Landscape dimensions

Reflections and proposals
for the implementation
of the European
Landscape Convention

COUNCIL OF EUROPE
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Council of Europe

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SUMMARY

This report[1] consists of an introduction, three parts and two appendices containing templates, exercises and photographs, for both primary and secondary schools.

The introduction considers how society views landscape today, the uncontrolled transformations it is undergoing and the gradual deterioration in the appearance of many places, the excessive use of resources and the loss of landscape quality. Consequently, society needs to adopt more responsible behaviour vis-à-vis the environment, and take landscape fully into account in spatial planning and all sectoral policies.

The origins of this growing awareness can, without doubt, be found in the European Landscape Convention and in the central importance of its innovative proposals.

The introduction accordingly summarises the convention's principles and objectives, and the measures to be adopted to raise public awareness of the features and assets of the landscape and actively involve the population in the choices made which have an impact on their surroundings. This is why it is essential to teach pupils to understand the landscape from primary school age onwards and, in this way, prepare these future citizens for the acquisition of knowledge of the problems relating to the landscape and its sustainable development.

Part one of the report looks in greater detail at the concept of landscape and the objectives in the specific measures set out in the convention with regard to raising awareness. It also looks at the provision of appropriate education and training, to ensure that people become aware of the features, assets and identity of the landscape, beginning with school education. This part analyses the principal concepts and methods to be introduced at primary and secondary schools, and offers some initial thoughts on the topics to be taught right to the end of compulsory secondary education.

1. This report has been produced in the framework of the Council of Europe activities for the implementation of the European Landscape Convention with the support of the Federal Office of the Environment of Switzerland and the Ministry of Tourism and Environment of Andorra.

For primary school children, the emphasis is placed on having a visual knowledge of landscape and carefully observing the landscape familiar to them, in order subsequently to introduce them to a more complete understanding of landscape. Reference is made to the cognitive approaches to be developed by exploring and studying images of a variety of landscapes and meeting various players involved in landscape-related activities and transformations.

It then highlights the importance of focusing at secondary school level on the interaction between natural and human events, in order to identify all the processes that give the landscape its distinctive character as a complex and connected whole and which are essential in all conception, planning and management activities.

It also underlines the importance of drawing secondary school pupils' attention to the principal perceptions and conceptions of landscape in various historical periods, as this will enable them to discover the level of interest in landscape shown by society, and gradually learn the concepts necessary to understand the cultural and scientific achievements of the European Landscape Convention.

It identifies the educational objectives to be achieved and the approaches to be followed at both levels in order to nurture full and co-ordinated knowledge of landscape. It analyses the methods necessary for interpreting the landscape through its visual significance and for understanding, in a scientific way, the situation of the landscape through the natural and cultural elements of which it is comprised, the relationships that exist (spontaneous or brought about by human activities) and the continuous developments visible in historical landscapes.

Part two, which is devoted to primary school teaching, discusses children's learning abilities, their initial cognitive experiences and the educational approaches to be introduced in the first years through active participation in knowledge acquisition, research, landscape discovery, enhancing observation, description and representational skills, by drawing what they have seen. It describes the initial analytical knowledge to be acquired, the visits to be made to landscapes new to pupils, written and visual landscape material and the data analysis sheets (see Appendix 1) to be used to foster essential cognitive development.

In part three, on secondary school teaching, examples and methodological sheets are employed to broaden the knowledge necessary for understanding and analysing the landscape – knowledge essential in the operational phases and landscape enhancement, transformation and management strategies. It refers to the subject areas that contribute to a knowledge of the landscape and materials, techniques and documents useful for teaching purposes. Teaching approaches are suggested, such as visits to different landscapes, and holding meetings with professionals, experts or other people involved in landscape-related matters, in order to obtain deeper insight into emerging issues. The analysis and interpretation worksheets on certain landscapes make it possible to go into greater detail.

The two documents in the appendices – one for primary schools and the other for secondary schools – contain templates, tables and illustrations for devising exercises, analyses and practical activities, geared to the pupils' age and class, which will help broaden their understanding of landscape.

INTRODUCTION

In today's society, the subject of landscape arouses considerable interest but it also creates needs and expectations of various kinds owing to the socially, scientifically and culturally complex issues associated with it. This is especially so due to the deep crisis apparent in the relationship between recent or ongoing human activity, the natural environment and existing landscapes.

The demands of contemporary society concern the need for a general improvement in the quality of life, a more balanced relationship with the natural environment and the integration of transformations into the landscape, according to the principles of active and innovative protection and conservation, and the enhancement of landscape identities and resources.

The expectations include the restoration and rehabilitation of degraded landscapes, abandoned quarries and disused industrial areas, an increase in recreational green spaces in urban areas, restoration of the stability of ecosystems and the enhancement and recovery of the cultural identities of historic sites.

Society is becoming increasingly aware that the landscape is not just a simple panorama but the result of the interweaving of nature and civilisation down the ages, including the territorial dimension, the relationship between structures and natural elements and man-made changes.

