achieve this purpose, the whole primary and secondary school curricula should be reasonably interwoven with appropriate content with respect to the subject and students' age level, which will lead to lesson effectiveness and will raise awareness at the same time.

The final objective of the project is to prepare an expert proposal for incorporation of selected content about the values of space and the importance of spatial planning into school curricula on the basis of other research findings and R.A.V.E. Space project results.

The project results include:

- Methodology for analyzing spatial-related topics in recent curricula in different school systems;
- Elaboration of transnational concepts on the presentation of sustainable development and values of space for primary and secondary schools;
- Survey of primary and secondary school teachers;
- Strategy for spatial education;
- Training activities for teachers and students through cooperation between educational institutions;
- Teaching tools such as books, manuals, and video tapes;
- Trans-national and national (in partner country languages) brochures and posters for raising awareness;
- Improvement of knowledge about sustainable spatial planning as a part of CADSES;
- A website on sustainable spatial development and values of space;
- Exchange of experience and know-how.

Target Groups 2

R.A.V.E. Space addresses different target groups such as:

- Teachers
- Students
- Central and local authorities
- Experts
- NGOs

Teachers are a very important target group because they are the link with the students. Teachers need to be informed and educated, and they need to understand the importance of education about values of space. When the teachers support the idea, we will be halfway to achieving the project objectives. For this purpose a seminar format for teachers was produced, which serves as a tool for raising awareness among primary and secondary school students.

After testing the seminar format, teachers reported that students showed great interest in the new content and approach. The connection with real-life problems and with the living space that influences our lives very deeply obviously shows the need for engaging the educational process.

At the political level, decision makers are informed of and included in the project in order to assure that project results will really be used in practical schoolwork. This is one of the most important steps in implementing the project results.

Experts and NGOs are a target group of special importance because the dissemination of the project results will continually go on through their work, and they will implement the idea of the project in its wide-range scope.

With introduction of spatial topics into the curricula, with development of teaching methods and with preparation of teaching tools, all target groups are expected to benefit from the project in the long term.

3 Preliminary Analysis

The Interdisciplinary Character of Spatial Problems

How space is organized and exploited is the domain of common and multidirectional practical activity. Like every conscious action it requires concrete foundations. The extent and complexity of the issues in this domain, however, require that spatial policy in practice must exploit input from many scholarly disciplines.

The first group of these is the Earth sciences, the following disciplines in particular:

- Geodesy and cartography: these constitute the basis for mapping of Earth's surface, showing the scale and location of various physical and natural phenomena as well as anthropogenic developments;
- Earth physics: the study of complex geophysical planetary processes, forming the basis of applied research mainly directed toward the search for natural resources;
- Oceanography: a cognitive science that deals with multidirectional research on natural properties of the sea and the seabed, providing a background for sustainable management of the sea and its natural resources;
- Geology: the complex of sciences that studies the structure and composition of Earth's crust, the processes it is subject to and its history;
- Geography, which is strongly interlinked with natural, social, and economic sciences that research the mutual influences of humanity and its environment, and conducts a variety of applied research, constituting the foundation of the human economy within geographical space. Particularly close relations bind it with spatial planning and regional economies.

The role of biology – and particularly ecology – in spatial management should not be underrated: the exploration and explanation of relations between and roles of species in the environment. Particular ecosystems are the subject of its research: generally uniform and defined physical areas, where species of animal and plant coexist while maintaining a defined biological equilibrium. This equilibrium might be disturbed through human interference, the ecosystem's ability to regenerate itself may deteriorate, and consequently it may be destroyed. This discipline gives scientific background for environmental protection and sustainable management, as one of the fundamental tasks of spatial management.

Spatial planning is, in addition, based on the commitment of social and economic sciences. In addition to economics, the following sciences are worthy of mention:

- Demography: the study of population structure and dynamics that covers population statistics and provides background information for many analyses and applied studies. Predicting population growth and migration are of particular importance for spatial planning, constituting the basis for planning job creation, urban development, residential development, and extending service networks;
- Sociology deals with a society's development rules, research on social occurrences and

processes, and the rules of social institutions and human social activity. For spatial policy, the branch called “social ecology” has particular importance, because it deals with spatial aspects of the coexistence of individuals, social groups, and institutions.

- Legal sciences: the knowledge of legal regulations in the realm of spatial policy, and the ability to create legal regulations that realize social aims is a precondition for efficient management of territories and their resources.

The technical sciences are also among the academic disciplines that combine to form the theoretical foundation of spatial policy. The following technical domains are closest to spatial planning:

- Architecture and town planning: located between science and art by nature, particularly interested in spatial organization of human settlements and their design. Its objects of study include particular buildings and their complexes, while town planning objects of study are generally settlement units, being both the spatial structure elements of a region or country, and focusing on the most intensive exploitation of space.
- Water management: a complex technical domain that uses hydraulic rules and allows adaptation of the natural system of water resources to a variety of human needs, from drinking water supplies and sewer drainage, irrigation, water for industry, to managing water bodies for transportation and energy, as well as preventing natural hazards as floods. Water management aims to coordinate demands, taking into consideration the specific ecological importance of water and water ecosystems.
- Traffic engineering deals with transportation of people and goods; there are specialized branches of traffic engineering for railroad, road, water, and air transport, each of these creating its own network. All these networks taken together create the transport system as a whole, which determines the accessibility of particular areas and towns and, as a consequence, the social and economic functions they can fulfil;
- Communications: a technical domain dealing with information transfer using communication networks, whose role is growing rapidly. It has been noted that the level of communications in today’s civilization reduces the need for transport services and can even take the place of transport in many spheres. Communication and transport are commonly described as communication;
- Environmental engineering: a relatively new technical domain that originated because of the constant threats to natural environment resulting from human economic activity, that deals with technical ways to protect and regenerate the environment.

This long list of scientific disciplines that, in combination, forms the scientific foundation of spatial policy helps demonstrate how complex the issue is. Managing space is therefore a domain requiring synthesis and close interdisciplinary cooperation. It also requires deep preparation of wide social groups, because they are the space users and participants in its transformation processes.

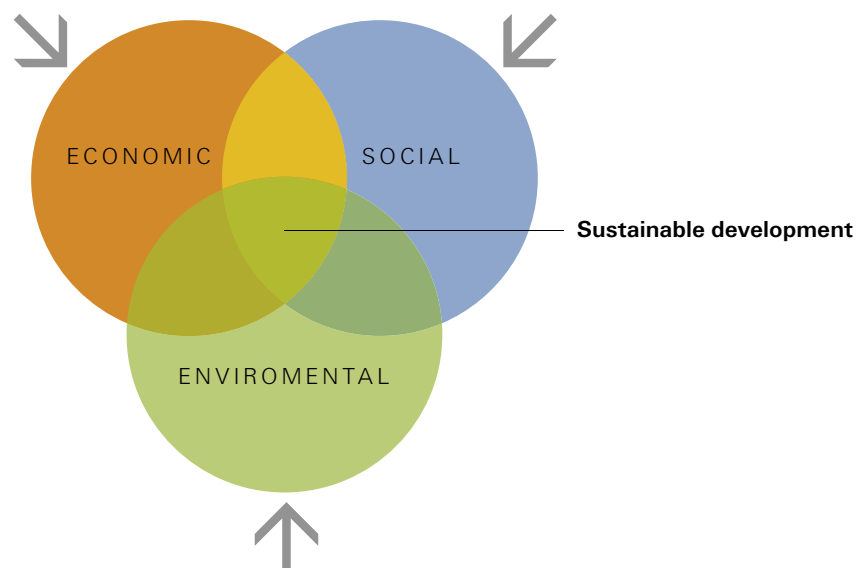


Values of Space in Context: Synthesis Report on Values of Space in Partner Countries

Values have a large number of different meanings. For the average person, values are concepts of basic categories of what is desired, permitted, good and positive, and acquired in the process of socialization. They give us a rough idea of what is good and what is bad for society. Values are universal, since they must apply to everyone. Nevertheless, individuals, groups, and societies as a whole may have their own systems of values or, in other words, a different set and different hierarchy of values compared to others.

Values of space are found within general societal values. Their meaning is difficult to define. In general terms, space can be viewed as a limited and non-renewable resource. Therefore, the use of space must be responsibly oriented toward its conservation for future generations. From this point of view, the R.A.V.E. Space project makes explicit reference to *sustainable development* as a development model that is able to combine the goals of social and economic well-being with those of preserving the environmental and landscape heritage of a territory.

Values of space are deep-rooted and have a highly complex structure. They are connected with the “imagined” and the “desired”, the “real” and the “experienced”. In the most general sense, spatial values can be defined as a system of norms, attitudes, beliefs, viewpoints, opinions, and perceptions that influence and guide relations among individuals, space, and actions in space. Due to their intangible and elusive nature, values of space are difficult to show systematically. For the purposes of the R.A.V.E. Space project, the most useful division is one associated with the concept of sustainability, since the purpose of the project is to trace this concept in the spatial planning process.



Environmental values:

- Protection and preservation (e.g., diversity, the natural environment);
- Efficient use of energy and natural resources;
- Environmental capacity (e.g., stability, adaptability, and renewability).

Economic values:

- Residential values (e.g., space as a framework for human life and activity);
- Production values (e.g., fiscal values, market value, agricultural production, etc.);
- Non-productive values (e.g., experienced: walking, photographing, etc.).

Cultural and social values:

- Scientific values (space as a focus of research);
- Aesthetic values (natural and cultural assets);
- Historical values (insight into identity through our heritage);
- Cultural symbol values (phenomena for shaping identity);
- Spiritual values (introspection inspired by space);
- Societal values (health, security).

When describing spatial values we have to consider the territorial spectrum in which those values are embedded. We can distinguish between several levels on it in which the individual's actions take place; for example, the sub-local, local (urban), regional, national, mid-European, European, global, cybernetic (virtual) level, and so on. In fact, the complexity of the transition from modern to (post)modern (globalized) society constantly introduces new levels of territoriality and raises diverse questions about the role of spatial values in the spatial planning system. The reduction of formal procedures with greater emphasis placed on individual responsibility and action at the local and regional level deserve mention. As a result, the needs and requests for interventions in space at all levels are growing not only in size and number, but also in terms of diversity, encompassing all kinds of issues.

Spatial planning is certainly a product of factors that include not only formal (such as legal procedures, laws, acts, and documents) but also informal aspects (such as socially and culturally defined characteristics that guide everyday life and routines). According to Ronald Inglehart, economic development plays an important role in the transformation of existing/accepted social values, and is also retroactively influenced by their change. Inglehart emphasizes the conjunction between economic growth and social development. The improvement of economic and social security and educational and occupational opportunity may prompt a shift towards postmaterialist values (indicated by a greater emphasis on such goals as self-expression, quality of life, and belonging), which should in return result in greater concern for the environment.

What is the values orientation in the project partner countries? Respondents to an extensive questionnaire among other things responded to some questions revealing their values orientation. Table 1 shows the final, synthesized values orientation, while Table 2 displays the valuation of landscape elements findings. Here it should be noted that in the latter, each respondent was able to select more than one possible answer, hence the total exceeds 100%.

Table 1
The share of respondents by values orientation, expressed as a percentage.

	% of respondents					
	TOTAL	GREECE	ITALY	POLAND	MONTENEGRO	SLOVENIA
Post-materialist	14	18	27	5	5	16
Mixed	71	70	68	68	77	73
Materialist	15	12	5	27	18	11
Number of respondents	1958	280	264	556	410	448

Table 2
The share of respondents that value each landscape element, expressed as a percentage.

	% of respondents					
Landscape elements	TOTAL	GREECE	ITALY	POLAND	MONTENEGRO	SLOVENIA
Natural heritage	85.1	89.3	83.7	85.1	77.8	90.0
Cultural heritage	58.4	73.9	65.2	63.1	55.4	34.8
Hydrological elements	58.5	67.9	43.6	46.6	70.5	64.1
Countryside	46.5	36.4	44.3	46.4	39.0	66.5
Urban landscape	21.6	11.1	28.0	18.7	26.8	23.4
Number of respondents	1958	280	264	556	410	448

In addition, partners from each country expressed their own views on the values of space and the policies implementing sustainable development programmes. In the Italian partners' opinion it is necessary to move from passive conservation to active-reactive preservation, which actively searches for a balanced compromise between the needs of future development and the benefits of strict conservationist measures. There are three types of factors that influence physical space – physical, functional, and dynamic limitations. In the case of Montenegro, the dynamic part of spatial limitations is left in the background, which results

in the degradation of space. The Greek partners recognize illegal building practices as a serious problem. A transparent and updated land register has to be created as a basis for responsible spatial planning in the future. In the Polish project partner's opinion, the crucial correlations between space and time components play a general role in valuing space, sustainable development, and making decisions for future spatial interventions. According to the Slovenian partner, there are major differences between present spatial values, so a greater emphasis should be given to the ones less present (such as the relationship between rural and urban values).

Methodology and Analysis of the Existing Situation in Primary and Secondary Schools

Two international surveys have been undertaken as part of the R.A.V.E. Space project. Both surveys were devised and conducted by the Department of Geography, Faculty of Arts, University of Ljubljana and carried out with help of other project partners from Slovenia, Italy, Poland, Greece, and Montenegro.

First, an international survey about the values of space was undertaken to provide valuable information about the extent of these values at different levels throughout the educational systems in the participating countries. Secondly, a survey of primary and secondary school teachers was carried out to analyze the present situation regarding teachers' and students' preferences, their perceived resistance to various space-related topics, and the teaching aids by which these subjects are included in the educational process.

The main aims of the project called for a detailed list to be compiled of the objectives, contents, and notions connected with spatial planning, sustainable development, and values of space currently written into the curricula of different school subjects in all the participating countries.

The examination of the actual situation regarding the inclusion of the spatial contents in the syllabi and extent of the values of space at different levels of educational system was carried out in 4 steps:

Step 1: Analysis of the syllabi

In the first step the syllabi (of primary and secondary schools) of all participating countries were analyzed. Project partners were responsible for going through all syllabi of the relevant subjects where spatial planning can be found, and for preparing the table of aims, contents or/and notions connected with spatial planning. The results were split into two groups. The first group gathered contents/notions that were directly connected with spatial planning, while the second group gathered those that were indirectly connected with it. Then the results were summarized.

Step 2: Sorting aims and notions

In step 2 aims and notions were sorted according to their relation to spatial planning and country/subjects/age groups.

Step 3: Selection of aims and notions

In step 3 the most important notions and aims in the existing syllabi that are directly or indirectly connected with the values of space were selected.

The list is long, covering many different topics and notions, whilst the objectives and skills are not well defined. It would be fair to say that we need no additional contents and ideas; but what we do need is a thoughtful and well-defined illustration of these from the viewpoint of spatial planning and sustainable development, through which we can teach about the values of space.

Using the survey findings, a chart proposing the range of skills required in teaching spatial planning was created (see Table 3).

Table 3
Proposal of the main skills required in teaching spatial planning

Aims of spatial planning: to develop a plan of where to extend new activities within a space, how to ensure sustainability, and how to deal with existing, problematic activities.		
Spatial Planning Steps	Skills Needed	School Subjects/Good Practices, Teaching Methods That Develop Skills
To analyze the area's physical characteristics (geology, relief, water, soil, climate, natural resources, spatial problems, etc.)	Good knowledge & understanding of different environmental elements & the factors having relevance/influence on life.	Geography, ecology, biology, chemistry, environmental studies, etc.
To analyze the area's social characteristics (population, economy, etc.)	Good knowledge & understanding of different aspects of society, problems that occur, good practices, processes & methods, ability to predict future prospects & prognoses etc.	Geography, social studies, sociology, civil education, etc.
To analyze the area's needs	Ability to analyze & foresee future prognoses & perspectives according to social characteristics, ability to define an area's needs; sense of tolerance is needed.	Civil education, ethics, geography, natural resource management, etc.
To combine physical and social characteristics and find possible solutions according to the needs	Good conception of the interaction between nature & society & understanding possible changes.	Geography, natural resource management, art, etc.
To evaluate the solutions, prepare scenarios	Good interdisciplinary knowledge is needed.	Geography, natural resource management, art and design.
Public presentation of the plan	Decision making, argumentation, public speaking, etc.	
Legislation	Good interdisciplinary knowledge is needed.	Civil education, social studies, etc.

The survey findings prove that spatial planning is an interdisciplinary activity based upon physical and social environmental knowledge. The complex linkages, interactions, and processes between both must be understood and intertwined. Different subjects offer a general overview, improving the ability to understand the interactions and processes between the natural and social environments; but only a few subjects offer the applied knowledge required for spatial planning. It is also very important to teach the actual process of problem-solving, evaluation, and decision-making. Students can acquire these skills through discussion, teamwork, project work, case studies, and so on.

Step 4: Preparation and analysis of the questionnaire

International surveys of primary and secondary school teachers were carried out to analyze the present situation regarding teachers' and students' preferences and perceived obstacles with respect to various space-related topics and the teaching tools by which these topics are included in the educational process.

The findings of both surveys have formed the basis of the educational strategy on values of space. It mainly deals with the including concepts of sustainable planning topics in the syllabi according to specific age groups and subjects. Pilot campaigns and an educational TV programme based on these teaching strategies have been prepared.



Survey of Primary and Secondary School Teachers

Sampling

The project partners, who were also responsible for conducting the survey in their respective countries, provided the sampling information. The basic sampling units were schools randomly selected from within the strata defined according to the region, location (urban or rural) and level of education provided by the school. All teachers within the selected schools participated in the survey.

The sample

1,997 people participated in the survey, comprising primary and secondary school teachers from Slovenia, Poland, Italy, Greece, and Montenegro; 24.2% of the respondents were male, and 75.8% were female. The 38–55 age band had the greatest representation (56.7%), followed by the 20 to 37 year band (34.8%). By far the smallest group were those between 56 and 73 years of age (8.3%).

The majority of respondents (64.1%) had at least a university degree and an additional 21.1% also held a master's degree. The respondents' qualifications were in the following disciplines: education (34.2%), mathematics (19.5%), linguistics (19.4%), history (15.9%), psychology (15.8%), and others. The spread of teaching specializations were: mathematics (20.5%), linguistics (18.1%), geography (14.3%), history (12.3%), and others.

The respondents averaged 14.65 years of teaching service, and their students' average age was 13. The respondents' schools were in the following locations: urban (52.6%), suburban (24.8%), and rural (22.6%). However with regard to the location of schools, there are some significant differences among the participating countries.

The questionnaire

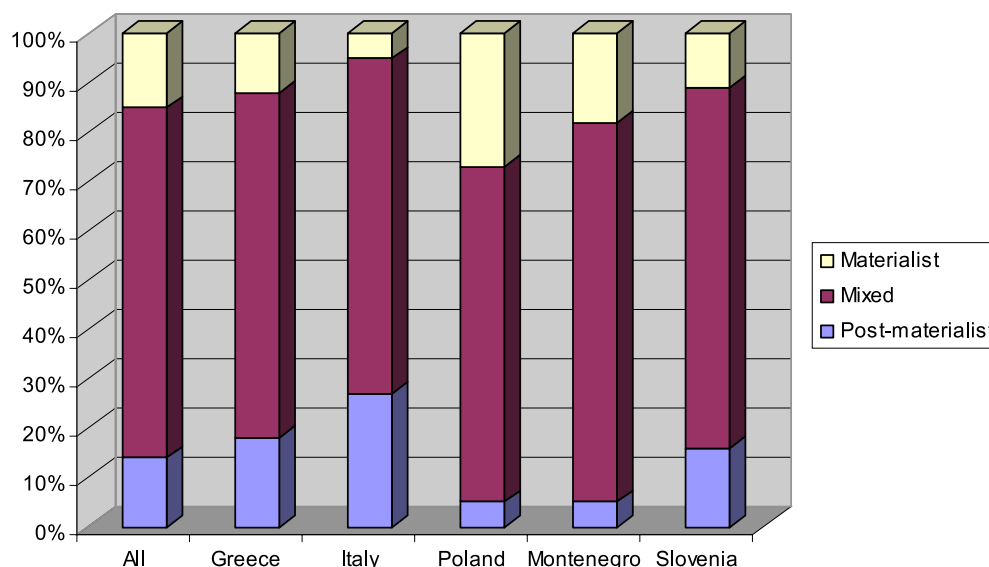
The questionnaire contains 27 questions dealing with five different modules: space as a value; learning about spatial development in schools; the use of different teaching tools; awareness of the problems of space amongst students; and background information. Due to the varying numbers of respondents per country, the averages for total samples are calculated with weighted data (the sample size of each country was corrected to obtain 5 equal sample sizes of $n=400$). Teachers' responses were statistically processed on a descriptive level and an analysis of the relation between chosen variables was made. The open questions were properly categorized.

The findings

According to the survey findings the general conclusions are as follows:

- Respondents from all countries, with the exception of Italy, gave the highest priority to a high level of economic growth; accordingly, Italy shows a considerably higher percentage of teachers that declared themselves post-materialists and the lowest percentage of those that are closer to materialist values (see Fig. 1);

Figure 1
Values orientation



- The most pressing social, spatial, environmental and economic issues as seen by teachers are the quality of the environment, waste management, the use of natural resources, and economic growth, while the least important issues as seen by teachers are urban sprawl and global environmental problems (see Fig. 2)

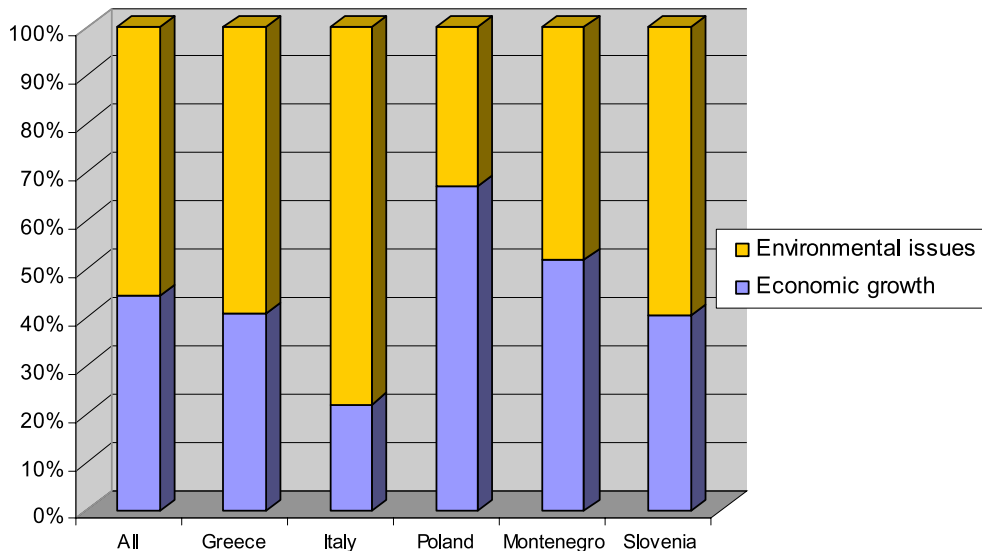


Figure 2
Prevaling issues

- Natural heritage, as an especially valuable element of space, was put in first place in all participating countries;
- Access to shops, offices, health care, and other services is the most satisfactory aspect of space on average and in each country;
- When asked which, if any, obstacles keep respondents from presenting space-related topics in the classroom the way they would like to, the answers were also significant. Although the respondents could choose three of five answers, the majority found the reason in other contents in the curriculum which often have priority over space-related topics and, not far behind, the lack of appropriate teaching tools and literature on space-related topics. They selected the other three offered suggestions such as lack of information, promotion, and interest in a very similar range (see Table 4);

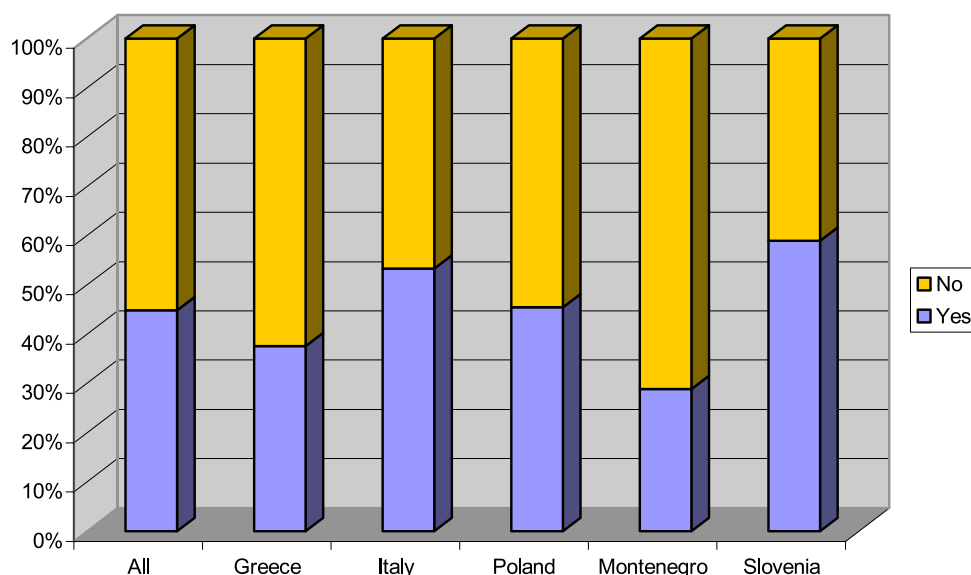
	% of respondents					
	ALL	GREECE	ITALY	POLAND	MONTE-NEGRO	SLOVENIA
Lack of information, limited opportunities for additional education	36.4	46.8	31.1	36.2	29.5	38.6
Priority of other contents	64.4	63.2	50.4	70.9	65.9	73.0
The school does not promote teaching about space-related topics	30.4	23.6	56.1	16.9	37.6	18.1
Lack of interest among students	31.8	19.3	18.2	35.6	41.7	44.4
Lack of teaching tools and literature	53.7	80.7	42.8	40.8	67.1	37.3
N	1958	280	264	556	410	448

Table 4
Obstacles to the presentation of space-related topics to students

* Column percentages are reported. The sum exceeds 100% because respondents could choose up to three answers.

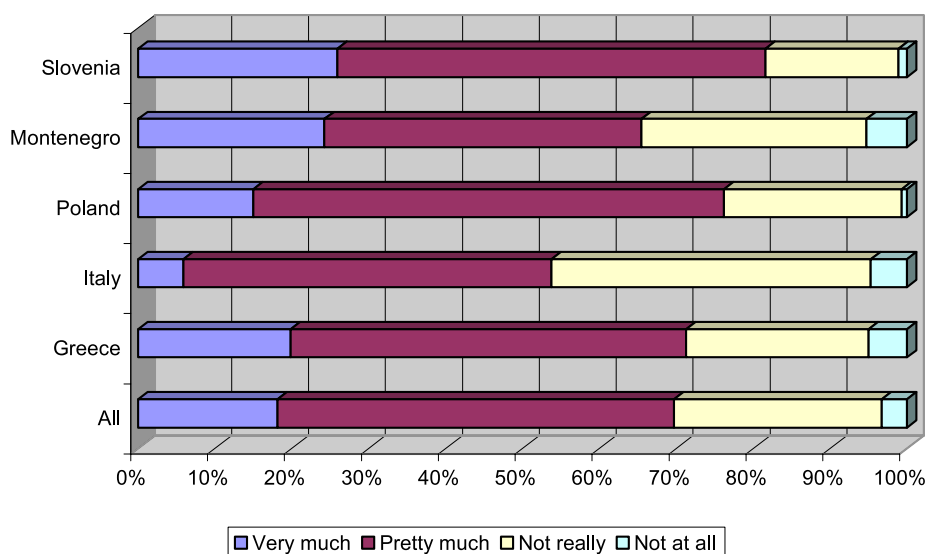
- Respondents are not particularly willing to actively participate in changing things on their own (see Fig. 3);

Figure 3
Improvements with the respect to the place where the respondents live



- Environmental pollution, national history and cultural heritage, ecosystems, natural resources and their use are topics that are relatively well presented in the curriculum;
- Topics that are not well presented in schools are the spatial planning system, spatial problems and social problems; a teacher's viewpoints intentionally or unintentionally reflect in his/her work in the classroom; today's teachers still mostly use textbooks, books, and worksheets. The situation is the same in all participating countries. Other media such as CDs, DVDs, videos, and software are far behind. There are no significant differences between the participating countries;

Figure 4
School support of the purchase of various teaching tools



- The findings showing respondents' opinions of students' most preferred tools are significant and expected. In all countries CDs, DVDs, videos, and software were placed at the top. Websites, web portals, and reviews, magazines and newspapers are far behind, not to mention worksheets, textbooks, and books. The gap between what teachers do and what students want seems to be rather wide;
- Schools seem to support the purchase of various teaching tools and are active regarding the purchase of various teaching aids (see Fig. 4);
- TVs and video and DVD players are often or at least sometimes used in class. They are followed by PCs and overhead projectors, while PC projectors are rather far behind;
- Verbal methods (e.g. lectures, interactive teaching) are far ahead of the others. They are followed by textual methods. Audiovisual methods are even behind games. The situation is the same in all participating countries with the exception of Slovenia, where games take third place and graphic methods fourth place. The other teaching methods respondents mentioned include: painting, posters, debating ("speaker's corner"), making models, projects, quizzes, plays and games, pantomime, newspapers, articles, etc;
- Schools seem to encourage teachers to use various teaching methods in the classroom. The findings show that only in Italy there is slight tendency in the opposite direction;
- There is a discrepancy between reality and what the students would like. According to the survey findings their favourite methods are audiovisual methods, (didactic) games, trips, and excursions. Other methods used by teachers are far behind;
- Regarding the way teachers organize their work in the class, individual work slightly prevails over ex-cathedra or frontal teaching. Group work and pair work are not far behind. In Italy, Montenegro, and Slovenia ex-cathedra/frontal teaching is actually placed before individual work while group work always prevails over pair work; students are not particularly interested in choosing space-related topics for their individual projects, but they seem to be more or at least as interested in space-related topics than they were 10 years ago (see Fig. 5);

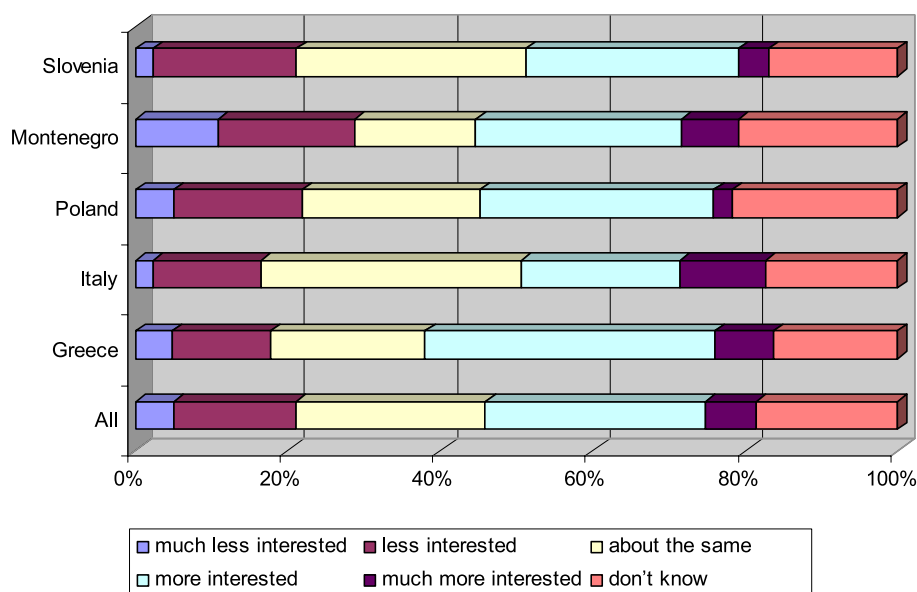


Figure 5
Teachers' evaluation
of students' interest in
space-related topics
today compared to ten
years ago

- At least some students' knowledge regarding space related topics comes from home (e.g., their knowledge tends to be better if space-related topics are part of their every day family discussions, see Table 5).

Table 5
The amount of knowledge about space-related contents students bring from home

*Row percentages are reported.

	% of respondents				N
	Almost no knowledge	Some knowledge	A fair amount of knowledge	A lot of knowledge	
ALL	16.3	67.7	15.1	0.8	1897
GREECE	21.9	59.5	15.1	0.8	274
ITALY	21.1	50.6	26.3	2.0	255
POLAND	17.7	75.2	6.9	0.2	536
MONTENEGRO	11.4	83.5	5.1	/	395
SLOVENIA	9.4	69.8	20.1	0.7	437

The survey findings again prove the well-known fact that a more educated society provides a more stimulating environment or basis for a child's further education.

There are statistically important differences between the countries participating in the surveys regarding space-development education. As expected, there are statistically important correlations between the curricula contents dealing with space development and students' interest in them. Teachers should be equipped to help students identify and think about the complexities of issues from the perspectives of many stakeholders. If children are not encouraged enough to learn space-related contents in school, their knowledge is at a markedly lower level that it should be.

A Brief Review of the Current Situation in the Project Partner Countries and Europe

The framework of the project suggests that teachers' value orientation has an important influence on students' spatial value orientation. As society develops the percentage of materialistically-oriented teachers is expected to decrease. However, the school system should encourage teachers to teach the newest values that are suggested by the value system of the European Union. Sustainable (spatial) development and public participation in the planning process are themes that can eventually increase public awareness and increase endogenous potentials for future economic growth.

We are brought up and educated in school and by our broader domestic environment. The development of values of space in an individual is influenced by primary reference groups such as school (knowledge), mass media (information) and the broader community (the social system). Consequently, a modern school should be oriented towards critical thinking and action-oriented teaching adopting a dynamic, interdisciplinary, and problem-solving approach, but above all, it should regard learning as a process.

The European Union perceives the need to increase the level of awareness regarding the importance of sustainable development and improvement of population involvement in the spatial planning process. Their inclusion in the planning process is of key importance in the development of creative relations with the living space, which is built of natural, cultural, and economic elements. The level of education attained by the citizens might enhance or limit a national sustainability plan. Good community-based decisions (which will affect social, economic, and environmental well-being), development options, the opportunity to protect the community by analyzing reports and data that address community issues, and a well-thought-out community response arise from education, which is central to improving the quality of life. Improved education therefore holds both individual and national implications.

Different values are also an integral part of education. By their nature, they convey many different meanings. Values of space are a subgroup of universal societal values and are therefore deeply rooted in social practices. They are connected with all that we can imagine or want and with our memories and experiences. Therefore we can define them as a system of norms, knowledge, beliefs, viewpoints, opinions, and comprehension which affect and direct relationships between individuals, space, and activities in space, which also include economic activities.

Teachers' value orientations (whether modernist or postmodernist) therefore have important implications in teaching space-oriented topics, and value orientation has proved to be correlated with the national economic situation. The project partners joined the project because they share the opinion that there is insufficient awareness of spatial planning and development – and public participation in the same – within their countries. By ensuring that this subject will be incorporated into the regular curricula within primary and secondary schools, they hope to redress this situation.

We are convinced that schools should not only teach values, but accept them as a living organism which reacts differently in different situations, open to simultaneously appreciating their multi-layered character and changing social currents. This is probably the only way to bring up and educate an individual to be able to live, work, and make decisions in modern society.



4 Spatial Education Strategy

Research and Elaboration Phase

Introduction

Teaching about themes such as space values, quality and design of open space, architecture, spatial planning, and public participation in the spatial planning process is already in progress. It is implemented by different programmes, based on organized or random initiatives. However, only a limited number of students and teachers are reached with these activities and there is an evident divergence of the quality of information distributed and teaching methods.

A spatial education strategy results from the initial decision of project group that a coherent concept should be developed in order to assure a high-quality implementation process. A strategy is proposed as a tool with two major functions, to stress the importance of **problem acknowledgment** and to **enforce the processes of solving** it.

The evidence gathered in the preparatory study demonstrated that no unique recipe for implementing spatial education in primary and secondary schools can be proposed for the R.A.V.E. Space project partner countries, due to the specific traditions of spatial planning practice, educational systems, and value systems of each society. That is why R.A.V.E. Space proposes a two-level concept with a general framework set to assure execution of the concrete actions defined in the action plan. The strategy should promote the implementation of new techniques in partner countries and leave the concrete action plans to be developed in the context of each country's specific educational system characteristics.

For a successful outcome, a two-sided approach is necessary: a **top-down** concept of the minimum requested governmental responsibility needs to be combined with **bottom-up** school initiatives.

Proposed two-level concept:

- 1 *Flexible strategy for R.A.V.E. Space project partners' spatial education*
 - *Target groups,*
 - *Key themes,*
 - *Responsibilities,*
 - *Timetable,*
 - *Evaluation.*
- 2 *National action plans*
 - *Adjusted to existing community needs,*
 - *Executive document,*
 - *Time frame 5 to 7 years.*

National action plans, as well as the whole implementation procedure, can be distinctively specific. In Slovenia, the implementation already follows formal curricular reform and innovations are brought into subjects based on thorough analyses of existing programmes. Educational seminars are also recognized as important and will be supported by the ministry on a regular basis beginning this year. The opportunity to add activities like outdoor learning, schoolyard renovations, visiting experts in class, and others, could further enhance the implementation immensely. All of these great efforts have already been made in Slovenia without a formal strategy having been accepted or an action plan having been prepared. Having experienced that, the false conclusion could be reached that there is no need for a strategy. However, looking at the wider perspective of the five partner countries involved in the R.A.V.E. Space project, it is apparent that this conclusion cannot stand. For example, Italy, represented by the University of Trieste – DPAU in the R.A.V.E. Space project partnership, will have to lead the implementation with the help of other mechanisms closer to their educational system and social characteristics, which are perhaps less formal and more diverse. The goal of reaching every school and every student will still be very difficult to achieve without a strategy in any country. Countries with many problems and poor spatial governance practice need a strategy even more than others studied in the project research.

Guidelines for the educational concept, which must:

- *Be applicable to social characteristics / needs,*
- *Define realistic goals,*
- *Include time-limited actions,*
- *Provide support for minimal performance,*
- *Support bottom-up initiatives,*
- *Involve other ongoing programmes,*
- *Involve parents,*
- *Include reporting and evaluation.*

Reasoning behind the Spatial Education Concept

Spatial development practice is increasingly opening to wide public participation. This means that the professions involved admit a shortage of efficiency in practice and thereby invite different associates into debate, problem solving, and active participation. This also means that both the involved professionals and politicians must admit that users are an essential factor in good practice. A strong need to educate not only specialized professionals at the vocational and high school levels but also the general public at the level of obligatory education has evolved out of these ideas.

Research and practice show us that today the main obstacle to vigorous public participation is inconsistency in the value system and the knowledge participants possess. If we want to improve the quality of land use practice and responsible decision-making we have

to equip people with useful knowledge. The goal of new educational efforts should be to raise both individuals' and groups' ability to understand the ongoing spatial development and management processes. People need to change their habits, acts, and values to reach the goals of sustainable development.

The main planned goals of the strategy at the individual level are:

- *To increase understanding of the spatial dimension of our life and development,*
- *Understanding processes of origin and change*
- *To raise the common recognition and awareness of values of space and nature (e.g., wilderness, order, accessibility, safety, heritage, health, design, and others), understanding their vulnerability and weak points,*
- *To encourage and stimulate development of critical thinking ability, organization and interpretation of data, question formulation, and analysis of different issues in every individual,*
- *To enable people to experience participation, and*
- *To establish an individual's awareness that personal acts can influence spatial conditions and values in many ways.*

In educating young people there needs to be a strategy of how to achieve more than just bringing something new into the obligatory educational curriculum. Spatial education is considered an important segment of education for sustainable development and is meant to be a key to development, a way of enabling people to fulfil their potential and take control over decisions that affect them. Even the mere attempt to place a new subject into the national curriculum is a unique proof that the theme has become very important for individuals' everyday lives and for the development of society as a whole. It means that this kind of knowledge must affect the broadest circle of population. And it is reasonable to expect that new knowledge would reach a number of people beyond students themselves – their teachers, parents, friends, and other adults – so that the anticipated results would soon be seen.

Research Findings

The development of the strategy was supported by findings derived from the project research and review of existing studies and cases. The R.A.V.E. Space project's own survey produced results in two areas:

- First, a set of information that speaks for the educational system conditions in partner countries was gathered through analysis of existing curricula and a questionnaire for teachers
- Second, a cursory insight into space values on a very general level was provided by a scholarly review of the conditions in partner countries

A comparative review of other materials served as the argument, reference, and guideline for the strategy preparation.

On the whole, research has confirmed the R.A.V.E. Space project's initial thesis that conditions in spatial development and spatial planning practice in partner countries demand educational intervention. Moreover, research findings prove that education about space values in primary and secondary schools requires a strategy to enforce implementation of the required innovations. While experts pointed out many problems in spatial planning and spatial development practice (starting with illegal building, the value system, and quality of communication) they also indicated the need for new knowledge on all involved sides. Teachers showed interest in space values and related themes. They admit, however, that there is a lack of necessary knowledge and, as a consequence, they do not include these themes in the curricula more often or in a wider context. The teachers' feedback at least partially indicates how the general public comprehends spatial practice and points out the probability that an average user can often feel unqualified when confronted with spatial development practice. This outcome corresponds highly with different international educational initiatives and ongoing practices in reference countries, which are living proof of the importance of spatial education at the general level.



The key elements of the comparative expert analysis that spatial planners and policymakers may find particularly interesting are summarized here (Strategy for Spatial Education: Research Report, 2007):

- *There must be an emphasis on cooperation, public participation, and engaging the interested public sphere. Not only is horizontal linkage (information flow between the planners and the local community) important, but also vertical (cooperation between the local, regional, and the national levels), and involving the general public.*
- *It is important to give more attention to the analysis of values regarding urban life and the possibilities of its integration into separate communities.*
- *As the problem of illegal building practice is a big problem in all partner countries, it might be useful to point out the negative aspects of the cumulative effect it has on the whole spatial system, even though solitary cases do not seem to be so threatening.*
- *Participative planning should be incorporated in the basis of all new educational strategies. By making the public an important partner in spatial planning, it is necessary to re-evaluate the role that professionals play in the process and ensure an easier information flow between the two.*
- *The distribution of spatial information to all interested groups of public should be improved. It seems important to define the minimum national quota of the dissemination of information about spatial interventions. It is necessary to initiate certain simplifications of information on spatial interventions with the aim of spreading the information to all interested public groups.*

In addition to the fact that existing problems in managing the spatial dimensions of development in partner countries are going to grow in future, the call for managing sustainable development goals also will challenge a whole new set of interests, fields of work, and debates. As noted in leading international educational initiatives (UNESCO, UNECE) an overwhelming educational goal is to place spatial matters and the spatial dimensions of development as one of the central fields of future societal interests.