In order to address these issues properly, it is essential both to adopt appropriate new administrative instruments and to identify and further develop suitable approaches to projects capable of interpreting and taking account of the complexity, specific nature and variety of landscapes. This involves the use of methods capable of ensuring that the landscape is taken into account in land-use planning policies, in fact in all policies – urban, environmental, agricultural and industrial – that can have a direct or indirect impact on the landscape.

This awareness on the part of society concerning all aspects of land transformations, the upgrading of all landscapes and the need to adopt responsible forms of behaviour in order to contribute to their sustainable and balanced development is based on the principles and objectives of the European Landscape Convention.

As a result of the cultural and political guidelines contained in the convention, which are already explicit in the definition of landscape and the innovative cultural, ecological, environmental and social proposals it puts forward, European countries have placed a new focus on landscape. The guidelines and proposals have aroused particular interest not only among administrators, professionals and specialists in this field but also society as a whole, at a time when abilities to plan and change land use and reclassify and create new landscapes are no doubt more highly developed than in previous periods of human history.

The European Landscape Convention has returned to the landscape its strategic importance by encouraging the contracting states to ensure the uniformity of the rules and regulations governing the measures taken and changes to the landscape, according to models consistent with sustainable development. It underlines the importance of the attention that must be devoted to landscapes and the values they

embody, not only in parks, protected areas or areas of outstanding significance, but also in all areas and in land-use planning policies in general.

The convention clearly states that, in order to achieve these objectives, it is necessary to teach people to understand the landscape and its constituent and characteristic elements, and to promote an understanding of its value and continuing evolution. It is vital that people become more aware of measures aimed at improving their living environment and thus become involved in, and made more responsible for, the sustainable development of the landscape. Therefore it is necessary to promote, from early school years onwards, the appropriate education to ensure that individuals are taught to perceive the features, identities and values of the landscape, beginning with where they live.

Thanks to the convention, the landscape has become not only an important source of reflection and action for professionals and governments but also a new and important focus of attention for future citizens, enabling them to gain a better understanding of their environment and, above all, devote new attention to the landscape. This transforms it into an active perception of landscape as a subject of knowledge. The convention places on signatory states an educational objective that should be pursued at all levels of schooling – from primary school to university – in order to educate, at European level, a population that is both aware of landscape-related issues and is involved in its protection, management and sustainable development.

Principles and objectives of the European Landscape Convention

The European Landscape Convention, adopted in Florence on 20 October 2000 under the auspices of the Council of Europe, is an international treaty devoted entirely to the protection, management and planning of all dimensions of European landscapes.

In Article 1, it defines landscape as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" and stresses that landscape is also an asset, a resource inherited from the past, that must be handed down to future generations. It emphasises, from the preamble onwards, the desire to promote the measures necessary to contribute to the sustainable development of the landscape in all its dimensions "based on a balanced and harmonious relationship between social needs, economic activity and the environment". This is an important objective that makes it necessary to seek solutions capable of addressing the large number of complex problems facing European landscapes, which are now undergoing constant and rapid change under the influence of the many different human activities and measures – industrial, agricultural, urban planning, infrastructure, tourism – impacting on the environmental balances, identities and visual qualities of European landscapes.

Decision makers must introduce policies capable of protecting, managing and planning all landscapes, by maintaining their cultural identity and preserving the shared assets of European countries, for present and future generations. The convention relates to all landscapes, both those considered outstanding and those that form part of everyday life or are degraded, since they can all contribute to the well-being of the population.

This important international instrument, ratified by a large number of Council of Europe member states, clearly indicates (in the preamble and four chapters divided into eleven articles and seven final clauses) the general principles, objectives and strategies required so that each state, by adopting the relevant protection, management and planning policies, and by establishing procedures for the participation of the general public, can contribute to sustainable development based on a balance between the environment, social needs and economic activity in all European territories and in the various national, regional and local situations. It also recommends co-operation between states, based on a pooling of experience and information.

General provisions, scope, specific measures

In order to achieve its objectives the European Landscape Convention attaches considerable importance to the relationship between the landscape and human beings: human beings have always contributed, down the ages and in different ways, to shaping, transforming and managing the landscapes of today. The landscapes of everyday life contribute to individual and collective well-being, which meets society's needs and aspirations and enables social groups to recognise those aspirations, pursue their activities and access goods and services.

Landscape is "an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity", a "key element of individual and social well-being".

The convention places on signatory states a requirement to raise the awareness of civil society to the value of landscapes, their role and changes to them. By ascribing a value to the active role of the public in the context of landscape changes, it emphasises the importance of active participation, which is not a choice but a duty that imposes tasks on everyone, and of effective consultation in order to take account of individuals' aspirations and demands.

The need to establish procedures which involve people in a participatory approach is one of the major innovations introduced by the convention. The aim is to cause the public to identify the values of the landscape and remain alert, in order to prevent ill-considered changes. The participation focuses on the "population concerned", that is, those who recognise in the landscape their living environment, their aspirations and the landscape values to be protected.

Parallel to this need for participation, the convention stresses the need to develop the approaches and procedures necessary for public authorities and experts to ensure that a participatory process is officially available to the public. In order for these outcomes to be obtained, the convention introduces specific measures to be established by countries as part of a large-scale effort to open up landscape-related topics and issues to democratic discussion, in order to raise awareness of the value of the places where people's daily lives are played out, and to be more responsible for the protection and sustainable development of these places. If they are asked to take part in decisions on their living environment, they must be properly acquainted with the values of these landscapes, the changes planned and the positive or negative consequences that might result.