A review of some case studies, mostly from the United Kingdom's affinity towards sustainable development education, revealed many emphases in spatial education and gathered many practical hints of how to implement spatial education in the context of education for sustainable development in different educational systems.

The United Nations Decade for Education for Sustainable Development (DESD) is promoting the idea that education is a key factor for everyone's sustainable future: countries, societies, and business economies, no matter the recent state of economic power or development (DESD, 2005). The sustainable development debate stressed that most developed countries are in the most demanding position, since their population should learn how to hold back developmentally, control consumption, and radically change habits to prevent further problems (Securing the Future, 2005).



Formal education thereby has a crucial role to play in both raising awareness among young people to put sustainable development into practice in later life and forming good habits at an early age. Spatial education should by all means also be delivered by non-formal¹ and informal learning² (Unece, 2005). The Education for Sustainable Development Toolkit (McKeown, 2002) carries the idea of implementing sustainable development programmes that are locally relevant and culturally appropriate. The UNESCO education sector defines education for sustainable development as a “life-wide and lifelong endeavour which challenges individuals, institutions and societies to view tomorrow as a day that belongs to all of us” (Links between the Global Initiatives in Education, 2005).

Reorienting education to address sustainability is something that should occur throughout the formal education system – this includes universities, professional schools such as law and medicine, and technical schools, in addition to primary and secondary education

¹ Non-formal learning takes place outside and sometimes parallel to mainstream systems of education and training, and does not typically lead to formal certificates. It may be provided at the workplace and through the activities of civil society, organizations and groups, and organizations or services that have been set up to complement formal systems.

² Informal learning is a natural part of everyday life. Unlike formal and non-formal learning, informal learning is not necessarily intentional learning and, as such, may not even be recognized by the individuals themselves as contributing to their knowledge and skills.

(Agenda 21, 1992). The need to reorient education at the university level is just as great as reorienting the basic and secondary levels. Reorienting the focus of formal education moves towards dealing with problems rather than just providing knowledge, and includes appropriate training of educators with the production of instructional materials for both teaching and learning (Unece, 2005).

Many sources agree that adding more subjects would not be feasible in most schools, as they already have a full curriculum that is difficult to penetrate and change (McKeown, 2002). Deciding what to leave out is an integral part of the reorienting process.

The Spatial Education Strategy

The spatial education strategy closely relates to the ideas behind two major global and regional initiatives, the Decade of Education for Sustainable Development (DESD) and Education for Sustainable Development (ESD). While ESD stresses that a new dimension has to be added to environmental education, the spatial education strategy puts more relevance on the importance of spatial development and “spatial literacy”. The spatial education strategy is to be considered as a part of education for sustainable development and not as a subordinate theme.

Key skills include:

- *Critical thinking.*
- *Data interpretation and organization.*
- *Question formulation.*
- *Issue analysis.*
- *Spatial literacy:*
 - *being able to use and make maps and other graphical representations of space,*
 - *being able to use, make, and connect different data for the use of defining space,*
 - *being able to analyze the current situation, define problems and solutions, etc.*

We have found examples that supported our decisions in project partner countries as well as in other European countries. Many case studies have shown that teaching about space values, architecture, spatial planning, quality of open space, participation in spatial planning, and design is already happening. Spatial education thereby shows many faces and can be implemented through many activities. A renovation of the school building and redesign of the schoolyard by students can be used for spatial education needs, as well as teaching about urban sprawl or cultural landscapes. Also, efforts to bring architecture into school programmes by professional organizations are signs of much-needed spatial education. However, the results of such actions reach only a limited number of students and teachers, so this is the main reason for the strategy.

The strategy should be implemented in all schools, and it should also be accompanied by informal education activities and reflected at other levels of education, such as higher education and universities, teacher training, and additional education of professionals. It thereby proposes much more than bringing something new into the curriculum, it offers an opportunity to reach out to school children, teachers, school staff, and parents, while proposing ways to improve and make the most out of the educational process, buildings, and their open spaces. It should also involve all groups of affected citizens in the process through the help of community-based learning activities. Vertical cooperation and bottom-up initiatives should be strongly encouraged.

Key principles:

- *Personal experience is important.*
- *Every child counts.*
- *Participation in work progress.*
- *Parents must be involved.*
- *Skills, values, and perspectives.*
- *Encourage and support public participation and community decision-making.*

This project understands a strategy as a thematic programme, planned to be implemented in a clearly defined time frame, with certain funds and aims, to influence a selected group of people.

Time frame:

- *The **strategy** is a long-term dedication to be evaluated every 10 years,*
- *The **action plan** is time-limited set of actions,*
- ***Goals** are to be reached in 5 to 7 years.*

This should become a sort of international framework for national development plans and prompts many actions that do not require formation of a new subject in schools, among them:

- Adding new supportive thematic blocks to the existing curricula,
- Stressing the importance of some issues already taught in schools;
- Introducing new, innovative methods and techniques of teaching spatial values (e.g., interactive collaboration, solving real-life problems, looking for compromises and commonly acceptable solutions, including professionals at school presentations;
- Involvement of the school building and the school grounds in the teaching process;
- Involvement of professionals like spatial planners, architects, landscape architects, civil engineers, and others in the educational activities;
- Active involvement of parents in the school programmes; and
- Cooperation with the local community.

Strategy target groups

1. *Students: must be reached no matter what their personal abilities and preferences are.*
2. *National or eventually regional authorities: to demonstrate their commitment to overcoming the declarative level of recognition of a problem by taking practical action and providing professional and economic sources for the execution, and to prepare action plans (5-7 years).*
3. *Teachers: as a key for success they must be equipped with the necessary skills, manuals, external teaching assistance, and different learning options, as well as encouraged to cooperate with other teachers and schools.*
4. *School staff: to be informed and supportive in the process.*
5. *Parents: to be treated as partners, informed and involved in at least some activities in order to be able to understand and support the issues discussed in school.*
6. *Local communities: to be incorporated to support and widen the teaching opportunities and impact on the local community.*
7. *Various professionals: can help analyze the existing situation and curricula, assist in defining the action plans, co-write the new manuals and/or become members of training groups.*
8. *Other participants and non-governmental organizations: groups like nature preservation clubs and professional societies active in non-formal education can enhance separate actions. The concept should be open to new initiatives and should use all existing potential.*

The focal target groups that carry the responsibility for change:

- *Governments (ministries of education, environment, spatial development, culture, and health);*
- *School founders;*
- *Teacher training institutions;*
- *Professional associations /architects, landscape architects, spatial planners, and teachers;*
- *Schools;*
- *Local communities; and*
- *Non-governmental organizations.*

Aims of Education

Key aims

1. To encourage individuals' awareness of the effect their judgements and acts may have on protecting and developing the values of space.
2. To endow students and adult target groups (e.g., teachers, school personnel, parents and guardians, various professionals, etc) with knowledge and skills needed for active participation in sustainable development actions – to influence the abilities of cognitive thinking and practical action.
3. To raise the degree of functional literacy with focus on “spatial literacy” in future generations, such as the following:
 - being able to use and make maps and other graphical two and three-dimensional representations of physical space and new developments in space; understanding abstract, artistic, and other symbolic ways of presenting attributes of physical space;
 - being able to use, make, and connect different data and their interpretation for the use of defining the state; changes and decisions regarding spatial development;
 - being able to analyze the current state, define problems and solutions; to be able to define the right balance between preservation and development, to balance different opinions, and to cooperate when carrying out common tasks.



General aims in schools

4. To assure good conditions for formal education about space values in primary and secondary schools.
5. To help raise the quality of educational institutions (and indirectly, other living environments) through advised actions suggested by the strategy (e.g., school architecture, school interiors, and their open spaces).
6. To stimulate forming viable links between schools and local communities for practical educational programmes and other activities within schooling and planning mutual projects in local communities.
7. To include students, teachers, school personnel, parents and guardians, local communities, and different related groups of professionals in the educational strategy programmes.

Broader aims

8. To endow all citizens with the knowledge to deal with spatial issues, so that they can effectively take responsibility for using space as a limited resource and can learn to use space in ways that respect the needs of future generations.
9. To assure conditions for balanced spatial development.
10. To protect space values from influences based on unfavourable and unsustainable development.

Possible Means of Implementation

What such a strategy actually brings to primary and secondary schools can be summarized on three levels:

Existing subjects and themes from the current curriculum should be thoroughly examined and critically sorted from the viewpoint of spatial themes. A detailed report should show a general idea of which subjects are obsolete, up-to-date, or missing from the system, and can be used as a starting point to redefine the curricular programmes and actions.

Based on the research so far, it is clear that geography above all provides the greatest scope of work in the area of spatial education. In general, spatial and sustainable development issues combine social, environmental, and economic issues that are all dispersed throughout the less obvious subjects of design, history, local democracy, politics, science (including chemistry, biology and natural science), and home economics.

Newly introduced programmes have to be taught according to the following seven key concepts of sustainable development (ESD, 2004), that are focal to the successful new concept of teaching:

- *Interdependence – understanding how people, the environment, and the economy are linked at all levels, from local to global,*
- *Citizenship and stewardship – recognizing the importance of taking individual responsibility and action to make the world a better place,*
- *Needs and rights of future generations – understanding how our own basic needs and the implications of the needs of future generations affect actions taken today,*
- *Diversity – respecting and valuing both human diversity – cultural, social, and economic – and biodiversity,*
- *Quality of life – acknowledging that global equity and justice are essential elements of sustainability, and that basic needs must be met universally,*
- *Sustainable change – understanding that resources are finite and that this has implications for people's lifestyles, and for commerce and industry,*
- *Uncertainty and caution – acknowledging that there is a range of possible approaches to sustainability and that situations are constantly changing, indicating a need for flexibility and lifelong learning.*

There are many different approaches and methods in which it is possible to incorporate the spatial aspects of everyday living into educational programmes (summarized from the UNECE strategy for education for sustainable development, 2005):

- **Action-oriented teaching and learning approach** emphasizes that spatial education should involve concrete environmental actions taken by students and other target groups as integrated parts of teaching and learning processes. An action is targeted at

change: a change in a person's lifestyle, in the local society or in the global society. The action-oriented approach has two main goals: to contribute to the development of students' own competences to take action and to facilitate sustainable changes in the short and the long run.

- Critical thinking in this context could lead to socio-cultural and intellectual flexibility with an understanding that, in addition to human capabilities, all information is principally related to place and time.
- Dynamic qualities in the learning process mean an emphasis on qualities in educational activities that engage learners in active and participative positions and assign the teacher and learner more reciprocal roles that respect the existing knowledge and ability of the learner.
- Integration of subjects, departments, educational institutions, and their communities puts more emphasis in educational activities on interdisciplinary and trans-disciplinary inquiry, reflecting that no subjects, factors, or issues exist in isolation. This interdisciplinary approach puts an emphasis on interconnections between different perspectives.
- A multidisciplinary approach refers to looking at an issue from many knowledge or practical disciplinary perspectives but not integrating them. The multidisciplinary approach involves different subjects of study in one activity, without changes in disciplinary and theoretical structures.
- Problem-oriented means that, instead of organizing the teaching around topics from one of the usual disciplines, the subject concerns itself with an issue or a problem.
- Problem-based learning is characterized by contextualized problem-setting and situations. Problems or cases from the real world are used as a means to motivate and initiate students' learning processes; i.e., acquiring a predetermined content and at the same time developing transferable personal competencies.
- Project work is characterized by problem orientation, product orientation, interdisciplinary work, coherence between theory and practice and joint planning by teachers and students. The issue or problem in focus has to be found in the surrounding world (authenticity) and the relevant knowledge from subjects and disciplines has to be chosen according to the problem in focus.
- Knowledge management is about bringing together demand and supply of knowledge. This knowledge is based on understanding and experiences: the best working methods, new ideas, creative "solutions", breakthrough processes, skills, etc. It concerns knowledge with an added value that promotes wisdom and provides understanding.
- Conceptual mapping is considered as a representational educational tool for showing the relationship between one entity, concept, etc., and another, building relationships and links between them, and representing them in a figure, diagram, or map.
- Value clarification is a method to encourage learners to clarify their thoughts, feelings and commitment, and thus enrich their awareness about their own values, clarifying their exact content and full meaning.
- Simulations refer to cases in which a certain number of data are reproduced in another context: the simulated learning situation is provided to learners and the assumed



“replica” usually reflects an issue and situation of the real world, linking the class with environmental realities.

- Role-playing is traditionally based on asking learners to portray certain well-defined roles, such as a local authority officer, a farmer, an ecologist, a consumer, and so on, in the context of a particular issue, a given situation with clearly defined values that demands a resolution.
- The case-study method is a teacher-directed analysis of a given environmental issue, within which students, working in small groups use and elaborate mainly secondary sources of information (provided by the educator, e.g. printed material, guest speakers, films, videotapes) in order to explore and draw conclusions on the particular issue.
- Modelling aims to recreate the main aspects of what occurs occasionally during an event or phenomenon in nature, in the laboratory, or even in society. Models are created based on multiple analogies which may function as the “building blocks” of the model.
- Scenarios are analyses of hypothetical problems, their impacts and possible solutions by examining a series of alternative combinations of critical parameters and hypotheses. Through scenarios we try to predict the consequences of changes by using extrapolation.

Learning by acting and beginning to understand the local and familiar facts before inducting them as global principles can be proposed to the students by the physical state of the learning environment – the school’s interior spaces, the appearance and functioning of the educational building, its outdoor grounds, and all the surrounding area that children and young adults use daily, before and after classes.

Conclusion



A society's ability to manage space and exploit its developmental possibilities depends on the knowledge of individuals and social groups about values of space and how they can be supported and protected but also exploited and developed. The fact is that in European Union, the field of spatial planning is far from unified. Spatial development is an open question in the EU cohesion debate and a certain level of harmonization on spatial planning practice and related governance is expected to reach sustainable development goals. It is believed that member countries should gain at least practice in sharing the responsibilities, opening the spatial planning process to the participation of non-professionals, and democratic decision-making in relation to raising awareness of space values. This calls for a proactive user who will surpass the opposing position in spatial planning and management and also reach beyond the proclaimed value system. **Raising awareness of values of space through the education process** calls for the educational strategy to be a firm framework that will both lead the action and demonstrate the political support for it.

The project partners are aware that this is a demanding task. Introducing a new theme in the schools is always difficult. The educational system reflects the community value system and leans towards stability, which makes it also very rigid and inflexible with regard to the upcoming changes. On the other hand, the fact that teachers are open-minded and wish to follow up goes hand in hand with the development of teaching methods, and these both work well for bringing novelty to the classroom. R.A.V.E. Space is aware of this, so we decided from the start that we will work with all necessary respect for the school system and try to involve it in development of the strategy as much as possible. The side effect should be that by doing so, the preparatory era for spatial education implementation starts with R.A.V.E. Space activities.

Training Seminars for Teachers 5

One of the milestones and innovative proposals of the R.A.V.E. Space project is the organization of Training Seminars for teachers. The teaching methodology proposed by the seminars is based upon the evaluation of the awareness of values of space and, seeks to use practical experience to give students the tools and knowledge for active participation in shared design processes oriented towards sustainable development.

Moreover, the transnational character of this action (the seminars were developed in four project partner countries) aims to foster confrontation and mutual enrichment among various educational and cultural realities, and to implement participatory and active learning methods as suggested by a “comprehensive knowledge” approach and by the *UNECE Strategy for Education for Sustainable Development*.

Starting from these assumptions, from September 2006 to November 2006 national seminars open to teacher participation were organized in Trieste (Italy, 5–6 September 2006), Corfu (Greece, 2–3 October 2006), Portorož (Slovenia, 10–11 November 2006), and Podgorica (Montenegro, 27–28 November 2006), focusing on the common question “How to teach to live spatially”. The seminar format consisted of two whole days that included plenary and small working group sessions. Lectures alternated with practical experience based on exploration, analysis, and representation of a local landscape chosen as a case study and as an example of a specific “type of landscape” (such as natural, rural, urban, or suburban) to be explored, upon which methodologies proposed by the workshop focused. Seminars were intended as an interactive learning context enhancing mutual exchange, creative thinking, and action-oriented learning; their main purpose was to simulate the possible steps of an interdisciplinary process in the same way they could be used for schoolchildren, as well as to elaborate on and experiment with new teaching tools and approaches.

Seminar Aims and Format

In more specific terms, the organization of seminars had different aims: to offer a training occasion for teachers; to be a tool to test and advance the progress of R.A.V.E. Space research; to be a proposal of a learning process, and to be a teaching tool itself. Therefore, the seminar format was conceived to “re-create” the learning situation that teachers will present to their students, and to test the implementation of the teaching and methodological tools that were defined during the project development. One of the tools that was to be tested and implemented in seminars was the **workshop**. As a teaching methodology, the workshop is an interactive learning context that enhances mutual exchange, interdisciplinary learning, learning from experience, creative thinking, and action-oriented learning.

The learning process structuring the seminar starts with an interactive session oriented towards the achievement – with the help of brainstorming techniques – a shared definition of the values of space specifically referring to the local case study. Then, the seminar develops through two main **working sessions**, dividing the participants into groups:

1. *To experience, observe, read, and interpret.* The aim is to raise the knowledge of values of space through the direct observation and experience of them. During the exploration each group particularly focuses on one of the values resulting from the brainstorming session, following the suggestions of a “Teacher Trainer” who proposes specific approaches and observation/notation modalities.
2. *To elaborate and report, to communicate, to imagine and envision.* The aim is to experiment with possible methods and teaching aids to help understand the complexity of the space we live in, the interaction and interdependency of multiple factors and resources (such as natural, economical, cultural, social, historical), and to highlight strengths, weaknesses, opportunities, and threats to the enhancement of values of space and sustainable spatial development. Each group, helped by a teacher trainer, practices different ways to elaborate the direct experience of space made during the exploration through the use of some specific tools, such as guiding questions to stimulate and focus debate and deeper reflections, and the construction of a *Gulliver’s Map*. Finally, a plenary session is dedicated to the sharing of visions, using the participatory methodologies applied to planning processes.



While testing the seminar format, teachers were asked to try out all the steps and approaches that should be included in the proposed educational process, starting from the evaluation of awareness and knowledge of values of space of a specific local case-study.

As the proposed **teaching methodology**, alongside traditional “lecture” sessions the seminar offers, “workshop” sessions that specifically offer *innovative teaching protocols*. In particular, the seminar is supposed to:

- Present the methodological premises of the teaching process as investigated by R.A.V.E. Space research to the attending teachers;
- Simulate the possible stages of a learning process, in the same way they could be presented to schoolchildren;
- Propose and experiment with some space exploration modalities and approaches to spatial planning;
- Collect new inputs for the elaboration of methodological approaches and tools for teaching how to read, interpret, and represent the values of space;
- Eventually, test some prototypes of teaching tools that might have become ready.

With regard to the working modalities, priority is given to participatory methodologies and active learning processes, whereas teachers participating in the seminars are asked to

put themselves in the same situation of exploration, study, research, and learning that they will present to their students.

The **general outline** adopted for national seminars is:

Number of participants: ideal 20/24 (no fewer than 8).

Timing: 2 whole days – 4 working sessions, 2 Plenary sessions (opening and closing), 4 small group workshops.

Languages: English and local languages.

Seminars are supposed to be developed according to a common agenda, which flows as following:

Session 1. Plenary session:

- Presentation of the project, of the team and of the aims of the workshop;
- *Plenary workshop:* from awareness to definition of values of space. Interactive session based on local case study;
- Description of key words of seminar methodology and of the exploration modalities and approaches to be experienced during the seminar;
- Instruction for following small group workshops and division into working groups.

Session 2. Small group workshop and field exploration:

- *To experience, observe, read, and interpret:* exploration of an urban, suburban, rural or natural landscape. Each group, assisted by a teacher trainer, experiences, observes, reads, and interprets the specific landscape proposed in the case-study, focusing on different values of space resulting from the plenary workshop in session 1.

Session 3. Small group workshop and lab exercise:

- *To elaborate and report, communicate, imagine, and envision:* processing the results from session 2. Each group practices how to report back and communicate the experience of space and how to imagine and build new visions for the explored landscape. A synthesis of the group experience is reported to the following plenary session. Each group devises reporting and communication materials and lists the key evaluations, issues, and proposals that emerged from the group work.

Session 4. Closing plenary session:

- Presentation and discussion of each working group's results and proposals. Conclusion.