Numerous activities can be considered in order to arouse interest in the landscape of different groups of young people and adults with regard to quality objectives; contributing to harmonious interaction between human beings and nature; and improving the quality of life of society as a whole. However, above all it is necessary to foster an awareness of the landscape question at all levels of education and training.

Awareness-raising and landscape education and training must therefore, in combination, become the measures required to contribute to implementing the convention. Awareness-raising is extremely important and involves information covering numerous activities, but it is not the same as providing conclusive reflections on the identification and development of landscape qualities, or on methods that enable the convention to be understood and implemented.

The convention clearly states that this innovative democratisation of the landscape debate involves the need for institutions to promote "multidisciplinary training programmes in landscape policy, protection, management and planning, [in] school and university courses which, in the relevant subject areas, address the values we attach to landscapes and the issues raised by their protection, management and planning".

Awareness of landscape-related issues and problems must, therefore, be raised via the teaching of young people at school, and be tailored to their age.

The approach to landscape issues must begin at the primary school level by enabling pupils to learn the initial concepts relating to the world around them, and discover the natural elements and human factors that form the landscape.

In secondary school classes, numerous subject areas can, in combination, help illustrate the complexity of the landscape. Landscape education is not in fact a specific discipline but involves a range of subjects concerning and interlinking the diversity and multiplicity of elements of which the landscape consists.

In addition, it is very difficult to establish uniform teaching rules, owing to landscape diversity, geographical situations and natural and cultural features, as well as the many different ways in which schools and universities are organised in the various European states. However, it is possible to suggest educational methods and processes that can be easily transposed to different countries in order to harmonise teaching guidelines. It is also possible to encourage co-operation on curricula between different European schools, and to foster student mobility at higher education institutions. This will be discussed below.

1. APPROACHES TO LANDSCAPE EDUCATION IN SCHOOLS

1.1. Landscape education and teaching

In drawing up this report on landscape education, especially on the subject of school and university courses (which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning) it was necessary to take account of two important – indeed fundamental – principles laid down by the European Landscape Convention concerning considerations and observations regarding landscape education: "Landscape means an area,

as perceived by people, whose character is the result of the action and interaction of natural and/or human factors", so it is necessary to take account of the "aspirations of the public with regard to the landscape features of their surroundings".

These are "general provisions" that highlight the importance of the link between populations and the landscape, and emphasise the need for a participatory process with regard to the protection of the qualities and features of their surroundings. This is the basis of a new landscape culture that sets itself the objective of ensuring that people understand the relationship between the elements, both natural and cultural, of the surrounding landscape of their daily lives and that they appreciate the same landscape quality objectives to be achieved with regard to human activities. This enables them to take part in "sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment".

People must become aware that the landscape is part of their daily environment and culture and that, while human interaction with the physical aspects of an area has, down the centuries, contributed to creating and transforming landscapes, individuals now have the responsibility and the right/duty to play an active role in the protection, management and sustainable development of the landscape. The convention states that the landscape is "an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity" and "is a key element of individual and social well-being".

An important objective to be achieved is emphasised in the "specific measures" to be implemented by each party "according to its own division of powers" in order to introduce the landscape policies laid down by the Convention. In its schools and, subsequently, its universities, a country must promote multidisciplinary curricula to enable pupils to familiarise themselves with, and understand, "the values attaching to landscapes and the issues raised by their protection, management and planning". This will enable them to contribute to providing all individuals with education and training that ultimately gives them a full and comprehensive understanding of the landscape through a knowledge of its natural and cultural features, its identity and resources and enables them to participate in the search for better ways of managing the landscape, to ensure its sustainable development.

This important text, now the focus of an international debate on theoretical and practical landscape issues, is a very useful instrument, especially for educational activities in schools, as it makes it possible to significantly raise awareness of those issues in society, and helps individuals of all ages improve their knowledge of the landscape in which they live.

In order to ensure the implementation of the European Landscape Convention, the Council of Europe wanted schools to provide the teaching necessary for their pupils to understand the landscape and develop their abilities to interpret its features and appreciate its values and transformation processes. The aim is to make children and young people aware of the value of the places in which they live, not only encouraging them to be more responsible regarding their future participation in the management of their landscape but also to develop their interest in other places and cultures.

Landscape education in the case of children and young people is therefore a key instrument that will turn them into citizens capable of participating responsibly in decision making and being involved in choices relating to future changes to the landscape – an instrument that should be carefully considered with regard to building the fundamental knowledge relevant for the entire population, as far as their own landscape is concerned.

1.2. Approaches to landscape education: educational objectives in the classroom

The aim of this section is to introduce and discuss the subjects to be developed in the classroom, the important concepts that will need to be incorporated at different teaching levels with regard to landscape education, and ways of getting to know and understand the landscape to be introduced and developed at different primary and secondary school levels.