Seminar Activities and Evaluation of Results

According to the described structure of the seminar, a call for teachers to participate in R.A.V.E. seminars was launched in each project partner country, asking for attendees from various disciplines and grade levels. Ultimately, 75 teachers attended the seminars, organized in four countries: Italy (10), Greece (28), Slovenia (24), and Montenegro (23), plus a total number of 11 qualified observers.

To foster a good learning dynamic during the seminars, a focus team was established in each country, including the presence of both local and partners' representatives, who worked together at each national seminar as Teacher Trainers and Seminar Facilitators.³ The University of Trieste DPAU coordinated all the seminars to ensure their methodological continuity. The intense team preparatory work prior to the seminars improved the results and participants' satisfaction; moreover, it facilitated the overcoming of language problems during the national seminars, which were held as much as possible in local languages.

In order to develop the seminars in the best way, some teacher trainers outside of the local team were selected. Teacher trainer selection was based on the ability to use one's own personal experience, profession, and sensibilities in the exploration and interpretation of spatial values rather than a professional background in a specific profession or area of expertise.

Trainers were expected to give a personal contribution to enrich the seminar learning process, thanks to their experience and point of view. In addition, teacher trainers open to multidisciplinary, creative, and participatory approaches were welcome.

To find these kinds of people, certain desirable qualities were required for their selection, such as: having experience in activities related to sustainable development (i.e., education, studies, communication campaigns, planning, etc.), projects implementing multidisciplinary and interdisciplinary approaches to spatial issues; working with children; having a general knowledge of the local situation (i.e., historical, political, cultural, social, current focal issues, planned projects for the future, etc.); having experience in participatory processes (such as Local Agenda 21, children's involvement in projects for public spaces or playgrounds, residents' involvement in neighbourhood laboratories, etc.); and, last but not least, they were asked, whether possible, to have experience in working with teachers.

The teacher trainers selected came from professional fields related to the environment and to spatial planning, as well as from research fields related to culture, society, or economics. They were architects, urban planners, and geographers as well as photographers, musicians, dancers, and pedagogues. Teacher trainers were asked to lead the working group sessions and to facilitate an active learning process within plenary and small group workshops, working in close co-ordination with the seminar team.

³ Special thanks go to Teacher Trainers and Seminar Facilitators who actively took part in developing the national seminars: Stefania Bertolino, Stefano Alonzi, Barbara Della Polla, Marco Francese, Stefano Graziani, Polyxeni Georgiou, Karmen Cunder, Jerneja Fridl, Simon Kušar, Polona Demšar Mitrovic, Tatjana Resnik Planinc, Primož Pipan, Mimi Urbanc, Saša Kosten Zabret, Nevena Čabrilo, Biljana Gligorović, and Marijana Ojdanić. Organization and coordination of the seminars were particularly developed by Claudia Ferluga and Elena Marchigiani, who also acted as Teacher Trainer and Seminar Facilitator.

In order to give to the R.A.V.E Space research a more comprehensive range of results, each national seminar – as already mentioned – focused on a different landscape to be used as a **case study**. Case studies were suggested by local partners and chosen for their significance to the local community because of social, cultural, or economic reasons, because of conflicting uses, or because they are places that need to receive more attention in terms of management and planning.

The case studies in different countries can be summarized thus:

Italy - The locality of Sales situated in the Karst tableland near Trieste was chosen as an example of a natural landscape. The morphological nature of this landscape, a very permeable limestone and dolomite platform, is strictly linked to the geographical configuration of the whole territory, as well as the uses made by the population that has lived in and interacted with this difficult, harsh territory that is rich in contrasts. Thus, although the Karst can be interpreted as a significant example of natural landscape, it is nonetheless the result of transformation and interaction processes brought about by human activities, culture, and history. In fact, in this area all manmade features seem to reflect, in some ways, the contrasting aspects of the Karst. Therefore the human relationship with and intervention in this landscape were also taken into account when approaching this case study, both as traces of past uses and of current and future developments.

Greece - The Old Town of Corfu was chosen as an example of an urban landscape. This area has a very ancient history and has been recently proposed and accepted by UNESCO for recognition as a monument site. It is very significant for the local community, especially for economic reasons, primarily tourist development. It offers an example of very diverse and conflicting uses of space: in the Old Town there are old traditional buildings that are used as shops, houses, restaurants, cafes, and museums.

Slovenia - The locality of the Sečovelje salt-pans, located between Piran and the border with Croatia, was chosen as an example of a rural landscape. This area is one of the most dynamic parts of Slovenia today: here, various uses have changed over a short time scale. The context studied is also characterized by strong pressures on the environment and space, and by the presence of conflicting interests in planning its future functions. Even if the Sečovelje salt-pans are designated as a landscape regional park, economic activities are putting pressure on it: improvement of airport capacity, planned golf courses, and construction of a new marina and facilities. Nearby, the Sečovelje peninsula has retained its agrarian appearance, but here, too, pressures for development are very strong. Another reason to select this case study was the desire to encourage teachers to explore values of space in a particular landscape, to think about the complexity of different interests in a given context, and become familiar with the main issues of spatial planning. The case study area was divided into four different sections, each one highlighting one of the diverse characters of the whole area: the Portorož Marina in Lucija, the hinterland hills of Seča, the Portorož airport and surroundings, and the Sečovelje salt-pans.



Montenegro - In Montenegro the locality of Golubovci was chosen as an example of a suburban/rural landscape. Golubovci is a small semi-urban/semi-rural place, located near Podgorica, between the airport and Skadar Lake, on the main road from Podgorica to the Adriatic Sea. This area presents an evident conflicting use of space and local resources with regard to urban, environmental, industrial, and agricultural aspects. It is precisely because of the conflicting features of the place that this location was chosen as a case study.

Following the general format, **national seminar activities** were based on the direct experience of the case study location (i.e., exploration and field survey) and on the practice of analysis, production, and sharing of visions about space values and space development (that is, elaboration and communication of experience). Each teacher trainer proposed a different approach to exploration and elaboration activities. Approaches basically relied on various observation and listening modalities (such as sensorial/perceptive experiences, analytical and descriptive approaches, interaction with space and people, notation and collection of inputs and information, etc.), and on different uses of supporting materials such as cameras, specially prepared maps, notebooks, element collectors, and so on. During the field exploration, teacher trainers enhanced the knowledge of the specific landscape chosen as a local case study using diverse methodologies and tools. Starting from their own sensibility, but also encouraging the use of different approaches, they assisted observation, experience, and evaluation of the values of space (such as presence, absence, qualities, problems, interdependency of factors, etc.).

The values that emerged during the territory exploration can be summarized thus:

Italy – The first interactive working sessions, “From awareness to definition of values of space” helped to identify some themes specifically related to the case study:

- Memory;
- Sensory Perception;
- Natural and Physical Characteristic Features;
- Anthropic Characteristic Features.

These four key issues were taken as general values of space to be focused on during the seminar work (i.e., exploration and elaboration activities). After discussion of the items and presentation of the four working modalities proposed by each teacher trainer, participants chose the working group they were most interested in. This very intense and committed participation enabled the sharing and integration of different points of view and knowledge.

At the end of working groups some materials were produced: a Gulliver's Map, personal booklets, a Red & Blue map, picture booklets, a short theatrical play, and matrices of values of space.

Greece - In order to define the general values of space that would be the starting point for the 2-day workshop, teachers were involved in the first interactive session based on the local case study of Corfu's Old Town. Four main themes emerged as key issues:

- Culture and History;
- Music;
- Memory;
- Uses of Space and Entertainment.

Two working groups were formed and the themes of “Culture and History” and of “Uses of Space and Entertainment” were chosen as general values of space to be focused during the seminar work (i.e., exploration and elaboration activities). The working groups produced the following materials: a Gulliver's Map, a photo flip-book, a Red & Blue map, and an Itinerary Storyboard. In addition, a special lecture entitled “Teaching Space through the Acquisition of a Foreign Language” was given by a Greek teacher trainer, Mrs. Polyxeni Georgiou.

Slovenia - The first interactive session was used as a way to warm up the participants and to find out their opinions and knowledge of the case study. Three main themes emerged as key issues:

- Free Time;
- Economic Use;
- Home/Belonging;

The participants were randomly divided into four working groups; each group explored a different area, but all focussed on the general values and implementing the same exploration modalities. The second day the groups were mixed again (the “jigsaw” technique) and elaboration modalities were based on a given question and problem-solving exercise inspired by a scenario workshop approach. Various maps and cartographic materials as well as a Gulliver's map and group work methodologies were used as supporting materials and techniques.

Montenegro - The brainstorming session identified four themes as key issues and values related to the case study:

- Resources (natural);
- Endangered Resources and Need for Protection;
- Traffic Congestion;
- People.

Two main themes were chosen as general values of space for the Golubovci exploration: “People” and “Resources and Protection”. The issues linked to “traffic” were considered to be aspects influencing both general values. The participants were divided, by sorting, into two working groups; each group explored the same itinerary in Golubovci, but focussed on a different general value. The subsequent elaboration work was characterized by intense inter-

action and exchange of opinions and contributions among the participants. As supporting materials the groups produced: Red and Blue maps, a Gulliver's map, and a domino game.

At all national seminars, during small group session 3 (lab exercise) teacher trainers assisted elaboration of the observations and experiences gained in session 2 (exploration), by facilitating the group to develop processes oriented towards analyzing and representing the explored space, considering the complexity and interdependency of multiple factors and resources. Finally they helped the group envision new scenarios and produce the communication materials to report back the experience and proposals to the plenary session. The final debate was the occasion for a first round table of **feedback and evaluation** on the proposed methodologies, their pertinence to schoolwork and the possibility of implementation, as well as on the seminar process itself. A second tool for evaluation was the *Evaluation questionnaire*, delivered to each participant after the seminar. A third evaluation tool was the *Teacher trainers' evaluation questionnaire*, which was used as the basic material to "translate" the experimental work made during the seminar into teaching units.

As a general remark on seminar evaluations, it should be noted that although their unconventional format caused a moment of disorientation among participants at the beginning, this moment was easily overcome. Ultimately the interactive approach and practical workshop proposals were very well received and appreciated by the attending teachers, who participated with remarkable involvement, interest, and creativity.

Some positive aspects of the methodology that participants stressed were: the importance of practical ("hands-on") work; the relevance of the exploration phase and the direct experience of space; and the flexible and open character of the methodology itself. This was mainly considered adaptable to each particular location, class age, teaching subject and, finally, geographic area.

The problems highlighted by teachers mainly referred to the need to better define how the proposed methodology can be adapted to current school activities, with particular regard to: time management, curriculum flexibility, financial resources, colleagues, and a school structure that may not be available to invest in its implementation. However, the evaluation questionnaire findings also confirmed the teachers' willingness to implement the methodology in their classrooms.

In more specific terms, the analysis of the evaluation questionnaires filled in by the teachers yields some suggestions for further work:

Italy - The participants were satisfied with the seminar development and the methodology; according to their answers, all steps of the seminar worked out well. During the seminar, graphic display and verbal discussion were the primary forms of communication

employed. Teachers also highlighted that there are many connections among activities suggested by the workshop and their daily teaching activities, and that the level of applicability of the method at school is very high. Nonetheless, some of them pointed out that they needed more suggestions about the concept “values of space” by the co-ordinator during the brainstorming session, and more time to follow all the steps. Thus, when they use the method in their schools they will surely change the timing of the steps. All the participants stated that they would adopt the suggested methodology and implement it in their teaching activities.

Greece - Many participants were satisfied with the seminar and the methodology, but they remarked that they had not received enough information before the seminar about the project and the seminar activities. They think that there are many connections among activities suggested by the workshop and their daily teaching tasks and that the level of applicability of the method at school is very high, but it depends on the grade level. Many of them believe that the methodology is more appropriate for secondary school students. During the seminar the primary forms of communication used were graphic display, photography, and verbal discussion. Teachers think that the time schedule of the seminar was difficult to follow and that they will need to change it and adapt it to school timing when they use the method at their schools. It seems that the easier steps to follow were the presentations and the survey, while the most difficult step was the final processing of the elements observed. All participants stated that they would adopt the suggested methodology and implement it in their teaching activities.



Slovenia - The participants were satisfied with the seminar development and the methodology. All the steps of the seminar development worked out well, although some of them think that they didn't receive enough information before the seminar. During the seminar the primary forms of communication used were graphic display and verbal discussion. Eighty percent of participants think that there are many connections among activities suggested by the workshop and their daily teaching activities, and that the level of applicability of the method at school is very high. They think that the time schedule of the seminar was easy to follow. All the participants stated that they would adopt the suggested methodology and implement it in their teaching activities.

Montenegro - The questionnaire responses show that the participants were very satisfied with the seminar development and the methodology. All the steps of the seminar worked out well. They think that there are many connections among activities suggested by the workshop and their daily teaching activity and that the level of applicability of the method at school is very high. Nobody felt they needed more suggestions and the given time schedule was easy to follow. The primary forms of communication employed were writing, graphic display, and verbal discussion. All the participants stated that they would adopt the suggested methodology and implement it in their teaching activities.

6 Summer Camp

In order to make the seminar format available for further testing and implementation in school classrooms, after each national seminar a detailed report was written by DPAU and local project partners and then translated into local languages. The reports contained a step-by-step description of the seminar phases, thus playing the role of guidelines for teachers who attended the local seminars and were willing to implement the proposed methodology in their classes. After trying out the seminar format in project partner country primary and secondary schools, teachers elaborated a report of the achieved results; in the meanwhile DPAU prepared a first draft of the teaching units (that is, a careful and revised description of the different activities carried out during the national training seminars for teachers), then transformed them into more systematized resource sheets for teachers and students, intended as an integral part of the teaching tools that constitute one of the results of the R.A.V.E. Space project (see section 7 for more details).

The organization of a Summer Camp offered the opportunity to synthesize the outputs of the whole training process and to define the final layout and contents of the teaching tools. The camp was then developed as a key action of the project, intended to collect, elaborate, and discuss the results of the testing in classrooms/schools and a first evaluation of the resource sheets created. It was conducted as a working seminar in which project partners, teachers, and invited experts on teaching the values of space from various European countries met for one week and worked together in an effective workshop, in order to consider and compare different teaching approaches and educational system organization approaches.

The camp was developed from 8–14 July in Lipica, Slovenia, where a dedicated structure was selected to simulate the school environment (teachers were in fact asked to collaborate and to behave as if in the presence of their own colleagues in their home countries). The **programme** was organized in different parts: the first day lectures were given by project partners, dealing with the project aims, particularly referring to the need to promote all efforts to integrate education for sustainable development with a new strategy (Maja Simoneti) and values of space into ordinary curricula (Mojca Ilc). Examples of how teachers are educated and trained during their working lives were also given by two Polish experts, Iwona Krop and Małgorzata Matraszek. Dariusz Śmiechowski introduced the participants to some examples of architectural workshops in schools, by presenting a work developed in cooperation with Playce and Akademia Łucznic. Finally, Primož Pipan gave a lecture on the use of cartography for transmission of concepts about values of space. Then, once they had heard analyses of the main problems related to space values education, participants were introduced to the teaching tool proposal elaborated by DPAU – and which they had partially experimented with in their classrooms – and to the work they were expected to perform during the rest of the camp.

Before getting to work (which was mainly aimed at improving and implementing the methodology and the resource sheets necessary to support the full elaboration of the teaching

tool), attending teachers from project partner countries (a total of 24 from Slovenia, Montenegro, Greece, and Italy) presented the results of the testing in their schools, at the same time giving an example of how the proposed methodology could be adapted to fit current educational pathways, and suggesting slight changes or improvements both to the general frame of teaching activities, and to the specific technical language to use in order to meet current pedagogical and didactic methodologies and means. The report plan according to which the teachers produced their presentations had been given in the form of guidelines (Outline for reporting the results of the schoolroom testing of the R.A.V.E. Space seminar format) before the starting the test phase in the schools. It included a foreword with a short description of the school context where the test was carried out; general remarks on the grade level of the involved students and on colleague involvement; any kind of difficulties in the organization and management of the test; and a short description of the procedures followed to test the seminar format. At the camp, the presentations were then given by groups of teachers introduced by their own national coordinators (who was appointed within the project, and worked in strict collaboration with those responsible for the Working Package of Teaching Tools).



Please provide a short description of this image

The following days were spent going deeper into the proposed toolkit to develop the assigned work: teachers were divided into groups, each of them dealing with a number of resource sheets that they were asked to revise and implement according to their own experience and skill. The workshop then presented its greatest value when discussion among participants led to development and a truly effective review of the tool, which at the end of the Summer Camp was ready to be finalized for release. Some professionals/experts assisted this work, by encouraging and guiding the discussions, completing information or invigorating teachers' knowledge by making comments, as well as linking and summarizing their statements. All the participants to the camp were thus actively involved in creating the contents of the toolkit through sharing their personal experiences and understanding.

A final presentation of the work developed was carried out on the last day in the presence of a representative of the Ministry of Environment and Spatial Planning of Slovenia, Nada Pavšer.

7 Teaching Tools

The Role of Tools in the Education Process

The main challenge for environmental education is to promote a change in people's way of thinking and in the system of values underpinning it. In this sense, the growing worldwide interest in environmental issues and sustainable development principles is to take as an opportunity and a responsibility for educators. Developing students' critical and self-reflective thinking skills through teaching the manifold issues related to sustainability could be a way to deal with this task, and thus to help future citizens acquire competences concerning the creation and implementation of development processes oriented towards the promotion of a better quality of life.

The R.A.V.E. Space project specifically comes with a proposed teaching methodology intended to give the students the knowledge and means for active participation when involved in shared design processes oriented towards sustainable development. Moreover, the methodology is supported by the production of a teaching tool. Such a tool can be easily adopted in conjunction with existing tools for current education subjects or, more hopefully, could support the introduction of new school subjects/curricula in the framework of an innovative Strategy for Education for Sustainable Development,⁴ as also suggested by other results of the project.⁵



Generally speaking, the role teaching tools play in the process of education for sustainable development should be to help create excitement in students for looking more attentively at the world in which they live and its changes, so that they realize that they have the potential to make it better. The project has analyzed the extent to which teaching tools are practically used for raising young people's awareness of the values of space through the collection of questionnaires disseminated among an appropriately selected sample of teachers in the five project partner countries⁶. Questions have been defined in order to elicit responses to the following issues:

⁴ Key actions to achieve this could include: stimulating the development and production of materials for educators, learners, and researchers for all levels of education and training, especially in local languages; encouraging the development and use of electronic, audio, video, and multi-media resources and visual aids for both learning purposes and sharing information; facilitating access by electronic means and the Internet to resources and information relevant to ESD; ensuring coherence between materials for formal, non-formal, and informal learning; and developing relevant dissemination strategies. From: UNECE STRATEGY FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT - CEP/AC.13/2005/3/Rev.123, March 2005.

⁵ See section B, chapter 4 of this report, "Spatial Education Strategy".

⁶ For a survey of existing school curricula and teaching tools, see section B, chapter 3 of this report, "Preliminary Analysis"; and T. Resnik Planinc, S. Kusar, H. Kovacic, Values of space as an integral part of primary and secondary education, R.A.V.E. Space Working Paper, September 2006.

- The types of teaching tools used to include spatial planning content in the educational process (e.g., textbooks, web pages, educational TV programmes, models, etc.);
- Differences in content between teaching tools addressed to different age groups of students (we expected to find substantial differences between primary and secondary school materials, as well as between different primary school age groups);
- The extent of use of teaching tools in the regions and countries cooperating in the project;
- The effectiveness of their use in the educational process (i.e., are young people living in countries where the values of space are included in the school curriculum in fact more aware of them?).

The responses showed that today's teachers still primarily use textbooks (84.0%), books (66.5%), and worksheets (56.7%) as **teaching tools**. The situation is the same in all participating countries. CDs, DVDs, videos, and software are far behind (35.4%). There are no significant differences between the participating countries. Of teaching tools that were not mentioned in the questionnaires, the respondents also mentioned models, cards, music instruments, tape recorders, experiments, didactic toys, transparencies, globes, different working materials (e.g., pictures, photos, texts, music, etc.), sports equipment, maps, and students' previous work (e.g., posters, models, etc.).

The responses to **how often teachers use certain teaching aids** in their classes are related with the findings mentioned above. They show that TVs, videos, and DVD players are often (28.7%) or at least sometimes (30.0%) used in classes. They are followed by PCs and overhead projectors, while the PC projector is rather far behind. This situation is different in Montenegro, where the overhead projector takes first place, followed by the PC projector, PCs and TVs, videos, and DVD players. In Slovenia the percentage of TV, video, and DVD player usage is closely followed by the percentage of overhead projector usage.

The answers about **students' most preferred tools** are significant and, in some way, expected: they clearly go in an opposing trend to the most commonly used methodologies and teaching aids. In all countries the first place was given to CDs, DVDs, videos, and software. The average result is 77.4%, which is certainly very high (the R.A.V.E. Space decision to make TV programmes as a tool for raising awareness of values of space thus appears to be completely on target). Websites and portals (36.1%) trail far behind, as do reviews, magazines, and newspapers (36.1%), not to mention worksheets (24.9%), textbooks (23.6%) and books (22.1%). The gap between what teachers do and what students want thus seems to be rather wide.

The survey also indicates that the **schools seem to support the purchase of various teaching aids** (69.5%). The situation is significantly different in Italy, where the percentage in the column "not really" and "not at all" is rather high (46.2%). But, if teachers generally have the possibility to use less traditional teaching tools, and if they also know what students



consider interesting, then we should ask ourselves why they do not react to this and work in their students' and their own best interests. It would be interesting to find out whether this reflects reality or if teachers are being more critical.

The findings indicate that **schools also do a lot regarding the purchase of various teaching aids**. Italy is once again a slight exception, with a rather high percentage (44.1%) in the "not really" response. In any case, the many difficulties in innovating either teaching tools or teaching aids that still must be faced can easily explain the use of **teaching methods** in the classroom. As for all five countries, recorded values show that verbal methods (e.g., lectures, interactive teaching) are far in front of the others (85.2%). They are followed by textual methods (46.6%). Audiovisual methods, with 31.5% are even behind games (37.3%). The only exception is Slovenia, where games take third place (45%) and graphic methods fourth place (38.1%). Among the other teaching methods respondents mentioned: painting, posters, debating ("speaker's corner"), making models, projects, quizzes, plays and games, pantomime, newspapers, articles, and so on.

As before, **schools seem to encourage teachers to use various teaching methods in the classroom**. However, again there is a discrepancy between the reality and **students' wishes**. According to the findings, students' favourite methods are: audiovisual methods (66.9%), games (58.3%), and trips and excursions (57.2%). Other methods used by teachers are far behind. We are convinced that here lay the answer to which direction our changes should move in.

Regarding the **way teachers organize their work in the class**, individual work (66.5%) slightly prevails over ex-cathedra or frontal teaching (65.9%). Group work (55.2%) and pair work (49.3%) are not far behind. In Italy, Montenegro, and Slovenia ex-cathedra/frontal teaching is actually placed before individual work while group work always prevails over pair work.

The record of current teaching tools and aids adopted in the countries covered by the R.A.V.E. Space project has brought out further and useful hints for the construction of new ones. First, existing tools can be classified according to: their **type** (there are differences between traditional or innovative teaching tools, proposed and used as teaching support and acknowledged by the teaching community); the **target** to which they are addressed and for what purpose (which determines their structure, contents, and language, and which changes according to the students' grade level); the **topics** presentation (which differ in the way they are presented to teachers and students by grouping issues or focusing on a single or a few matters); the **use** they are employed for (used for individual or cooperative learning, in classrooms or at home, according to which different types of information, educational aids, and pedagogical/teaching structure are given); the level of students' **interaction** (how teaching tools relate to the receiver and what his/her involvement should be); and,

finally, the kind of **backup** (that is, on what type of physical support the backup material is available).

From the overview of the current situation, it is possible to point out two different classes of teaching tools: **traditional** and **innovative**. Handbooks (printed and audio/CD-Rom supported), books, atlases, lecture notes, and scientific literature as well as other literature (printed and audio/CD-Rom supported) can be regarded as traditional tools; audiovisuals, magazines, newspapers, TV formats, posters, leaflets, and websites and portals can be regarded as innovative teaching tools. The tools' content and structure are different when addressed to different **target groups**. Tools for teachers are structured mostly in chapters, appendixes, guidelines, and comparative modules; they use a visual-verbal language mostly extended in written description with narrative structure, supported by diagrams/tables, data, and case studies. Tools for students are structured with short chapters, reminders, simple cross references, tables, and drawings; they use a visual-verbal language, mostly based on short simple descriptions, examples, open questions, and identifiable characters – i.e. cartoons, sketches, drawings, and pictures – giving preference to user-friendly and integrated language. Topics for teachers mostly refer to single themes or key issues, with accurate descriptions of methodological approaches and results, having a pedagogical-didactic structure addressed to teachers' training in specific fields, key notes, and suggestions to the use of predefined methodologies or teaching techniques and tools. For students they refer to single questions or integrated issues, specifically addressed (as for references and approaches) to target age groups, supporting cooperative learning in the classroom or homework, and offering study drills as well as training activities.

Other important differences among teaching tools can be highlighted if we analyze them from the point of view of **interactivity**. According to the different levels of students' involvement they call for, tools can be divided into: **closed texts**, both for students and teachers, without any possibility to change them (essays, statements, reports); **open texts**, mostly for students, with questionnaires, summary proposals, experience proposals, calls for additions; **texts to be implemented**, mostly for teachers, with the opportunity to make links with the local context. Finally, in terms of **backup**, there are different types which often mix: typed and/or printed materials, informatics support, and audio-visual media.

Nonetheless, according to different teaching approaches, even other actions can be regarded as teaching tools: interactive lessons/lectures, worksheets, games, study visits, meetings, seminars, projections of films and videos, listening to music, noises, and sounds, workshops, and interviews. Teaching methodologies can in fact be developed through the use of tools oriented towards either a **solo learning approach** (a one-to-one relationship: screening notions by oneself, stressing individual abilities) or a **cooperative learning approach** (a one-to-others relationship: mutual support within the working group, comparing approaches within a suggested vision).



This leads to the conclusion that, while the current situation in primary and secondary schools in project partner countries clearly points out the persistence of traditional tools (mainly closed texts) and the solo learning approach, the analysis of questionnaires has also shown some possible ways to close the existing gap between teaching methods and the need to increase students' knowledge of values of space, sustainable development principles, and the ability to participate in urban and regional transformations.

R.A.V.E. Space has thus dedicated further steps, on the one hand, to preparing a Spatial Education Strategy oriented toward supporting the contents of existing and innovative teaching tools; and, on the other hand, to developing new methods for teaching how to recognize and interpret values of space and to propose changes in space, aided by various traditional and innovative teaching tools.

Concepts in the Process of Creating a Teaching Tool



The theoretical and methodological premises to the definition both of the spatial education strategy and of teaching tools rest in some of the basic concepts expressed by the UNECE guidelines for Education to Sustainable Development (ESD)⁷:

- **Action-oriented** teaching and learning approaches emphasize that ESD aims to contribute to sustainable changes in society and the environment. It is thus recommended that ESD should involve concrete environmental actions taken by students and other target groups as integrated parts of teaching and learning processes. An action is targeted at change: a change in a person's lifestyle, in the local society, or in the global society. An action is also intentional. The action-oriented approach has two main goals: to contribute to the development of students' own abilities to take action and to facilitate sustainable changes in the short and the long run.
- **Critical thinking** in this context means that ESD should be ideologically aware and socially critical, thereby recognizing that no educational values are politically neutral. In general, critical thinking can be defined as how individuals consciously adapt information for their own understanding within their existing values, interests, and knowledge. This general definition applies to critical thinking in learning processes, but it is important to emphasize willingness to take open-minded approaches by both learners and teachers, particularly to various cultural, economic, ecological, political, and social issues. At best, critical thinking could lead to socio-cultural and intellectual flexibility with an understanding that, in addition to human capabilities, all information is principally related to place and time.
- **Dynamic qualities** in the learning process mean an emphasis on qualities in educational activities that engage learners in active and participative positions and assign

⁷ See: DRAFT UNECE STRATEGY FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT. Addendum. EXPLANATORY NOTES - CEP/AC.13/2004/8/Add.2, May 2004.

teacher and learner more reciprocal roles that respect the existing knowledge and ability of the learner. Dynamic qualities are in opposition to static qualities, which are more mechanical and perceive teaching and learning as little more than a transfer of information with the learner as a passive recipient.

- An **interdisciplinary approach** puts the emphasis on the interconnections between different perspectives, involving two or more different subjects, and on the cooperation within a common framework shared by the disciplines involved.
- A **multidisciplinary approach** refers to looking at an issue from many knowledge or practical disciplinary perspectives but not integrating them. The multidisciplinary approach involves different subjects of study in one activity, without changes in disciplinary and theoretical structures.
- **Problem-oriented** means that, instead of organizing the teaching around topics from one of the usual disciplines, the subject deals with an issue or a problem.
- **Process-oriented** in this context means widening the scope in planning, pedagogy, didactics, and so on, in educational activities from narrow content focus to an awareness of learning and education as processes, thereby highlighting the activities, the dynamics, the actors, the phases, and the relation between areas more than decontextualized information content.
- **Problem-based learning** is characterized by contextualized problem-setting and situations. The content of the course of study is introduced in the context of real-world problems. Problems or cases from the real world are used as a means to motivate and initiate students' learning processes, acquiring a predetermined content and at the same time developing transferable personal abilities (e.g., interpersonal skills, critical thinking, etc). The distinctions between problem-based learning and other forms of cooperative or active learning are often blurred because they share certain features.
- **Project work** is characterized by problem orientation, product orientation, interdisciplinary work, coherence between theory and practice, and joint planning by teachers and students. The issue or problem in focus has to be found in the surrounding world (it must be authentic) and the relevant knowledge from subjects and disciplines has to be chosen according to the problem in focus. Project work is an individual and collective learning process based on scientific principles (action research) aiming at finding possible solutions/proposals for change (the product) – the answers are not given in advance.

Moreover, the elaboration of a spatial education strategy within the R.A.V.E. Space project has focused on further key themes that can be highlighted for their capability both to raise awareness of the correlations between spatial issues and sustainable development, and to synthesize a variety of educational subjects that – directly or indirectly – relate to the existing curricula⁸. Among such key themes, **outdoor learning** can be considered a strategic

⁸ See section B, chapter 4 of this report, "Spatial Education Strategy"; M. Simoneti, M. Sorn, Research report on Strategy for Spatial Education, R.A.V.E. Space Working Paper, February 2007.

one. Since experiencing and understanding space offers many opportunities for students to acquire different kinds of knowledge, it represents a more valuable and flexible teaching tool than more defined, limited and simple methods and tools for classroom teaching. In fact, it can be easily seen that learning from the surrounding environment definitely brings subjects to life; it helps to increase self confidence and maturity, enhances students' motivation, and encourages the development of social and lifelong learning skills. Furthermore, it invites students to approach the places and spaces they inhabit from different perspectives, encouraging long-term engagement, and the realization that, as young people, they can make a valid contribution to the development of their local area.

All the previously mentioned key themes have addressed creation of the **Teaching Tool**, meant as a device that is expected to meet a new approach to learning about spatial values.

Starting from the core concept of **combining outdoor learning and cooperative learning**, it has been conceived as a **learning process** taking the form of a **complex, structured workshop**, whose basic nature can be adapted to particular times and places (and even according to different national existing guidelines for education), in order to fulfil its main aim: to offer young people creative opportunities to investigate, record, and interpret aspects and demands that characterize the local (built or natural) environment and to discuss ways in which they can influence its transformations.

Observing and learning about the surrounding environment can help students gain insight into the significance of what they already know and experience. They thus become more confident learners, capable of building on their own experiences with the opportunity to further understand concepts and ideas.

Of course, a set of more specific tools and learning devices have also been developed to aid the workshop activities; they are now collected into a **Toolkit**, which is the guideline and, at the same time, the means to develop the process for both teachers and students (supporting them in the outdoor, classroom, and homework activities; see following paragraph). To quote the ESD Strategy: "Teaching and learning in ESD are greatly enhanced by the content, quality and availability of instruction materials such as, methodological, pedagogic and didactic publications, textbooks, visual aids, brochures, cases studies and good practices, electronic, audio and video resources. Such materials, however, are not available in all countries. Coherence between the instruction materials of formal and non-formal education should be encouraged and the challenge is to ensure that they are and locally affordable"⁹ As expected, teaching tools used in the cooperating countries differ, as well as curricula and school subjects. It is thus impossible to imagine a single tool valid for all

⁹ UNECE STRATEGY FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT - ECONOMIC COMMISSION FOR EUROPE COMMITTEE ON ENVIRONMENTAL POLICY High-level meeting of Environment and Education Ministries (Vilnius, 17-18 March 2005) CEP/AC.13/2005/3/Rev.123, March 2005.

countries involved in the Project, but rather the differences among them, and the different approaches to the preparation of teaching tools, had to be highlighted in the project development. Establishing some pilot activities (based on the proposals for new and improved teaching tools) and the evaluation of their impacts on young people's awareness of values of space should thus come before the final elaboration of the toolkit.

According to these assumptions, the theoretical premises worked out for defining the teaching tool and for elaborating the toolkit were first tested in practice in **Training Seminars** for teachers, whereas workshops were the basic part of a process aimed at developing new teaching aids and methodologies oriented to facilitate, on an international level (seminars were organized in Trieste, Corfu, Podgorica, and Portorož), the exchange of ideas and good practices capable of helping educators to achieve the goal of raising awareness of values of space.

The seminar format itself was selected to be a tool that was practically tested in classrooms, where teachers involved in the project were asked to apply, revise, and implement the methods suggested during local seminars. The results of the testing phase were discussed in a following step, a **Summer Camp** (see section B, chapter 6); this brought to fruition the final design of the teaching tool and making up the proposed full toolkit.

The Teaching Tool as a Learning Device and a Description of the Toolkit

“SeminarSpace” – as the training seminars are called – is meant to be an innovative teaching tool itself, aimed at enhancing students' understanding of how various factors influence the surrounding environment through carrying out fieldwork tasks in the local area.

Following the proposed learning process, students are supposed to develop a greater understanding of interdependences within and beyond the local community, while gaining an appreciation of the complexities involved in decision-making. Starting from the assumption that inquiring skills play an essential role in studying all the issues, elements, and processes influencing a given environment and its present and future transformations, students are encouraged to take responsibility in working out projects and policies for sustainable development.

This type of learning process, oriented towards promoting the direct participation of teachers and students in the first working out, testing, and full elaboration of teaching tools, fulfils some of the basic ESD principles: “Appropriate initial training and re-training of



educators and opportunities for them to share experiences are extremely important for the success of ESD. With heightened awareness and knowledge of sustainable development and, in particular, SD aspects in the areas where they work, educators can be more effective and lead by example”. In particular, the process promotes teachers’ and students’ understanding of a given space, including its values and limitations; supports them in gaining the capacity to better understand the impacts of spatial transformations and uses of space, to evaluate and select relevant questions, to express their perceptions, and to discuss them collectively.

Finally, the production of the complete **Toolkit** intends to respond to ESD requirements for key actions, such as stimulating the development and production of materials for educators and learners for all levels of education and training, especially in local languages; encouraging the development and use of multi-media resources for both learning purposes and sharing information; to ensure coherence between materials for formal, non-formal, and informal learning; to develop relevant dissemination strategies by the use of participatory, process- and solution-oriented educational methods, tailored to the learners and integrated with the traditional ones, discussions, conceptual and perceptual mapping, philosophical inquiry, value clarification, simulations, scenarios, role playing, games, information and communication technology, surveys, case studies, excursions and outdoor learning, learner-driven projects, good practice analyses, workplace experience, and problem solving.

In more specific terms, the toolkit is meant as an aid to give teachers the premises and the tools for developing the different stages of the proposed teaching methodology; thus promoting students’ active involvement, giving priority to participatory work and active learning processes starting from a direct experience of space, giving importance to practical work, and teaching how to recognize the values of space through “learning games”.

The toolkit contents are based on an interdisciplinary approach and on collaboration among different subjects/teachers, joining a plurality of points of view. It is also conceived to be flexible and adaptable to different “learning situations”, applicable to various landscapes, current teaching activities, types of schools and grade levels, teaching subjects, learning schedules, students’ ages, available resources, and aids. Its applicability to a cross-national context (that is, to different curricula, languages, and teaching methods) has then been fully demonstrated during the phases of classroom testing and the Summer Camp, which followed the first release of the toolkit and preceded its final version.

The toolkit consists of: a **Manual for Teachers**, where the key concepts and definitions as well as the description of the learning stages are given, with general premises on the Project, on ESD, and on the spatial education strategy within which the toolkit fits; **Resource Sheets for Teachers**, as guidelines for the step-by-step development of the single stages (exploration, elaboration, and envisioning games) the proposed learning process is

made of; **Resource Sheets for Students**, as guidelines for preparing materials necessary to develop the learning stages and some homework assignments; and a **CD-Rom**, containing a digital version of the toolkit with manual and resource sheets in English and the project partners' national languages.

The kit is supposed to be integrated and supplemented by two other products: a brochure on the specific subject of “**Graphic materials as teaching tool for the conceptualization of space**” and a DVD with the **TV cycle of documentaries** which will also be publicly broadcast.

As for the **Manual**, which in fact represents the main guide for constructing and developing the whole teaching methodology, its contents are organized in three parts. *Foreword* gives brief descriptions of R.A.V.E. Space (aims, phases, and general outputs) and of the route followed in the elaboration of the toolkit (training seminars, testing in schools, the Summer Camp).

The first part (*Educating for the values of space*) deals with the common stated issues of Education for Sustainable Development (ESD), starting from some key concepts (e.g., action-oriented teaching and learning, critical thinking, interdisciplinary and multidisciplinary approaches, problem and process-oriented approaches, problem-based learning, project work), then giving suggestions for creating an “open definition” of values of space, and finally describing the principles and phases of the active learning process proposed by the toolkit. A process interpreting places as learning devices and corresponding to a teaching methodology, which develops from the sharing – via brainstorming techniques – of students' experiences of a given space and from the achievement of a first general definition of its values, then progresses by means of the exploration of such values of space through fieldwork, the collection of materials and experiences during the survey, their elaboration and translation into the representation of more specific values of space, the acknowledgment of problems and development potentials and the envisioning of future sustainable actions. Such a process is meant to stress the importance of practical work and workshops in increasing involvement and creativity (creative thinking), the relevance of the exploration phase (practical experience of space), the active involvement of students' families, together with the flexibility and open character of the proposed methodology and its high level of applicability to current teaching activities.

The second part of the manual (*The Toolkit*) gives a general description of the Toolkit content, of the possible ways to use it and of its graphic language and layout.

The third part (*Educational routes*) is then dedicated to a more detailed illustration of each step of the learning process. The account of the first one (*Values of space*) begins with the choice and description of the place to study, and discusses the importance of sharing ex-

periences while pointing out and defining values of space. Some boxes further support the teacher's lesson and field work preparation with suggestions, remarks, and illustration of specific techniques, such as which principles of sustainable development to stress, how to choose different types of cartographic representation such as Gulliver's maps, the modalities to conduct a brainstorming session, and also some hints for possible homework assignments (writing biographies of places through interviews with parents; the description of site transformations via the collection of old photos and pictures and discussions with relatives and inhabitants; and writing accounts by means of newspaper readings).

The descriptions of the following steps (*Explorations; Elaborations; Games for envisioning*) are mainly developed referring to the repertoire of **Resource Sheets for Teachers** and **Resource Sheets for Students** that constitute an integral part of the toolkit. In particular, the first group of resource sheets is meant to support teachers in the arrangement of the different activities comprising the learning process: those aimed to develop the exploration of a given space, helping and guiding the field work according to different issues and approaches (sensory, descriptive, and experimental); and those aimed to develop the classroom activities, from elaboration to envisioning. The second group of resource sheets works as an aid to help students either to produce the materials necessary to develop in-field or classroom learning activities, or to prepare homework assignments; they are identified with a symbol set aside from the corresponding texts in the manual and the resource sheets for teachers.

Each resource sheet is identified by marks (i.e., icons, colours) in order to show the specific step of the learning process it belongs to (the icon is used to maintain this information even in black and white photocopies). Nonetheless, the resource sheets belonging to the same step are meant to be partly interchangeable, so teachers that wish to employ them will be able to make up their own educational paths, choosing one sheet for each of the three learning phases (explorations, elaborations or envisioning games), according to different variables: the available time during the school year they want to dedicate to this kind of education; the level of knowledge/age of students; the availability or readiness of colleagues to be involved in the educational path; the type of context they want to or are able to explore with the students; and different kind of materials/aids/resources they can use to develop the teaching process.

The graphic layout and organization of the resource sheets for teachers are meant to facilitate their consultation and choice. Each one consists of the following sections: a title recalling the kind of approach it refers to; the advised age group; an introduction synthesizing the principles the activity is based on and its general aims; key questions; learning objectives; learning activities; actors – that is, the number of involved students and teachers; outcomes, meant to be materials produced by students that the teacher can evaluate; curriculum links – that is, the school subjects the activity can be referred to or have connections with; the time required; the necessary resources expressed as a list of required materials;

tips, in the form of some hints referring to the choice of places to study or preferable sequences of activities to facilitate the learning process; a description, organized step by step in order to allow the teacher easy execution; variations on the proposed activities, aimed at making them more adaptable to different curricula, resources, contexts, students' abilities and age level; prior learning requirements; learning expectation, which is again useful to evaluate students' achievements; references, either publications or websites; and homework assignments, where the description of possible further activities developed by the students is given. In order to make this tool as adaptable as possible, each sheet also includes blank space where teachers can add some notes regarding the actual development of the work in their classroom.