The key concepts will accordingly be analysed with respect to the subject of the study (the landscape), the objectives to be achieved and the methods to be applied to obtain a progressively clearer in-depth knowledge of the values and specific features of landscapes, their structures, the elements and processes that characterise them and the ways in which they interact. It is therefore necessary to teach and apply, from the first years of schooling onwards, certain basic concepts that are useful for understanding the landscape, which is a complex unit consisting of elements of natural origin and others introduced by human activity and characterised by reciprocal structural and functional influences.

An attempt will be made to discuss in the first instance the following points:

- To what does the convention refer when it uses the word "landscape"?
- What does the convention seek to achieve – through the wide range of geographical features, landscape identities, languages and cultures of the various Council of Europe member states – by promoting the teaching of landscape at various school levels, especially – in this case – primary and secondary education?
- How can the methods of teaching landscape be harmonised, given the diversity of countries and geographical, cultural, political and economic situations that have contributed to their development, when the aim is to enable people to pursue common goals concerning the protection, management and sustainable development of landscapes?

The second subject of this section are the questions and methods to be employed in order to contribute, from primary school upwards, to educating pupils in order that, through careful observation, they can recognise the elements and processes that characterise landscapes, beginning with their experiences in daily activities and promoting, from childhood onwards, their curiosity and cognitive autonomy with respect to the landscape around them. This is also about the educational approach to be followed to identify:

- ways of developing powers of observation and criticism in secondary school pupils with regard to landscapes which they have already become familiar

with, and analysed during previous school years, teaching them to describe and analyse them using the appropriate methods and graphically record them with the aid of a set of suitably scaled maps;

- the methods necessary to arouse the pupils' interest in the landscape around them by developing their interest in a cultural heritage to be preserved and enhanced, with the aim of achieving sustainable development;
- the educational process necessary to contribute to pupils' understanding of the natural and man-made features of landscapes, by gradually developing over time a knowledge of the basic requirements for implementing the principles and objectives of the convention;
- the disciplines that can and should be involved in continuous co-operation at the different school levels in order to gain a deeper knowledge of the landscape.

According to the European Landscape Convention, "Landscape means an area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors".

Our life on earth is in daily contact with the landscape, which appears before our eyes as an image consisting of natural and man-made elements that are interlinked in different ways (hills, rivers, lakes, woods, trees, houses, cultivated fields, roads, canals, villages, towns, factories, etc.) – an image that determines an individual's first cognitive-subjective experience of the landscape and arouses in each of us aesthetic emotions and feelings of pleasure (or rejection).

However, the landscape is not only the image we see using our sense of sight, and the relationship between the various senses, because it is real, like the numerous elements and objects of which it consists: each natural element is bound up with other elements according to natural laws and processes (terrain, climate, types of soil, exposure, water resources, vegetation, etc.) and the uses of natural resources available and measures introduced into the environment by human beings down the centuries, in order to meet their needs.

All European countries possess infinite landscape variations, which are a manifestation of the diversity of cultures, forms of legal and social organisation and people's ability to adapt and enhance the environment. They feature a wide variety of outstanding landscapes for their beauty, their qualities, their identities, their natural and historical values and the many different ways in which the land is used and transformed. Each of these landscapes reflects customs and a quality of life manifested in the organisation of towns and villages and in the principal agricultural, industrial and tourist activities carried on throughout the country. They are complex units that are always evolving according to natural events or human intervention. For a hundred years now, transformations have succeeded one another with tremendous speed and with a huge impact compared with the past, sometimes causing profound changes to cultural identities and environmental balances.

The convention attaches great importance to the relationship between the landscape and human beings. Indeed, everyday landscapes can, as a result of their aesthetic quality and environmental balance, contribute to individual and collective

well-being and meet the inhabitants' needs and aspirations. However, there are also places where degradation, loss of biological quality and loss of landscape identity caused by the poor quality of human interventions in living spaces have helped give rise to negative phenomena: abandoned land, buildings in ruins, uncontrolled waste disposal, slope erosion, and so on.

In order to resolve the major problems facing contemporary European society, appropriate action needs to be taken to ensure the protection of the natural and cultural assets of landscapes, in order to contribute to the rehabilitation of degraded places and, at the same time, meet the population's need for well-being from a sustainable development perspective "based on a balanced and harmonious relationship between social needs, economic activity and the environment".

The convention contains a new and important message of great common interest: the benefit to society as a whole of the beauty, value and identity of our landscapes by arousing people's interest and a sense of responsibility. This outcome must be obtained by beginning as early as primary and secondary school level to combat indifference towards beauty or ugliness, and by re-embarking on a virtuous path comprising knowledge, research, protection, enhancement and conscious participation in the development of a landscape that is sustainable with regard to its natural balances and cultural qualities.

1.3. Primary and secondary education

The following observations are intended for European countries to which the convention is addressed and concern in particular the objectives to be achieved in landscape classes at European primary and secondary schools.

It is necessary not only to define the focus of the subject being dealt with – that is, landscape education at primary and secondary school – but also to specify the objectives and results it wishes to achieve.

Starting from the premise that the landscape is an important common asset and a cultural, ecological, environmental and social resource, it is necessary to make the population more aware of the value of the landscapes they know and experience, and to show greater interest in the activities that transform them.

The initial dissemination of knowledge about landscapes logically begins at the start of compulsory education and is gradually developed in greater depth in a co-ordinated way, geared to the pupils concerned, during successive classes on the natural and man-made features of landscapes and their interrelationships.

However, the main theme that should guide teaching in order to develop the best strategies and methods to achieve the goals and objectives set out in the convention must be clearly present from the very first years at primary school.

With regard to the most suitable concepts, methods and techniques to foster appropriate and constructive approaches to landscape-related learning and knowledge, thus contributing to the implementation of the convention, reference should be made to the most common compulsory age-based stages of education in Europe.

It is clear that European countries differ slightly from one another, both with regard to the duration of a stage of schooling and the age at which pupils begin compulsory education. The reference baseline, however, should take account in particular of abilities and possible learning methods.

The first step is to determine the duration of primary and secondary education (also referred to as compulsory schooling) and the ages of the children who attend these two levels or stages of education.

Let us therefore assume that the duration of primary school is five years and that teaching during this first level of schooling is generally for children aged 6 to 11. Nursery schools, which are clearly very important for a child's development, are not taken into consideration as they belong to the pre-school stage, which is not usually compulsory.

It is then assumed that the duration of the lower level of secondary school, which is the logical continuation of primary school, lasts three or four years (that is, for children between 12 and 15).

The upper level of secondary school is normally not part of compulsory schooling, but we will make a number of helpful observations at the end of this report.

1.4. Past concepts and thinking on the subject of landscape

It is necessary to understand the importance of the role played by the European Landscape Convention in defining the concept of landscape and the principles and objectives that must not only help ensure its protection, management and sustainable development but also raise the awareness of authorities, professionals and the public with regard to different landscapes. Thus it may be helpful to go back briefly and give an overview of the various concepts, interpretations and theories that have characterised people's knowledge and understanding of those landscapes in the last few centuries.

For a long time, the landscape was identified as the "visible aspect of an area", like an image perceived using the power of sight or belonging to what the geographer Eugenio Turri defined as our "world of perception" – an image often imbued with personal emotion and produced as a result of our own sensitivity and culture, and based on a deep affinity with the places concerned and the identification of their symbols and values. The term "landscapes" was used for spaces that could be taken in visually, images reflecting the interests, tastes, sensitivities and appreciation of societies in different periods, and in cultures with different histories. These images have been handed down through paintings, mosaics and literary descriptions, as well as through activities carried out in the areas concerned.

Down the centuries, poets and painters have, through their works, expressed the feelings and subjective reactions that the landscapes in question aroused in them as artists. The term landscape was used for what geographers, historians and naturalists described and documented through their studies, the product of the specific environmental features and physical diversity of the places observed and analysed.

Landscapes have long been depicted in painting and literature by many artists and authors. They have conveyed in their works what they observed in the areas around them, reproducing the images seen through a sensitive and personal interpretation.

The landscape was present in the background of Renaissance paintings, conforming with the aesthetics of art at that time. It was reproduced in garden art in accordance with the standards of regularity and symmetry applied even to vegetation.

Still in the Renaissance, Montaigne also described aspects of the countries he visited on his travels by exploring the lives and work of people in cultivated fields and terraced farming, just as was done in art and architecture.

From the beginning of the 17th century, European aristocrats on the Grand Tour described in their travel diaries the landscapes of the regions visited, and in many cases what remained of the ruins of Ancient Rome, with idealised picturesque or Romantic overtones. In the 18th century, painters such as Poussin and Lorrain adopted a style characterised by a mythical and bucolic atmosphere filled with objects, architectural structures or characters from mythology.

Up to the end of the 19th century, the landscape was interpreted, portrayed and analysed as the result not only of what had been seen but with the perceived images transformed by the aesthetic sentiments of the day, such as admiration, regret or amazement, with contrasting forms, light and shade through wild, picturesque or sublime interpretations.

Numerous geographers, most of them German and French, who devoted their efforts to the discovery of countries at that time unexplored, made the landscape the focus of their work, carrying out important research by gathering data on places visited, landscapes and the peoples inhabiting them. Between them, their descriptions linked the forms and features of the area concerned, as well as differences in climate, morphology, land use and social customs. They converted the aesthetic concepts of landscape, literature and painting into an initial method of scientific investigation that highlighted the features of the environment and the landscape, by analysing them through the links existing between the physical conditions and how the different populations inhabited the territory and exploited its resources.

In the interpretations subsequently made in the early 20th century, the focus on the landscape was extended to include the human presence, inhabited sites and land use, bound up with different territorial situations, but without disregarding the visual and aesthetic aspects and the interpretation of the symbols characterising the different places or the significance and values of the different forms of the territory, and the manifestations of the human presence.

During the 20th century, the term "landscape" entered the language of many disciplines, such as geography, geology, botany, agronomy and forestry, archaeology, history, architecture and urban planning, according to a precise scientific and methodological framework, in the light of the content and significance attributed to it by the different subject areas.