Returning to the specific contents of the three sections of the manual describing the steps of the proposed learning process, the section dedicated to *exploration* modalities starts from the assumption that field survey is a leading method for active interpretation of the context. Learning activities thus develop different approaches to the direct reading of values of space: analytical (collecting and inventorying elements and information as an external observer), active (practicing the space as an internal observer), and interactive (relating to space, people, and elements as a participant observer). This is facilitated by suggesting and outlining some general “learning games”: looking at the ordinary, playing with distance, changing the point of view, and using everyday tools in an unusual way. To develop this step, teachers can choose among five different resource sheets: *Red and blue*. *Critical observations* (the recognition and description of positive and negative elements building the space develops through activities such as walking along an itinerary, collecting objects, taking notes and using a map to orient oneself); *“Useful” photography*; *“Patient” observation* (while walking and stopping in some places, taking photographs, and gathering information and interviews, which allows better understanding of how spaces are used and by whom); *Natural collection* (the construction of an ordered collection of photographs referring to elements judged alien or integrated in a given context is a device to start recognizing natural and man-made elements creating a landscape); *Body space nature* (the compilation of a “diary” of sensory experiences is the result of an interactive approach, open to contextual sense stimulation); *Points of views* (this is again the construction of an ordered collection of photographs, objects, and writings oriented to recording spatial experiences developed while imagining “walking in the shoes” of living species other than man).

As for the section of the manual dedicated to *elaboration* modalities, it starts from the assumption that elaboration is a way to develop the awareness of more specific values of space. The different activities belonging to this step thus try to facilitate the cognitive process and to enable concept sharing through an assessment of the observed elements and their relationships. To achieve these purposes, some devices are defined as common to the four resource sheets for teachers described here: organizing the elaboration process into working groups as a means to develop different points of view on the same subject/place,

also implementing interdisciplinary approaches; working out physical representations of the direct experience of space as support for further elaboration (drawing maps, constructing diaries, books, and games, developing theatrical and narrative interpretations, etc.); and using public presentation of the work done as a means to better formulate concepts, open debate, and learn to face different opinions. In this case, the resource sheets are different from the others in terms of their outputs: the *Itinerary storyboard* uses map drawing as a device to name and divide the observed spatial elements into values and “disvalues”; in *Spatial sequences and perceptions* map drawing and creating “flip books” is instead aimed at visualizing the variation time and space of uses and users, and thus the relations between spatial layout and social practices; *Theme maps of communal spaces* adopts the creation of cartographic representations as a means to recognize and classify different types of public space; *Stories* interprets composition and performance of a plot as a device to understand and represent the relations between different factors and actors influencing the spatial layout of a given place.

Finally, the section of the manual dedicated to the *envisioning* step starts from the assumption that envisioning is a way to understand the complexity of values of space and to facilitate comprehensive knowledge through playing games. In fact, game practice enables concept sharing and listening to other points of view (through the organization into working groups mixing different experiences, in order to show the multiplicity of factors influencing and constructing the values of space). It invites students to learn how to champion their own interests (arranging structured discussion sessions among students) and how to build new common visions (also using computer games¹⁰ in order to show the many aspects sustainable development processes have to deal with). So far, two of the resource sheets for teachers are intended to simulate students’ active participation in working out sustainable development solutions: *Domino* helps to define resources, threats, and actions to protect and/or enhance given values of space; *Role game* helps to define solutions to a given problem, playing the role of different stakeholders and confronting their demands and points of view. The last section of the manual also contains a selection of bibliographical references and websites specifically dealing with the suggested approach and techniques.

¹⁰ Among the numerous computer games which are freely available on the internet and developed especially for education needs, it is also possible to find some which teach architectural and urban planning principles. One of these is “Urban Plan 2001”, which places the player in the role of urban planner. Researchers at the Faculty of Architecture in Ljubljana have also recently developed a special program called “Educational ‘eco-spatial’ interface”, which was tested at the seminars for teachers in Slovenia. Its aim is to raise primary school pupils’ awareness with respect to the principles of sustainable development from the standpoint of architecture. Computer games of course cannot replace the knowledge and experience gained from learning in the space itself. They are, however, an interesting supplementary tool for motivating students to begin to think about the challenges, demands, and problems posed by the planning and organization of space.

Graphic Materials as Teaching Tools for the Conceptualization of Space

As already mentioned, the toolkit is also integrated and complemented by a brochure on the specific subject of “**Graphic materials as teaching tools for the conceptualization of space**”. This subject is developed starting from the assumption that sustainable spatial development is based on the properties of space as a natural public good. The state of the space and the changes that have occurred within in it over extended time periods can be most easily discovered using a variety of graphic materials. Among these, cartographic and photographic materials, in traditional or electronic form, stand out and form an indispensable tool in teaching young people about space and its importance for the continued development of society.

A selection of cartographic and other graphic materials have thus been presented at R.A.V.E. Space seminars for teachers, showing how they can be used to teach students about the significance and role of space for sustainable development. We highlight in particular the use of different maps, aerial photos, three-dimensional and simulated models and photographs of an area from different time periods to enable:

- An easier spatial presentation of the regions studied,
- Orientation in space,
- Awareness of the values of space and the conflicts that arise in this space,
- A determination of the situation in the past and that of today, and an awareness and understanding of the changes that occurred over time,
- Planning of future spatial development, and
- Presentation of results.

A short description of contents and use of different cartographic aids is given below.

Orthophotos

Orthophotos can have a dual role. In general they are important for orientation in space and for marking locations of field observations. At seminars we have drawn particular attention to this secondary use. When combined and enlarged they can be used as a “Gulliver’s Map”, which places students in the role of a giant.

After the field work all impressions and collected material can be put on the Gulliver’s Map. In this way the “empty” representation of the space will be filled in with our details,



observation, and content. Filling in the Gulliver's Map helps us discover the interaction between elements of the space, share diverse point of views, read the space in a more complex way, and envision new possibilities for the development of that space.

Topographic Maps

Since orthophotos lack content such as toponyms (names of towns and villages, bodies of water, and buildings), contour lines, road networks, boundaries, and so on, these topographic maps were an essential supplementary tool for spatial orientation. Large-scale topographic maps, for instance 1:5000 scale, which are produced and updated for individual countries by surveying and mapping authorities, are best suited for a more detailed study of the state of space.



Urban Plans

Urban plans are an essential element of spatial planning at the local and regional levels. They are prepared by expert institutions on request are usually not accessible for general use. It is, however, possible to find a number of instances of urban plans of relatively poor resolution on the internet. It makes sense to acquaint students with their existence and purpose, especially if we wish to help them become future citizens who as adults will be more actively included in the spatial planning process. Later on they will have the opportunity to encounter urban plans at public unveilings of spatial plans.

Historical Thematic Maps

In order to determine the presence and organization of activities in space in past historical periods, thematic maps from older periods are also a useful tool. Sheets of the Franciscan cadastral map from the period 1817 to 1828 are accessible in all countries that were part of the Austro-Hungarian Empire at the beginning of the 19th century. Somewhat less accessible is the 18th-century Josephine military map, since due to military secrecy it was never publicly available. Some countries have reclaimed it from oblivion. A comparison of maps from different time periods enables a historical perspective and provides insights into the changes of the landscape over time. In this way we can also more easily understand the changes in the values of space and recognize which values were more important in the past and which values are important today.

Historical Photographs

Old photographs can frequently be an important source of information about the state of a landscape during periods in the past as well as about the life of the people there. In this way they can make a useful contribution to researching changes in a space over a long period of time. Thus today many images have been preserved, which can be seen in museums and documentary films.

3-D Landscape Models

3-D display is very useful tool in the classroom for presenting the test area. *Google* has made general access to 3-D models of the earth's surface much easier, offering users free access to the Google Earth application at <http://earth.google.com/download-earth.html>. We decided to use these means based on a survey carried out in an earlier phase of the R.A.V.E. Space project. The survey findings showed that the teachers believed that one of the students' favourite teaching tools was computer animation and games. For this reason we looked at the tested areas from a bird's-eye view using animation enabled by the Google Earth program. Using this kind of approach makes it possible to motivate students to do further work.

Simulated Displays of Spatial Impacts

Simulated displays are becoming more and more accessible on the web pages of companies that are planning new buildings or layouts, most often in urban areas. They facilitate our comprehension of a planned impact on a space and make it easier for us to express our views, positive and negative, of the impact itself as well as the problems that it will trigger in the space.





Educational TV Cycles

The Role of Film in the Education Process

In today's democratic society it is not only important for society to form the legal instruments necessary to shape the surrounding space according to common and individual interests, it is also important for the in-depth awareness of these issues to be present in society as broadly as possible. Only a citizen that is aware of these issues can be a participant in public debate and can face the consequences of his actions and choices.

In the programming and planning processes and in their executive activities, public authorities should reconcile conflicting interests between various users of space that place demands on its resources, both at present and in the future. To realize these tasks they should certainly have various instruments at their disposal, including an effective spatial planning system and properly prepared, specialized staff. Even all of this is not enough in modern democracy, however, if the policy does not have any social support. This support must be based on understanding of political activities. Such understanding cannot be expected if there is not considerable growth in awareness of the role of space and issues concerning its management in particular societies.

Space management, management methods, and specific instruments in the form of spatial planning, must be understood as development policy components. This entire process must be development-oriented to gain understanding and social approval. Due to the EU accession of several Central European countries, many new investments will be initiated that have to be coordinated in space. They should be based on a broad partnership, relations, and information flow between various entities. This presents a large role for supplementary education, directed at broad specialist groups from various domains and to young people. Issues of space values should be included in education programmes starting in elementary school. The education methodology question of these issues is an interesting field of study in its own right, and requires the preparation of adequate staff that are able to use it.

The transformations that have been taking place in recent years in Eastern Europe have a decentralizing character; that is, they tend to distribute the power once focused in centralized authorities to local subjects. The essence and aim of these transformations is to heighten citizens' level of participation in governance. It should be done in the area of participation in democratic elections, and also in creating opportunities for the common people to have direct influence at the local level both on decisions made (somewhat) on their behalf, and regarding the shaping of realities of life in the given area.

Values represented by the local community take a central position among the factors determining the implementation success of spatial development strategies and plans. It is worth noting that these values are shared by various entities, so the ones that do not divide, but rather merge the interest groups, become a foundation for cooperation while building the

future. Thus, it is necessary to prepare a foundation for strategy implementation even in the goal-setting phase. The strategy formulation process must be directed so as to strengthen the ties between groups creating the local community and, if there too few of these ties, their creation should be stimulated. It will be possible to implement the strategy if we get a consensus on fundamental matters and agreement on the main development directions. The process of setting the common values and higher aims is then the formation process of the spatial culture appropriate to the society.

Throughout the past 15 years of transformation in Central European countries, much has been done in terms of social re-education that was necessary after the period of centrally controlled economies and totalitarian political systems. In multiple ways (e.g., schools, the media) the societies have been taught the mechanisms of democracy, the free market, and a free citizenry in society. Thus, every citizen at a secondary level of education knows that without a good “business-plan” even a workshop cannot exist, and no entrepreneur receives credit. Without good planning there is no proper development. On the other hand, there is no social assurance of the need for spatial planning.

There are many issues related to European spatial development that its societies are not informed of satisfactorily. One thesis is that the starting point in the spatial planning transformation process in Central European countries is the increase in knowledge of spatial problems, or even the realization of their existence. Experience shows that this is what is wrong with societies in this region in the first place. Often they even do not understand why these issues should be attended to. Spatial planning specialists are not understood and activities in the political sphere are not appreciated. Thus, practical planning issues aside, we must work on preparing space users. The demand for knowledge in this area is still small and only a few particular people see the need for space planning, so this is the time for precise work.

First of all, young people need to be convinced they can decide on the proper usage of space they live in. Let them show what they want – nowadays their desires also have an influence. Let them know about problems and relations. Let them understand how to solve them. Let them want to have influence on these decisions. Their lives will be better.

The awareness of challenges and space management perspectives, mastery of scope and methods of education, and reaching new target groups is the challenge of the moment for effective management of development processes. Thus, the dissemination of this knowledge and growth of space values awareness should be pursued. We should find ways to talk about space, its values and problems, and about the instruments to solve the problems. We should also go beyond the model that planners are the only producers of planning documents. Only this can bring about understanding and appreciation of this discipline. This could be very important for further development, although not everyone is aware of that yet.

Understanding space value issues should be included in educational programmes starting in primary school. The education methodology question of these issues is an interesting field of study in its own right, and requires preparation of adequate staff that are able to use it. Thus, the R.A.V.E. Space project is aimed at increasing the social awareness of the value of space and sustained spatial development through primary and secondary school education. The R.A.V.E. Space project will deliver tools for more effective transfer of space value knowledge in schools. This is to help students and also broader social groups to participate effectively in the decision-making process related to space management.

R.A.V.E. Space educational films on spatial planning and sustainable spatial development are dedicated to primary and secondary schools. They will seek new ways to educate people about space exploitation, contribute to increasing awareness of the spatial planning role, and be understood as basic instruments of responsible space management, exploitation of areas, and area coherence, in conditions of stable, sustained development.

Scenario Preparations and Topics

One of the essential tasks of R.A.V.E. Space is the production of a cycle of 12 educational television programmes describing contemporary spatial problems. The aims of the film series are:

- Better knowledge of actual spatial processes for better understanding of various impacts of spatial development;
- Opening up new opportunities for growth, stimulating competition, and delivering new more effective ways of approaching common problems in spatial development;
- Contributing to more balanced development with more educated and highly aware people who will be able to participate in the spatial planning process.

The films of the cycle are addressed to:

- Secondary school students (ages 15–19);
- Students of non-spatial planning faculties;
- Local/regional policy makers;
- The general public interested in the topic.

The planned structure of each programme consists of three parts, creating the narrative flow:

- Values: what is unique/important, why it is unique/important, what we have to protect it and why, examples from project partner countries.
- Problems: is it possible to preserve values without adequate care, what we can lose, conflicts/synergies with other objectives.
- Solutions: behaviours, activities, policies, regulations, synergies/compromises, best practices.

Each part of the series is dedicated to a different subject. These subjects are:

- The complexity of space
- Sustainable development
- Natural heritage
- Monuments and material heritage
- Cultural heritage and tradition
- Landscape: natural & cultural
- Human settlements: polycentrism
- Neighbourhoods, housing
- Workplaces: industry, endogenous development
- Towns & cities
- Transport
- Governance, spatial management, planning: inter-sector issues

Other subjects have been also considered during the preparatory phase. Ultimately, the decision to accept the series structure listed above was made. However, given the opportunity the following additional issues would be emphasized:

- Water management
- Agriculture
- Tourism/leisure
- Coastal/maritime issues
- Mountainous areas
- Old industries
- Town centres/new centres
- Services
- Industry
- Pollution
- Green areas
- Forests
- Natural disasters
- Archaeology
- Land protection
- Territorial cohesion
- Urban policy
- Spatial planning

The scenario was prepared by the Innovation Foundation and Edusat TV under the supervision of Maciej Borsa. Particular phases of preparatory work were discussed by all the R.A.V.E. Space project partners. In particular, the list of locations to be used as the examples in the film were selected by the all project partners engaged in this Work Package; the special seminar on this topic took place in Trieste in February 2007, as well as the site visit preparing the detailed route for the filming crew.

The film cycle is intended to be distributed via satellite and on DVD at schools, together with supplementary materials for students and teachers. In each episode the presentation will concentrate on three topics:

- Coverage of the main **spatial values** inherent to the subject of the episode;
- Coverage of the main **problems** requiring awareness and solutions;
- Coverage of the basic **solutions** used for exploitation and protection of the indicated spatial values.

The introduction to the programme cycle is the coverage of space complexity. In this episode spatial values are shown as the life environment of man: his life, work, and relaxation as well as space as the basis of resources for economic development. The conflicts between various entities managing the space, between individual and social goals, and between various methods of space management are highlighted. In the final part methods of conflict resolution are shown – better knowledge of space and the processes running inside it (research), increasing awareness of these values, and better space management, including spatial planning.

The second episode covers sustainable development issues. It shows the concept, the evolution of this term in recent years, and the strengthening of its meaning in the supranational scope. It presents factors and processes constituting sustained and stable development. It shows changes in space caused by non-sustainable development, particularly in the second half of the twentieth century, and dangers for the future resulting from continuation of the model of development that did not consider spatial values and the irrevocability of some of its transformations. It describes the intellectual movement in favour of sustained development and supranational cooperation to respect its rules in space exploitation processes.

The following episodes show the particular issues of natural heritage, protection of monuments, immaterial cultural heritage, landscape protection and landscaping, settlement (settlement network), accommodation environment (neighbour space), development of job positions (industry), problems of cities as centres of civilization development, and transport problems.

The episode closing the programme cycle is dedicated to spatial management. It shows the role of reasonable spatial management as carrying out the idea of sustained development and examples of areas managed according to the rules of balance and stability of growth processes. It shows the advantages reasonable space management brings to society and the economy. It also shows the conflicts resulting from contradictory methods of spatial management and from differentiating the values and aims represented by various entities managing the space. It may help to identify the essence of pressure for solutions discordant with the rules of sustainable development. Methods of reconciling the clashing interests in economic and spatial policy, the instruments and means of spatial development management – including, of course, spatial planning itself – are shown.

The Complexity of Space

Examples for the first unit about space complexity show the value of space as the life environment of man: his life, work, and relaxation as well as space as the source of resources for economic development. It is the introduction to the programme cycle. As a philosophical category, space can be compared to time. Both space and time are resources given to man that he cannot multiply. Space is the “container”, enclosing everything that surrounds man. Space is the geographical environment – the Earth’s surface and a narrow zone over and under it. Man lives in the space defined this way. Space is in constant motion – it changes. All social, economic, and cultural processes take place in space, and they also influence the transformation of that space – everywhere and in every moment.

The conflicts between different subjects managing space, between individual goals and social goals, and between various means of space management are presented. The concluding part shows the rules of conflict resolution by better reconnaissance of space and the processes taking place in it (research), by increasing awareness of these issues, and by better management of space, including spatial planning.

Sustainable Development

Man uses spatial resources to meet his demands. As a result of this, man’s environment becomes transformed. Some transformations are reversible and some are irreversible. Not all transformations created by man are done purposefully. Often, in the process of taking some resources, man unknowingly or partially knowingly disturbs other resources or values. The film presents the factors and processes comprising sustainable development.

For human biological life, the indispensable resources are air and water. We need a lot of them and generally it is impossible to produce them. Water and air resources recycle naturally, but man interferes in this cycle, causing its disturbance. He introduces harmful substances into the air and water, which as a result deprives him of the use of these resources, even though they are of key importance to life. Examples show the spatial changes caused by unsustainable development, particularly in second half of the twentieth century. Threats to the future resulting from continuing use of a development model that does not take into account the value of space and irreversibility of some of its transformations are shown.

A new model of growth has recently taken shape: sustainable growth. It is based on the rule that all development factors should be in permanent balance with each other, and that while managing spatial resources, we should also consider the welfare of the next generations. Our children and grandchildren, and their grandchildren, should have the same access to spatial resources as we do. Man’s actions should be guided not only by the temporary profit motives, but also their long-term consequences. The intellectual movement towards sustainable growth is described in this film unit, as well as the supranational cooperation in respecting sustainable growth rules in space usage processes and the most important ways these rules are implemented.



Natural Heritage

Nature is a very complicated system that is not fully understood. It consists of countless elements, both inanimate (e.g., soil, minerals) and animate (e.g. plants, animals). Some elements of the natural environment are indispensable for life in the other organisms, and indirectly they also condition the life of man. Relations in nature are not fully explored. When nature functions in relative equilibrium and the functional life cycle opportunities of its organisms are preserved, nature has the unusual power of self-supporting. It regenerates and recreates by itself. Examples in the film show the opulence and variety of natural heritage, the question of biodiversity and its importance for the function of the natural environment. The characteristics of typical biotopes in Central and Eastern Europe and spatial differentiation of their existence are shown.

Humanity is increasingly disturbing the conditions indispensable for consistent support of natural environmental function. Often, some resources are exploited so intensively that they become depleted, stop regenerating, or go extinct. The preservation of all species, their numbers and role in nature is a goal in itself. Humankind is imposing greater and greater pressure on the natural environment. The consequences of his activities often lead to imbalances in nature. Examples show the main components of anthropologic pressure, the questions of environmental pollution and its complexity, erosion and degradation of Earth's surface and, finally, the characteristics of typical natural threats to the economy and colonization.

Contemporary man is gaining a clearer understanding that he is a part of nature and has to take care of sustaining the balance in its systems and supporting its species diversity. There are many instruments of biodiversity preservation. The examples presented here concentrate on limiting the usage of natural heritage by man, rules to protect this heritage, the necessity to cooperate in various spheres and levels of human activity in order to respect natural values and, finally, the fundamental rules of planned usage of environmental resources.

Monuments

Man has transformed space for ages, leaving permanent traces of his activity on Earth. These include objects and residence traces, as well as buildings and their complexes: colonies and cities. Objects and buildings created by man are not as permanent as nature itself. Man uses them up either until they completely wear out or until they are no longer needed. Then he either abandons useless objects and buildings or tries to adapt them to his new needs. The traces of such repetitive transformations can be seen particularly in buildings.

The continuity awareness of the existence of certain spatial arrangements is very important to man. In contemporary times, communities are attaching ever greater importance to cognizance of this material heritage. People appreciate not only the knowledge of described

history, but also personal contact with authentic places and objects that are related to them. This is true not only in their immediate proximity; people are eager to spend their time and money getting to know the cultural heritage in other places, too. This creates more and more important foundations for tourism development. The film shows the cultural diversity in the European space throughout history and the wealth of their material heritage and its value for today in the cultural (intellectual) and economic spheres. The question of supporting the values of monuments and the main technical problems of historical object maintenance, problems resulting from giving objects new, contemporary usage functions, as well as problems resulting from economic usage of material cultural heritage are shown.