Of note in this context are the studies published in 1961 by the agronomist Emilio Sereni, who referred to an overall framework of conditions and natural agents,

techniques, demographics and historical events that "are expressed in the evolution of the forms of agrarian landscape" (Sereni 1961), the major contribution of the geographer Turri, who saw in the landscape the "mutual interactions of human activities and the natural environment" (Turri 1998:24), and the reflections of the philosopher Rosario Assunto, who replaced Benedetto Croce's concept of "landscape as a painting" by the broader and more extensive concept "landscape, a place steeped in history" (Assunto 1994).

In the 1970s, in the wake of the ecological movement, scientific thinkers began to analyse ways of renewing the harmony of the living and non-living world in a unifying and global vision and looked more closely at methods of interpreting the complexity of the landscape. This was considered to be a phenomenological domain where the main protagonists are human beings, who trigger a wide variety of interlinked processes.

Despite the valuable contributions made by the many works published and the research carried out, the framework for defining and interpreting landscape was still fairly disparate and sector-based at the end of the last century.

Towards the mid-1970s, the English landscape architect Sir Geoffrey Jellicoe stressed in his book, *The Landscape of Man,* that "it is only in the present century that the collective landscape has emerged as a social necessity. We are promoting a landscape art on a scale never conceived of in history" (Jellicoe and Jellicoe 1975).

Kevin Lynch, in his renowned book, *The Image of the City*, focused on the problem of the "perception" of the urban landscape as a social fact and recognised among the principal "values" of the landscape what he termed "legibility", identity and the ability to foster a sense of orientation (Lynch 1964).

The urban planner and ecologist Ian McHarg defined landscape in his book, *Design with Nature,* as a collective asset and a spatial entity in constant evolution resulting from the unceasing combination of an ecological and historical determinism. He compared it to a large mirror reflecting natural situations and man-made transformations, as well as their historical sedimentation (McHarg 1995).[2]

These observations show that the landscape is a subject that has always aroused interest and curiosity but the absence of a clear interpretation of the term "landscape", and of well-identified cultural principles regarding its complexity and development, has resulted in different epistemological routes and given rise to different methods of analysis, knowledge-gathering and evaluation at the level of aesthetics, through perception.

The reason for the considerable interest aroused by the European Landscape Convention is the recognition, as we have seen above, of the landscape as a resource and community asset. That recognition is extremely important not only for the definition of landscape and the values attributed to it – the landscape is a "community asset, an essential component of people's surroundings" – but also for extending the focus

2. McHarg was a landscape architect highly regarded for his study of land-use planning based on a report on natural systems. He encouraged the application of a methodology founded on ecological considerations, by using analysis of soil, climate, hydrology, etc.

on landscape to "the entire territory … natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas. It concerns landscapes that might be considered outstanding as well as everyday or degraded landscapes". One of the particular reasons for this approach is the widespread observation of many serious instances of uncontrolled urban planning, rural abandonment, pollution of natural resources, damage caused by tourism to coastal areas, to hills and mountains and the loss of historical, economic and ecological assets that were bound up with the landscape and represented significant evidence of human culture and civilisation. There are many urban, peri-urban and agricultural landscapes that show the adverse effects of standardisation, such as building types, the use of materials, the abandonment of age-old cultural traditions and rural identities, and the use made of vegetation.

By noting that all landscapes provide evidence of their natural, cultural, economic and social value and can exert influence, both positive and negative, on the inhabitants' quality of life, the convention has stipulated that all landscapes must be protected irrespective of the qualities attributed to them and requires countries that have ratified it to transpose its provisions in order to guarantee (according to their respective powers) the protection of these values and to set themselves the goal of achieving the "landscape quality objective" to bring about sustainable development.

The convention emphasises, for example, that any operation carried out in the territory must meet development requirements and the environmental needs of present and future generations in equal measure. In order to achieve these outcomes, it highlights the need for people to play an active role in seeking common and shared solutions to the major natural and cultural problems facing landscape and it stresses the need for the appropriate "awareness-raising" of society to enable it to participate consciously in achieving the sustainable development objectives.

In order to obtain the best results from active and conscious participation, it is necessary not only to conduct awareness-raising campaigns but also to promote educational activities that can form the very basis of that participation.

If this important democratisation of landscape is to come about by appropriate ways of raising public awareness, then the objectives of the European Landscape Convention must be pursued through "school and university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning". Specific study methods have to be established and developed at all levels and at different stages, from the early school years onwards, in order to ensure that, at European level, people are aware of landscape issues and that all future citizens are aware of the problems faced by their living environment.

1.5. Educational aspects

The aim of the convention is "to increase awareness among civil society, private organisations and public authorities of the value of landscapes, their role and changes to them … [through] school and university courses which, in the relevant subject areas, address the values attaching to landscapes". This awareness must be fostered by educating both the population in general and, in particular, pupils of all

ages at several teaching levels. However, it is from the very first school years onwards that education can promote a better approach to a study of landscape through the acquisition of initial insights into the world around us. Education appropriate to different age groups can help raise awareness of the features and values of a landscape.

The educational activities of primary school children are the starting point for organising landscape education and identifying and describing natural features and human factors.

Approaches to the discussion of landscape issues will inevitably vary from one European country to another, owing to geographical, historical, cultural and political differences, but issues affecting many areas, including the landscape, are common to all and therefore are ideally suited to an interdisciplinary approach.

Landscape education, in both primary and secondary schools, cannot constitute a specific discipline in itself but must be an education and learning process aimed at developing in pupils a concern for, and interest in, a new way of becoming familiar with and understanding a landscape, beginning with the one they know and experience. This is in order to reach pupils using their memory, main interests and everyday habits and enabling them gradually to discover a new way of perceiving the things around them and to analyse their role and significance.

Present-day education must be dynamic and innovative, interdisciplinary and holistic. It must enable new experiences to be gained through visual, verbal and graphical methods adapted to pupils of different ages, and it must help develop initial abilities to evaluate landscapes in relation to the practical issues of protection, management and planning.

1.6. Ways of getting to know and understanding the landscape

A knowledge of a landscape can be acquired both subjectively and objectively – two useful methods for understanding the levels at which life is organised in a given area. It is acquired subjectively by sight. Each landscape, panorama and group of visible elements around us is perceived by individuals and the community in general subjectively, through their different senses, but mainly their eyes, in perceptible shapes and sequences. Sight played a key role in the landscape-related culture of the past. It made it possible to take in the images of nature and the elements of the environment that were part of a perceptive relationship with individuals and the community in general. It enabled the most suitable sites to be identified for farms, villages, paths, ramparts and castles, lookout towers, monasteries, villas with gardens, and so on, to be constructed.

The ability to see, which most individuals possess, is also associated with aesthetic appreciations, which are also subjective. It gives rise to opinions or value judgments on the landscape, which is seen as beautiful, ugly, pleasant or unpleasant.

What people perceive through their eyes may be the subject of a process of developing images seen according to each individual's culture, memory and power of perception. It is a process that has led individuals to interpret the physical environment according to its values and potentialities and to transform the perceived sensory stimulations into the behaviour to be adopted vis-à-vis the surrounding landscape.

However, when it comes to ensuring the protection, management, planning and sustainable development of the landscape, its complexity, diversity and homogeneity must be analysed more closely from the scientific and objective point of view. It is necessary to identify and analyse the diverse constituent elements of landscapes, which vary from one another, to acquire the knowledge that enables the true nature of the landscape to be understood, and to refer to the analytical methods employed by different subject areas that help one gain that understanding. Reference must be made, for example, to the interpretation of geomorphological structures in order to understand the structural features of hilly or mountainous landscapes, valleys or coasts and their potential or vulnerability when changes are made. Finally, hydrological phenomena, biological elements and vegetation (forests, woods, meadows, etc.) and man-made elements have to be analysed in order to establish, through an interdisciplinary approach, a holistic view of the main functional and structural relationships of the landscape.

Specific study methods are employed to analyse the genetic codes of the landscape and the processes that bring about changes, and to continuously link its structure and its geomorphological, pedological, hydrological and climatic features with the colonisation of the soil by plants, and the many different changes and alterations made in the course of time as a result of human action.

By studying the landscape, it is possible to understand the evolutionary processes that have taken place in the course of time following spontaneous changes, earthquakes, floods, landslides, and so on.

In order to obtain an objective knowledge of the landscape, there is consequently a need for several interlinked disciplines in order to identify the significant elements of a varied and complex entity consisting of a natural and a human part. At secondary school level, it is necessary, broadly speaking, to access interpretive material:

- a physical analysis of the inert-abiotic component of the landscape, in order to establish, for example, its origin, structure, geological conformation, height, the slope and dynamic nature of terrain, the origin and conformation of glacial and fluvial valleys, and hydrological features (rivers, lakes, torrents, etc.);
- an analysis of the biological component, which covers the inert element, and therefore an analysis of the vegetation (trees, shrubs, grasses), of the composition and extent of the vegetable elements (woods, meadows, pastures, oases, etc.) and the phytosociology that characterises them, and of the fauna present in various places;
- an analysis of the man-made component: human transformations of landscapes in order to make them capable of supporting life, activities and the development and well-being of the community. Identification and analysis of the countless human interventions in different environments and geographical situations: crop production in fields and terraces and the construction of towns, roads, industrial and tourist complexes, major transport infrastructure, ports and airports. This is knowledge that history lessons can further develop;
- an analysis of the historical and cultural component, in order to interpret, in the structure of the landscape, signs and evidence of past events by conducting research directly on the ground and studying historical documentation and

any archives available. Thus one can understand details of the time when humans made use of elements of the natural environment and resources, and adapted them to their needs, by building homes for shelter and roads to travel on, turning the soil into farmland, cutting down trees for firewood and building and removing stone from the soil to build solid and sturdy homes and reinforce roads.

It is also worth referring to other – let us say complementary – analyses:

- perceptive analyses, which are strictly visual, cultural and semiological, as mentioned above. They highlight the relationship between the subject (the individual or the community) and the environment, and the elements that characterise the landscape perceived from precise observation points;
- ecological analyses, which involve studying the landscape by means of specific methods and parameters, as a complex and dynamic system in which physical factors and living beings influence one another. These analyses also point to the limits imposed by nature on human action and provide information on the state of the landscape by producing diagnoses on its health.