The maintenance of buildings and historical complexes in proper technical condition is extremely difficult. First of all, it is very expensive. Using contemporary buildings is substantially cheaper. This is the reason that states and cities can generally afford to maintain only the most important historic buildings, but even here less capital-intensive solutions are being sought. The fundamental protection rules of material cultural heritage and rules of restoring their value are presented, along with the new functions of historic buildings and their complexes in contemporary social and economic life, technical and functional revitalization examples of historic complexes, and the problems of historic building reconstruction.

Cultural Heritage

From the beginnings of civilization, man has transformed the surrounding space. He himself has also been formed by conditions in his local living space. Everything has changed throughout history; both the space itself and the community inhabiting it. In every place this process plays out in slightly different conditions and manners, so that today we now have on Earth an unusual diversity of places, regarding both physical space features as well as the features of communities inhabiting it. Every local community has slightly different experience and culture; it has formed its system of values differently and has different habits, ceremonies and other qualifications. This causes the civilization to develop more dynamically and to be more immune to unexpected adversity. The cultural differences of communities inhabiting different regions are of great value to the contemporary world. The biggest cultural developmental potential is connected to places where various cultures make contact. The film shows the diversity of cultures in European space throughout history and the wealth of their immaterial heritage, as well as the value of these traditions to the present day. It presents multiculturalism as a factor of social and economic development and a value of cultural identity and cultural identification of a place.

Problems of migration and adaptation to new spatial conditions are highlighted, as is the role of tradition in contemporary social life and its conflicts with the universal development model. The film mentions the cultural and ethnic conflicts in contemporary Europe

and the problem of social exclusion. In the conclusion it states that multiculturalism is a value that should be supported. Governments and regional/local authorities should support the maintenance of tradition. It is meaningful to create local/regional identities and strengthen community ties. On the other hand, the understanding of different patterns and acceptance of new ones should also be supported, because this strengthens the societal promotion of communities. Multicultural communities are stronger and wealthier, are also able to better shape their future.

Landscape

The contemporary world views the aesthetic quality of space as an increasingly important development factor. What is a landscape? It is the space that can be seen from a given place. Standing in an open space, an individual can see objects at a distance of a dozen or so or even several dozen kilometres. The landscape interior can be seen from various locations. It can be changed and also can be spoiled. When an ugly building is built in a beautiful landscape, it can lose all its charm.



The landscape of every environment changes in line with societal development. These changes are introduced mainly by man. Not many primary landscapes exist today that do not bear activity marks of man. However, there are still many natural landscapes where the natural beauty prevails, and the elements added by man are just a minor supplement. Where the activity of man is or has been intensive, we see a cultural landscape. The film shows the diversity of landscape types and their evolution related to societal progress, the value of landscape and its quality to human life and the contemporary economy, and a review of typical landscapes in Europe.

Because the landscape interior consists of very many elements placed in a substantial area, its form is influenced by the activities of very many people. For this reason the maintenance of a proper landscape form is a complex task that requires high awareness and discipline of all the space users. Landscape values are increasingly important in the contemporary world, so communities must take care of the landscape in their surroundings. This is a difficult task, however; a landscape cannot be created directly or autonomously. It is created as the result of many various, dispersed activities. Each individual changing something in space inflicts change to the landscape to a lesser or greater degree. A change made once has a very stable character. The negative consequences of some activities can be repaired, but not always and not in full. The examples show the complexity of factors in building landscape form and quality, the protection of landscape, and its multi-sector character and the irreversibility of landscape changes.

The film describes the very complex methods of controlling and changing the landscape. Each building should be built with regard to its surroundings, both close and distant. In more sensitive places, the solutions for new investments are substantially limited. Investing

in open areas is particularly sensitive from the point of view of landscape transformations. Sprawl degrades the landscape quality very badly. That is why it is better for new investments to make use of already developed areas. The addition of new elements (buildings) to a complex of existing ones is the best way to improve the cultural landscape and causes the least loss of natural landscapes. Planning landscape transformations sustains one of the elements of effective space management.

Human Settlements

The development of civilization has relied on people's mutual cooperation. These civilization progress processes have been accompanied by development of groups of people: colonies of various types. The colony type depended on natural conditions, but also on tasks being done by the members of community that inhabited it. The possibility to do certain types of tasks resulted mostly from features of space that characterized the given place.

As civilization progressed, new needs, new skills, and new community organization patterns emerged. These transformations were accompanied by the development of networks of colonies: centres of various sizes, depending on the needs and possibilities in the given place. The role of every colony is different; it constitutes the centre of certain human activities in a larger area. It is part of a polycentric settlement network that is the result and source of human civilization development. The film shows the diversity of settlement network types and their transformations in the civilization development process, values of particular settlement models to contemporary life and the economy, and the role of polycentrism of settlement plans for sustainable and permanent development.

Excessive concentration yields new problems. City development periodically encounters substantial barriers, or development thresholds. City areas "sprawl" into country surroundings. They often fuse with the neighbouring cities. Living conditions and development levels diverge. The examples also show also the regional diversities of life quality and conditions, problems resulting from settlement concentration, spatial relations between urbanized areas and open areas, between the city and the countryside, and problems resulting from interference and neighbourhoods of these areas.

The film highlights the necessity to maintain spatial policies and their rules, support for polycentric spatial growth, and concepts of new growth models based on network cooperation and ties between centres.

Inhabitation Environment

Despite substantial civilization transformations, technical progress and the development of human awareness; that is, the fundamental values that should be carried by the environment man lives in are generally invariable or permanent. Man wants to be safe in it and wants to have access to fundamental resources he needs to live. The feeling of safety has got



a number of components: the first is shelter, the house that protects man from the influence of nature. The neighbourhood also facilitates solving everyday or unexpected problems. Man is a social being and generally cannot live outside the group.

The film shows the inhabitation environment as a background for civilization changes and the complexity of social structures and their respective spaces. Many inhabitation environment functions are realized at the group level. Group sizes are various, accommodating specific human needs. Inhabitation in a bigger group gives the opportunities to satisfy material needs by giving access to goods and services, and also the opportunity to offer our own work. To enable all this, spaces are needed in which mutual contacts take place and where the exchange of information, goods, and services takes place. These are public places. The examples show the space typology of the inhabitation environment and its perception, relations between private space and public space, diversities of inhabitation environment quality resulting from economic factors, social differences resulting from inhabitation factors, and fundamental problems related to neighbourhood community function.

The economic management of space requires great effort. The shaping of space thus has substantial influence on personality and on the way an individual functions in the community. That is why it is so important to properly use the space people live in. Not only is the care for private space requisite, but also for neighbour space and public space. To make the features of these spaces fully accepted by inhabitants, the social participation (share) in inhabitation environment transformation is evolving.

Workplaces

The film shows the diversity and complexity of spatial factors in economic development as well as the rules of endogenous development based on local resources of the spatial environment. The processes space resource exploitation and their processing itself disturb the primary spatial conditions. During production processes waste and by-products are created that are dangerous to man or disturb the space conditions. Also, the concentration of production machines and people needed to operate them generates specific problems. Among other things, this requires proper coordination in using available space and its resources. The examples explain the spatial expansion of industry and its consequences, the problems resulting from overconcentration of employment and production machines in a space, and environmental contamination resulting from industrial operations.

Space used for production purposes is generally transformed irreversibly, and often it is devastated. Stopping the production alone does not solve the spatial problems. We can and must produce something different, because there is always a demand for new products, but also out of the necessity to create jobs and provide the area's inhabitants the material basics of life. The examples show the transformations of production spaces, civilization transformations, globalization, and new opportunities to model industrial zones in space (green

field/brown field). The conclusion focuses on the management of spatial development from the aspect of possibly increasing occupations and workplaces, competitiveness issues, and endogenous development issues, as well as the role of spatial planning in degraded areas.

Cities

Cities are the highest form of spatial organization in our civilization. They were created, because the concentration of inhabitants in a limited area offered the greatest development opportunities. Cities grow because their spatial structures generate progress. Countries and regions that have big cities are world leaders from an economic point of view, as well as because of social development levels and individual wealth. They also carry the greatest share in the development of science and culture. The film shows cities as civilization development centres historically and today, the historical process of city development, and the role of cities for the competitiveness of European space in the world.

Cities generate not only growth and wealth, but also problems. The function of large spatial structures requires very good organization. In cities the biggest conflicts of interests exist between various subjects. All of them try to use or adapt very limited space resources to their goals. In Europe and other developed areas of the world, models of urban policies are worked out that are to meet the upcoming challenges. First of all the authorities responsible for city development should balance the interests of private investors with the interests of the urban community as a whole (i.e., public interest) and resolve conflicts of interests of particular investors. These conflicts come into play as a result of the space factor – in cities the supply of space is much smaller than the demand for it.

City development is also transferred to development of its near and more distant surroundings. The main cities decide on development of countries and regions. That is why it is very important to manage their development properly and cautiously manage the areas at their disposal. The film briefly presents the origin of EU urban policies, balanced management of urban developments, and the rules of urban policies and spatial planning for solving fundamental problems connected with various sectors.

Transport

Housing spaces and economic activity clusters concentrate in nodes of different sizes – villages, colonies, cities, and metropolises. People live in places that have the best conditions. Economic activities situate themselves where they have the best access to raw materials, cooperatives, employees, or customers. Specialization of production and social needs require increasing development of ties between particular nodes of housing, services, and production. Communication accessibility slowly becomes one of the most important attractiveness criteria of a given area for inhabitants as well as for businesses. The film explains the role of transport in civilization progress, the distance factor in social life and the economy, and transport and the phenomenon of “shrinking” space.



Building transport infrastructure is a difficult and costly task. It is accompanied by many threats. First, transport – especially road transport and air transport – causes degradation of living conditions and the natural environment conditions. Moreover, often the effects of improving access to an area turn out to be different from the planned effects. The examples highlight the problems resulting from the growth of transport connections and constant growth of needs in this area, transport network development barriers, and the increase of anthropologic pressure on natural environment.



That is why we should plan the development of transport infrastructure very carefully. It must work efficiently and not generate too many threats; it should be developed in an integrated and balanced way, without giving privileges to any type of network or transport category. We should also support networks that are easier to control and are more environmentally friendly, like rail and shipping. Telecommunication can also be used as a potential transport substitute. Supporting public transport is also required to prevent further expansion of road traffic. The film describes transport policies, the role of Pan-European transport corridors, the hierarchy of transport networks, the ability to substitute various transport types, and the importance and development of combined transport. The importance of new information technologies to reduce transport loads and the logistic issues in spatial planning are also mentioned.

Spatial Management

This part summarizes the programme cycle. Considering the growing number of Earth's human inhabitants and their concentration in selected areas, the issues of proper management of spatial development as well as sustainable and permanent usage of spatial resources are gaining increasing importance. At the same time, reconciling contradictory interests of various subjects, including personal interests with public interest, becomes more and more difficult. The rules of democracy require including of all interested parties in this process.

Today's problems of spatial management are very complex. First, we should provide proper usage structure for various fragments of terrain. Next, we must create the proper conditions for economic subjects and inhabitants to carry out appropriate and effective activity, mainly by expansion of infrastructure, mainly transport. Moreover, proper spatial management should contribute to the proper location of objects in a given area, providing accommodations, work, and access to services of various types.

The film shows conflicts resulting from contradictory methods of space management and from the diversity of values and goals represented by various subjects managing space. It describes the regulations and organizational structures to protect and develop spatial resources. To provide the transparency of activity and to enable the influence on spatial decisions, the authorities should develop information systems on space and democratic methods of decision-making on transformations in space. Research on spatial resources and ongoing processes there also has an important role to play. The propagation of their results contributes to a very desirable increase in awareness of space value in the community.

Project Promotion 9

Introduction

In line with the INTERREG IIIB CADSES Programme, R.A.V.E. Space conceived the general objective of helping regions across Europe to share experiences and develop activities in view of fostering European spatial integration and cohesion. There are many innovative ways to implement a project, but one of the greatest challenges is how to communicate the value of its objectives and outcomes, not only to the target groups, but especially to the potential beneficiaries at large. The relevance of ensuring visibility of European initiatives was specifically stated at the legislative level by the European Commission through Regulation (EC) 1159/2000. In adopting this provision, the European Commission defined and supported the information and publicity measures concerning the Structural Funds for which the member states are responsible. Past experience of EU programming periods showed the difficulties in bridging the gap between citizens and EU initiatives, often due to the lack of real communication plans supporting the activities carried out within projects. With the aim of raising awareness about the relevance of project promotion, the CADSES Joint Technical Secretariat (JTS) made available the Practical Guide to communicating on the Structural Funds 2000-2006 elaborated by the Directorate General for Regional Policy.

In compliance with the EU guidelines for the period 2000–2006, the R.A.V.E. Space Project foresaw a Work Package wholly devoted to project promotion and dissemination. Lead partners and project coordinators usually take over the responsibilities of carrying out all actions related to project visibility jointly with the regular project management. However, the CADSES JTS noted objective difficulties in combining content/financial management with project promotion and dissemination of results. In this sense, the R.A.V.E. Space project can be considered a balanced initiative, capable of handling technical activities and their related promotion. The contribution of the CEI – the partner entrusted with the project promotion – through its Secretariat for EU Projects proved to be relevant in this respect thanks to its well-established institutional structures and operational networks, as well as its communication instruments and tools.

Project Promotion

The CEI elaborated a plan that served as a guideline for the project communication actions and activities, including communication among partners as well as outside communication aimed at reaching the relevant stakeholders within and beyond the project participating countries.

The R.A.V.E Space Project Visual Identity

The first step was to elaborate the project visual identity, namely the R.A.V.E. Space logo-type to be displayed – together with the CADSES and EU logos – in all promotional material. Two mottos were developed to immediately convey the project message: “Teach to



live spatially!” and “Teach... Learn...Know to live spatially” to suggest the R.A.V.E. Space methodology for approaching teachers, students, and the broader community, on one hand, and to refer to teaching tools and learning skills for developing an active and responsible citizenry, on the other hand.

With reference to the supporting material for internal communication, project partners were provided with *ad hoc* working material arranged in an official project template, assuring a homogenous communication approach inside and outside the consortium.

The Project Website

The project website (www.rave-space.com) was identified as the major tool to reach the project target groups, from schools to experts, from local to central governments, and from international organizations to NGOs. As a first source of information for most people outside the project, the website was conceived to provide the relevant information in a user-friendly way. In agreement with all project partners, the website structure was outlined in order to include a general overview of the project as well as and fresh information regarding the regular activities carried out throughout the project life, constantly updated by the CEI in cooperation with the consortium. The link and synergies with other international organizations and institutions active in the same field were taken into consideration in order to include in the project website news and information on ongoing activities and initiatives promoted at the European level. Furthermore, in order to facilitate the partners’

exchange of information among themselves, the CEI created a “private area” available only upon login, which served as a depository of operational documents.

After the official launch of the website, the partners included the project link on their official websites, while the CEI established contacts with other relevant international organizations that also made the R.A.V.E. Space link available on their websites (e.g., the UNECE Strategy for Education for Spatial Development website).

Project Promotion Tools

In addition to interactive tools, the CEI coordinated the production of traditional printed material for project promotion, such as the official R.A.V.E. Space brochure and posters, both created taking into consideration the variety of audiences and events to be disseminated. Specific





project gadgets (2007 and 2008 pocket calendars, pens, conference bags, Summer Camp tote bags, document holders, etc.) were provided as well, in order to gain the benefit of the attractiveness of smart products in line with marketing and communication principles.

In finalizing the promotional material, it was also useful to collect impressions from users in order to adapt the project message to internal and external needs. In this sense, a valuable effort was made to produce brochures and posters in the five project national languages (Greek, Italian, Polish, Montenegrin, and Slovenian) in order to reach the broader non-English-speaking public. This action was conceived to facilitate project promotion in the primary and secondary schools, and to ensure a large communication campaign. Parallel national language web pages were created and attached to the online references of the project partners.

Media Coverage

Media coverage – newspaper, magazines, and radio and TV broadcasting – was also ensured on the occasion of project meetings and international conferences, in order to involve the local press in communicating R.A.V.E. Space achievements at a community level.

Furthermore, the project visibility was enhanced through the publication of articles in specialized focused European periodicals, circulated among national and regional authorities, and in the CEI monthly newsletter, distributed to nearly 4,000 addresses throughout Europe (to members of various CEI structures, governmental and non-governmental institutions, international and regional organizations, scientific, cultural, and economic institutions, media, individuals, etc.).

Dissemination of the Results

Making use of the promotional tools as well as its own instruments, the CEI made efforts to reach a high-level targeted audience and disseminate the results achieved throughout the project implementation. Thanks to its 18 years of experience in interregional and transnational cooperation, as well as to the skills developed in the consolidated delivery of projects in different EU programmes, the CEI has proven functional for the development of international networks.

The CEI Framework

Together with the dissemination carried out by the partners, the CEI was able to ensure institutional dissemination based on its well-structured cooperation networks involving all 18 CEI Member States. Different approaches and channels were used in order to raise awareness of the relevance of the project from the institutional level (ministries, governmental bodies, local and central authorities, etc.) to the operational level (national youth agencies, associations, NGOs, etc.). On the other hand, it was possible to spread the R.A.V.E. Space message not only beyond the project area but also beyond the CADSES area, in order to promote a valuable exchange of information and transfer of know-how even to countries that were not directly involved in the project.

The CEI played a key role in disseminating the project results and pilot initiatives in order to encourage the use of good practice cases beyond the project life, in view of facilitating and accelerating the integration process in the CEI region, facing different levels of approximation to the EU. In this sense, R.A.V.E. Space was provided with an excellent combination of vertical and horizontal promotion, in the light of a genuine cross-border and transnational approach.



The CEI involved institutional representatives cooperating in its consolidated structures, in particular in the CEI Working Groups, conceived as gathering of experts and ministerial representatives active in specific thematic areas and thus able to bring forward R.A.V.E. Space issues to their governments. Several actions were taken to engage the CEI focal points within Ministries of Education, Environment and Youth Affairs, thanks in particular to privileged links ensuring effective dissemination of the *R.A.V.E. Space Spatial Education Strategy*. Actions undertaken in this regard were different and comprised bilateral exchanges of information, project presentations at operational meetings of the Working Groups, and delivery of an info-kit for further dissemination at recipient institutions.

R.A.V.E. Space also enjoyed the benefit provided by the CEI feature events, such as the CEI Summit Economic Forum (SEF), the yearly main CEI business event taking place in parallel with the Summit of Heads of Governments in the country holding the CEI Presidency. Normally attended by over 1,000 participants, the eighth SEF – held in Bratislava (Slovakia) on 23–24 November 2005 – offered Interactive Business Areas, one of which dealt with Projects and Sustainable Development, where R.A.V.E. Space was presented. The project was also promoted during the Conference on CEI Cooperation held in Trieste (Italy) on 23 June 2006, the annual CEI conference attended by national representatives from the Ministries of Foreign Affairs and other sectoral ministries from Central and Eastern Europe.

In this context, it is worthwhile to mention the twinning established between R.A.V.E. Space and the VI CEI Youth Forum, held in the framework of the Albanian CEI Presidency for 2006, in Durres, Albania on 22–23 November 2006 under the organization of the Albanian Ministry of Tourism, Youth, Culture and Sport. The CEI Youth Forum represents the main annual CEI event in the field of youth affairs, taking place every year in the framework of the CEI Summit in the country holding the CEI Presidency. Young people from all CEI Member States gather in order to share experiences and debate issues of mutual interest, such as employment, mobility and voluntary work, youth and minorities, and funding opportunities for youth projects. The Youth Forum sessions are complemented by a Final Declaration to be submitted to the Heads of Government of CEI Member States during the Summit.

In cooperation with the CEI Working Group on Youth Affairs – the institutional network supporting the organization of the Youth Forum from the content and participation point of view – the R.A.V.E. Space project included issues related to spatial planning and sustainable development among the Youth Forum topics in the form of a specific workshop held under the title “Youth: Active Promoter of Sustainable Development”. The workshop, focused on the relevance of values of space and the role of youth in spatial planning as well as that of individual awareness and responsibility in the process of sustainable development, included brainstorming sessions working groups, good practices contributions and other activities, such as a walk around the city sharing opinions and raising awareness on urban environment and spatial planning issues

This event represented an important institutional moment which offered a unique opportunity to involve young people of various educational backgrounds and professional environments in a key European debate, taking advantage of the different perspectives offered by the 14 CEI countries represented. At the institutional level, the VI CEI Youth Forum allowed the project to address a high-level audience and reach policy makers and political actors through the inclusion of R.A.V.E. Space issues in the Final Declaration submitted to the Summit in Tirana on 24 November 2007. The document, including specific references to the topic as developed during the R.A.V.E. Space workshop, was further circulated among competent institutions as well as promoted through the CEI website and relevant channels. Representatives of the Council of Europe attending the Youth Forum participated in drafting the Final Declaration and thus had the opportunity to get acquainted with the R.A.V.E. Space project main issues.

The CEI provided financial support in order to facilitate the participation of those candidates coming from CEI Member States in special need (Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Moldova, Montenegro, Romania, Serbia, Ukraine) and encourage the participation of students as well as young professionals already employed. On the basis of the interest showed by the participants and their willingness to be further informed and involved in future project activities, the CEI could take advantage of the contacts established to promote additional activities and outcomes achieved by the R.A.V.E. Space project. As a concrete result, the CEI managed to further involve some of the young experts in the R.A.V.E. Space Summer Camp (Lipica, Slovenia, 9–13 July 2007), which turned out to be a valuable exchange of experiences and raising awareness about educational matters widening and enriching the specific focus of the project.

International Events and Conferences

With reference to the institutional dissemination at large, the CEI provided valuable visibility on the occasion of international events on account of its privileged channels. The CEI presented the project during the International Conference “Sustainable Tools, Strategies and Projects for Transforming Landscapes”, organized by the DPAU from 6–7 October 2005 in Trieste. In addition to this, R.A.V.E. Space drew on the opportunities offered by the CADSES JTS events, such as “CADSES Lead Partner Seminar on Project Changes, Final Report and Project Communication”, held in Prague from 15–16 March 2006, where the CEI took part in the session on media training, specifically the workshops concerning external communication, graphic and promotional material, and influencing decision-making.

Furthermore the CEI coordinated the participation of R.A.V.E. Space in the “CADSES Annual Conference and Project Exhibition” within EUREGIA 2006, organized in Leipzig, Germany from 24–25 October 2006. The CEI was responsible both for the presentation at the conference and for the coordination of the R.A.V.E. Space Stand at the exhibition, which resulted in the inclusion of the project within the formal programme of the CADSES event.

The project was thus presented during the workshop session “CADSES Projects – Lessons Learned in Territorial Co-operation and Development”, a specific seminar on “Neighbourhood Cooperation with and without EU Funding”. With regard to the Project Exhibition, the CEI promoted the project at the related project stand, in particular by carrying out networking activities in view of further cooperation with other projects and initiatives.

The promotion through a stand was also envisaged on the occasion of the G8 UNESCO World Forum on *Education, Research and Innovation: New Partnership for Sustainable Development*, held in Trieste (Italy) from 10–12 May 2007. Thanks to consolidated cooperation with the scientific institutions and research centres that supported the organization of this event, the CEI managed to ensure high-level visibility for R.A.V.E. Space in an international context involving participants from countries within and outside Europe. The Forum, built on the discussion launched at the St. Petersburg Summit on the interconnections between the three components of the triangle of knowledge-education, scientific research, and technological innovation from the perspective of sustainable development, welcomed speakers of the highest level from the educational, scientific, and entrepreneurial worlds drawn from G8 countries as well as developing countries.

From a EU perspective, the CEI took the occasion of promoting the project during the Kick Off Forum of the CENTRAL Programme, as descendant of the CADSES Programme. The event, held in Vienna, Austria from 2–3 July 2007, represented a valuable chance not only for disseminating the R.A.V.E. Space message but also for networking with other institutions and exploring the possibility of giving a proper follow-up to the project, both through specific initiatives and project idea proposals taking the R.A.V.E. Space outcomes as a significant base.

In this context, the CEI was able to circulate the First Announcement of the main event of the project, the R.A.V.E. Space project final conference entitled “*Values of Space and Sustainable Spatial Development: the Role of Education*”, held in Ljubljana, Slovenia, from 3–4 December 2007. This event – co-organized by the Lead Partner and the CEI – represented the occasion to debate the relevance of education processes in the enhancement of common knowledge on spatial planning and values of space as a basis for developing skills for an active and responsible citizenship. By gathering together the relevant stakeholders – from teachers to experts and spatial planners, from central and local authorities to international organizations, from NGOs to the media – it was possible to contribute to the creation of a platform of open discussion on the ways and means for gradual integration of sustainable spatial development concepts into the regular educational process of schools at the European level.



C Conclusions: Further Steps Towards Spatial Values Education

1 Best Practice Examples: Implementation of the Project Results in Slovenia

Education for Sustainable Development in Slovenia before the R.A.V.E. Space Project

The Ministry of the Environment and Spatial Planning of the Republic of Slovenia identified an unbalanced situation regarding education for sustainable development in primary and secondary schools in Slovenia. It found that students were mostly learning about environmental issues such as pollution and its prevention. This is a good starting point for education for sustainable development but it is not enough, because it leads to an incomplete perception of the very complex issues surrounding sustainable development. It is crucial that students learn about this subject comprehensively and include all aspects, which means learning not just about the environment but also about social and economic aspects of our society. From this point of view it is most important that they recognize the meaning of spatial planning for assuring sustainable development. It is much easier to protect everything than to plan the sustainable development of a certain society. In order to improve the current situation in Slovenia, the Ministry of the Environment and Spatial Planning initiated various activities that led to the R.A.V.E. Space project.

After incorporating values of space and the importance of spatial planning for sustainable development into the primary and secondary school curricula in Slovenia, it is expected that future generations will deal with space interventions more deliberately and with a sense for economic development that is also in line with sustainable development principles.

Curriculum Modernization

Education for sustainable spatial development has to attend to common goals – to become aware of and understand the reciprocal connection of three aspects of human life and activity: the connection of the environment with space, the economy, and society. Those elements have to be understood and treated as interdependent, where the environment and space take precedence over society and the economy, because those two cannot exist without the support of the Earth over the long term. In education for sustainable development it is also necessary to incorporate understanding and solving the problems and conflicts brought about through changing ways of life and socio-economic and technical development. Partial and incomplete information must be replaced with complete, experimental, and practical learning and new teaching methods. The curriculum should be moved toward adoption of versatile and complex knowledge and acquisition of abilities.

This does not require initiating a new school subject, but rather supplementing the existing curriculum with new contents and inserting them into interdisciplinary connections. Themes connected to the space as a foundation for development of activities in a region and its planning can be incorporated into many subjects, such as environmental studies, social studies, geography, history, the arts, biology, and so on.

In Slovenia the modernization of primary and secondary schools curricula was taking place during the implementation of the R.A.V.E. Space project. Therefore we were able to use some results of the project, complemented by the study “Implementation of sustainable spatial development and values of space into education”, for proposals of how and where these themes can be included in the updated curricula. Some new themes were proposed, such as use of space, spatial development planning, space management, conflicts of interests in space, and so on. We also emphasized spatial extension themes that were already taught in schools, such as use of natural resources, settlements, natural and cultural heritage, traffic, tourism and spare time, pollution and waste management, economic development, and so on.

Analysis of strategic developmental spatial documents and brainstorming at four institutions (Ministry of Environment and Space; University of Ljubljana, Faculty of Arts, Department of Geography; Anton Melik Geographical Institute, SRC SASA; City Planning Institute of Ljubljana) generated a wide collection of themes.

Teacher Education

We are aware of the key role teachers play in young people’s education: after all, they are the ones spending time with the students during a good portion of the period in which their views of life and the environment in which they live are shaped based on the information and experience acquired.

As already mentioned, one of the steps in a series of R.A.V.E. Space activities was the organization of educational seminars. In Slovenia there was so much interest that we offered one seminar twice. A two-day seminar for primary and secondary school teachers in Portorož presented some forms and methods of work and teaching tools that would guide students towards an awareness of the values of space, appropriate treatment of the environment, an integrated understanding of the causes and consequences of human impacts on space, and an appreciation of the importance of spatial planning. Teachers of a variety of subjects were invited to the seminar, since interdisciplinary connections are a very important factor in raising young people’s awareness; a range of content indicates the breadth of the problem and its involvement in all spheres of life.

We designed the seminar for teachers so that activities would be directed primarily towards:

- The presentation of teaching approaches and methods designed in the framework of R.A.V.E. Space research;
- Recording spatial values in four selected study areas with different activities;
- Simulation of possible educational methods for use with students;
- Trying out some teaching tools and approaches for presenting sustainable spatial development and spatial planning;
- Role plays involving the public and the spatial planner;
- Collecting proposals and opinions from teachers regarding the selection and preparation of teaching tools.



The seminar took place over two days in the form of plenary workshops and field and desk research in small groups. Presentations of the R.A.V.E. Space project and concepts such as “sustainable development”, “values of space” and “spatial planning” were followed by an explanation of some teaching methods and tools used in the seminar. In the brainstorming session and discussion which followed, participants were encouraged to define values and think about them. Activities were continued in small groups by means of practical work in the field in four selected locations: the Lucija marina, Seča, the Portorož airport and its

environs, and the Sečovlje salt pans. The field work was intended primarily for experiencing, observing, studying, and explaining the landscape with an emphasis on various spatial values defined in the morning session of the seminar, and for seeking new values. After the conclusion of the field work the individual groups presented their findings. The second day of the seminar was intended solely for desk work: presenting and resolving an imaginary case in which certain activities needed to be located in a space, taking into account the perceptions and information acquired during the field survey. At the conclusion of the seminar there was a discussion of how to implement the activities, methods, and teaching tools into teaching processes.

Sharing R.A.V.E. Space Project Ideas – Creating a Supportive Environment for Launching Spatial Education

In Slovenia, project partners made many efforts to inform different interested target groups about the R.A.V.E. Space aims and goals. The general idea was to spread information, but beyond that the main goal of those activities was to encourage more people to start achieving the educational strategy goals on a national level. The work was carried out through informational briefs, and general and professional articles and lectures for professionals such as architects, spatial planners, teachers, and others. This approach proved to be successful in many ways. The project is still ongoing and, while it is still not clear how the idea of a spatial educational strategy is going to be accepted, more people are becoming aware that better general education about space values and spatial development should be assured in Slovenia. There are many different activities that can lead to better spatial education and some of them have already been launched. We find this very important because we believe that spatial education must be performed in and out of school in as many ways as one society is able to put into practice.

Several lectures on the R.A.V.E. Space project were directly or indirectly prepared for different occasions to promote and explain the project idea. The project has been presented to:

- Teachers working on a school ground renovation in Maribor, Slovenia (October 2005),
- Teachers preparing themselves to become tutors for other teachers for sustainable development education in Rogaška Slatina, Slovenija (January 2006),
- Landscape architects and spatial planners at the international conference “Landscape and Society” in Ljubljana, Slovenia (May 2006),
- Art teachers, members of the regional society at the Biennale of Children in spatial design at Štanjel, Slovenia (October 2006),
- The European Commission Urban Policy interested public in Ljubljana, Slovenia (May 2007).

A letter with information on R.A.V.E. Space and a proposal to develop their own educational programmes for both the general public and professional members was sent to the Slovenian Chamber of Architecture and Spatial Planning and to the Museum of Architecture. Cooperation with the Investment Department of the Ministry for Education and Sport was established during the research process for the preparation of the educational strategy. This cooperation was fruitful, because the Ministry approved improvement of the national framework for building and renovation of schools according to R.A.V.E. Space findings. The Chamber of Architecture whole-heartedly agreed with this and has already decided to pay for it out of its budget for the development of professional standards and norms.

Spatial planners, architects, and landscape architects were generally addressed by the web-based organization Trajekt, established to promote the values and quality of space (www.trajekt.org) and the Association of Landscape Architects of Slovenia (www.dkas.si). An article entitled “The R.A.V.E. Space project – Education on Sustainable Spatial Development” was also published in the Bulletin of the Ministry for the Environment and Spatial Planning (Environment & Planning), which reaches other experts in the field as well.

Slovenian geographers are some of best-informed about R.A.V.E. Space. It was introduced at the annual geography teachers’ meeting and discussed in their journal, *Geografski Vestnik*. Some of them have also attended the seminars funded and organized by the R.A.V.E. Space project.



Best Practice Examples: Implementation of the Project Results in Montenegro 2

The Ministry of Education and Science of the Republic of Montenegro drew up an Action Plan creating conditions for systematic introduction of sustainable development contents into the educational system over the next three-year period. It defines the tasks, role, dynamics and necessary financial resources of educational institutions responsible for implementing the planned activities. The action plan is in compliance with the principles and objectives of the UN Strategy, the National Strategy for Sustainable Development in Montenegro, and key documents concerning the implementation of education reform. Because of the importance of sustainable development in overall societal development, the action plan is included as an annex to the ***Strategic Plan of Education Reform in Montenegro for the Period 2005 - 2009***, which plans the implementation of short-, medium-, and long-term objectives of the reform in the following period. The action plan was adopted by the Council for Sustainable Development in Montenegro. “This Plan foresees, among other things, the supplement of the existing curricula with sustainable development contents, as well as the preparation of optional subjects for primary and secondary schools.” It represents a firm basis for implementing the R.A.V.E. Space project in Montenegro’s educational system.

The R.A.V.E. Space seminar “*Teach to Live Spatially*”, held in Podgorica on 28–29 November 2006, represented the starting point for direct implementation and realization of further project activities in Montenegrin schools. After being trained at the seminar, teachers from 10 primary and secondary schools implemented this methodology in schools with varying degrees of success. After implementing this methodology, the majority of teachers wrote their reports and delivered them to the Bureau for Education Services. The reports show that when testing the methodology, the teachers mainly followed instructions received at the seminar, although many of them also added concrete activities to enhance the students’ understanding of the aims of this project. Some of the teachers implemented the methodology by themselves while others worked jointly with their colleagues that teach various subjects at the same schools.

One general conclusion is that the implementation of these activities took place according to the planned time schedule. The objectives set at the beginning of each workshop were accomplished. Students actively participated in all phases, which contributed to their acquisition of new knowledge and experience of space. Field surveys in particular made a considerable impression on the students, although they explored a relatively well-known environment. This shows that the students have a need to think and react to the environment surrounding them as its users. Methods used to implement this project significantly contribute to the formation of students’ viewpoints about space as a precious resource that



needs to be preserved, because errors made in space are almost impossible to rectify. The field research objective was to increase the level of knowledge and awareness of the values of space through direct observation and experience. The conclusion most frequently made by the students was that when moving around in space they most often notice what they want to observe. They realized that observing space in different ways or from different standpoints can help them also to see what they had not expected to see. During the presentation of the proposed methodology, the students attending secondary schools went even further: they proposed highly concrete “measures” to improve the existing situation for the locations they chose for their case studies. Individual students went even so far as to see their future jobs in various positions and envisioned themselves in the function of those that make decisions about space.

Difficulties encountered during the project implementation were related mainly to obtaining the necessary assets. Teachers, for the most part, received support from school administrations and other colleagues at their schools, although there were also schools where other teachers did not – or did not want to – understand the need to implement this project.

Teachers’ proposals regarding this project implementation are to incorporate the project into the annual schoolwork plan, to make correlations among subjects, to establish indicative plans for various age groups, and to devise interesting activities or games through which the students will observe and evaluate space.

The Bureau for Education Services agreed – after having the Summer Camp experience – to form committees that will prepare optional subjects in “Spatial Planning” for primary and secondary schools.

Seeking Synergies 3

The CEI Role in Promoting the R.A.V.E. Space Strategy

The R.A.V.E. Space project is an example of transnational cooperation implemented under the EU umbrella. At the same time it represents a valuable instrument to promote issues supported on a worldwide scale by international organizations and commissions.

In line with the UNECE efforts towards the implementation of the Strategy for Education for Sustainable Development (ESD), R.A.V.E. Space developed a Spatial Education Strategy, a complementary tool providing a framework for promoting spatial education in primary and secondary schools.

In this context, because the UNECE is encouraging its Member States to develop and incorporate the ESD into their formal education systems as well as in non-formal and informal education, the CEI has actively promoted the R.A.V.E. Space objectives and results in the CEI region with the goal of sensitizing the appropriate authorities to the principles contained in the R.A.V.E. Space Spatial Education Strategy. Both strategies are addressed to local and central authorities, motivating and advising them on how to develop policies and practices that incorporate sustainable development into education and learning with the involvement of educators and other stakeholders.

In this respect, the CEI is willing to give a concrete follow-up to the R.A.V.E. Space project by promoting the use of project outcomes as important tools to encourage people – especially in CEI countries facing a transition phase – to get acquainted with the values of space. Nevertheless, due to a variety of institutional shapes in the 18 CEI Member States, the CEI will present the R.A.V.E. Space strategy as a flexible framework, given that its implementation is driven by countries' priorities and initiatives addressing their specific needs and circumstances. The CEI, thanks to its well-established institutional and operational relations with the UNECE, will explore how to activate useful synergies and benefit from the UNECE experience, with special attention to the ESD implementation mechanisms.

From a European perspective, the Council of Europe endorsed the European Landscape Convention on the basis of its active involvement in the field of an “education for Europe, aiming at helping to incorporate the principles of human rights, democracy, tolerance and mutual respect, the rule of law and peaceful resolution of conflicts into the daily practice of teaching and learning”. The Convention strives to promote European landscape protection, management, and planning, and to organize European cooperation on landscape issues. This means ensuring the protection, management, and planning of European landscapes through the adoption of national measures and the establishment of European cooperation between the various parties. In this context, R.A.V.E. Space can be considered a concrete experience of such cooperation that is also available for export to neighbour countries in Eastern Europe.

Furthermore, the initiatives of the Council of Europe that seek to promote an active role for young people in sustainable development could represent a valuable contribution to one of the main objectives of the R.A.V.E. Space project, namely to raise awareness of values of space and develop an active citizenry in this respect. Cooperation in this regard could represent a relevant project follow-up to be achieved under the coordination of the CEI, which could offer the platform for implementing concrete activities through its competent structures and networks (e.g., Youth Forum, University Network, Working Group on Youth Affairs).

To this end, the CEI has been always actively involved in the support of sustainable development and spatial planning, with a specific focus on the cooperation of environmental matters with educational and cultural areas. In addition, several NGOs, international organizations, and regional and professional forums are dealing with this issue with the aim of greater horizontal and vertical cooperation in raising awareness of the relevance of a sustainable way of life. Thanks to its institutional structures, international interactions and networking potential, the CEI is working to ensure proper “sustainability” to the R.A.V.E. Space project, by envisioning concrete joint initiatives with relevant actors in order to move towards a new-generation education.

Cooperation with International Associations and NGOs: PLAYCE and the ASC

Cooperation with the Playce Association

Playce is an international association for architectural education. It operates as a network of professionals involved in engaging young people in activities related to the built environment and public realm (www.playce.org). Their aims are:

- To raise awareness of the spaces and places in which we live;
- To promote architecture and built environment education;
- To act as an international network of professionals in the field of design, architecture, environment, and education; and
- To involve members in an open exchange of ideas and experiences of working with young people in a variety of settings.

This cooperation was successfully established by the Polish partner Innovation Foundation, who recommended engaging Dariusz Smiechowski for the realization of the programme at the CEI Youth Forum in Tirana (Albania, November 2006). At the Youth Forum he contributed to execution of the workshop and participated in the final debate. This cooperation proved to be quite advantageous for the R.A.V.E. Space project. The same expert was later also invited and actively involved as a key speaker and workshop elaborator at the Summer Camp in Lipica, Slovenia (July 2007).

Playce follows current trends of experience in the implementation of spatial education (especially architecture) in informal and non-formal ways. This experience shows that these teaching methods are more appropriate and give better results than the conventional methods generally and traditionally used in schools. The project approach to teaching captures the interdisciplinary and result-based nature of spatial and environmental issues, which cannot be assured by introducing a new subject or adding new themes into already over-ambitious goals of present day curricula.

Cooperation with the Academy for Sustainable Communities


ASC is the national centre for delivering the skills & knowledge needed to make better places (www.ascskills.org.uk). They aim to:

- Increase capacity and capability in the sector both by strengthening the effectiveness of existing practitioners, by attracting and retaining future generations of professionals who can make a contribution to the making of places for the future, and by widening access to sustainable communities careers for a much more diverse workforce;
- Improve professional practice through developing and promoting learning and skills programmes, cross-sector learning and continuous professional development (CPD), focusing especially on generic skills;
- Deliver better outcomes through sharing and adding to the wealth of research and best practice that exists in the UK and internationally, to support and inform decision-makers and practitioners, ensuring transferability of the lessons;
- Raise awareness, influencing other bodies' activities and policy so that they reflect the multi-faceted nature of Sustainable Communities; and
- Set the standard for best practice in place making through validation and 'kite-marking' services and products to raise the bar of performance and quality.

In November 2006, ASC hosted a major 'Skills for the future' symposium involving more than 30 countries from across Europe. The symposium was intended to lead to the creation of a European-wide network of organizations committed to building the skills of place-making. The R.A.V.E. Space project was invited to cooperate based on a review and evaluation of projects currently in progress across Europe. The fact that ASC selected the R.A.V.E. Space project, among other projects, serves as a positive external evaluation of our work and places us side by side with current trends in spatial education around Europe.

The R.A.V.E. Space project was presented as a case study at the plenary presentation. It was also discussed at a career pathways workshop entitled "Expanding career choices through spatial education – benefits of the R.A.V.E. Space Project". All workshops and presentations showed an evident orientation towards learning diverse practical skills through hands-on project work. Individuals' interdisciplinary knowledge and skills have proven to be of vital importance to a society that aims to become more sustainable.

Cooperation with both associations was fruitful and confirmed our assumptions that project work is the most advantageous way to enter school programmes.



Teach...Learn...Know
to live spatially!

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