All this enables us to see the importance of gradually informing pupils at the different levels of education about the natural laws of the landscape and the various factors affecting its development:

- the laws of nature that govern all visible and spontaneous changes, such as plant growth and the changing of the seasons with its visible manifestations, as well as certain sudden and unforeseeable physical phenomena, such as rock falls, earthquakes and floods, which influence the evolution of the landscape.

On the other hand, processes leading to transformations of the landscape brought about by human action and intervention interfere with the laws of nature in a complex way. These processes may be direct or indirect and their causes can often be found, but, according to the objectives of the convention, intervention is necessary from the outset, to ensure sustainable development.

It is clear that, in order to teach these concepts effectively to primary school pupils, it is necessary to employ specific photographic and documentary material, which is often available in schools. By means of images, the subject of the development of the landscape surrounding us can be introduced by reference to natural events and human intervention.

At the lower and upper secondary school levels and, in particular, university, it will be possible to draw on different scientific analyses. This is the only way of determining the extent of the interrelationship between formal, natural and psychological factors.

In order to grasp the complexity of the landscape, over and above its visual aspect, it is essential to have an understanding of basic concepts regarding the natural elements, processes, phenomena and functions that characterise it, both separately and together, and in their correlations – in the processes of natural spontaneous formation and evolution and those processes triggered by the many measures and changes implemented down the centuries by different societies and populations, in order to adapt places to their needs.

By contrast, we often lack the knowledge to understand the landscape and work on its true nature and the evolutionary processes that it has undergone, because of spontaneous natural or exceptional events and human action infused with cultural elements, and with an extraordinary set of signs and traces of historical stratification.

An analysis of the landscape contained in scientific studies should always be present in any land-use planning activity or process: only an objective knowledge of the components and the natural, historical, social and economic processes that characterise the landscape will secure consistency regarding any new action and transformations.

2. TEACHING APPROACHES FOR LANDSCAPE EDUCATION IN PRIMARY SCHOOLS

In the field of landscape education, it is necessary to identify from the first years of primary school onwards the objectives, methods and instruments required to develop initial educational approaches to help pupils understand what the landscape consists of, a goal that will be reached, step by step, due also to the subjects taught throughout the school year.

It is necessary to introduce educational approaches to discover and acquire an active knowledge of landscapes and to be able to interpret and understand the elements that make up and characterise landscapes. This will begin with local landscapes as these are the familiar landscapes that the children know and experience and which will help them understand the territorial context in which they are living. The educational information they are taught, in a course of lessons that gradually reinforces their sense of belonging to a territory, can then be turned into analyses involving both rational and emotional arguments.

During the five years of primary school, when children between 6 and 11 years of age are beginning to show more maturity, this journey of discovery and knowledge can encourage greater interest in the landscape around them. Understanding of its influence on their quality of life will enable them to participate more and more actively in observing and recognising the diversity and beauty of landscapes, their values and the changes occurring there.

Understanding landscape as "an area, as perceived by people" means that the future of landscapes depends on what the collective consciousness recognises as values, and on choices made by society that may be crucial for the years to come.

2.1. The variety of European landscapes

It is clearly difficult to develop standardised school courses when European states have different rural, urban or peri-urban, tourist or industrial areas and have different ways of protecting and managing natural resources, different land-use planning, transport and urban planning policies, and so on.

Approaches to landscape differ according to the situation and the type of environmental problems resulting from cultural and geographical differences and, in particular, landscape transformations. These issues are common to various countries

but they affect many areas of life, which suggests there should be synergy between disciplines relating to different factors and aspects of the landscape.

Lessons will also have to take account of ways of perceiving the landscape bound up with how it is experienced, observed and understood as a common good. Landscapes exert a subtle but deep influence on the way we are and on how we see and act in the world.

2.2. The child's landscape

In introducing in this section a number of thoughts on the teaching methods to be developed in an initial course of lessons on landscape for primary school children, we believe it is worth referring to certain observations made by sociologists, anthropologists and geographers on children's relationship with their landscape. We mean by this the landscape within them, the one that they perceive, assimilate and memorise, that guides their behaviour and actions and that stimulates their imagination.

Children learn very early on to allow themselves to be guided by their own senses, not only in spaces familiar to them but also in urban spaces or out in the countryside. Learning (that is, the acquisition of knowledge) begins at birth, develops with movement, is enhanced by experience and by sharing information and is constantly fuelled by individual or collective experiences.

When it comes to developing autonomy and the skills that a child must acquire, geographers refer to three objectives:

> The first is to ensure that children recognise the existing dependent relationships at work in their natural environment; the second is for them to be capable, in this context, of finding their own way about; the third is for them to open themselves to discovery, internalisation and practical respect for the values of the environment (Vecchis and Staluppi 1997:105)

When sociologists analyse the mental representations of the child's space they refer to "two concepts: perception and learning. Perception is both a phenomenological experience and an instruction for action and involves the reception and development of information from the external environment. It engages all the senses, especially, of course, sight, and develops according to actions triggered by movement". It is linked to "the disposition, in the complexity of the area, of natural and man-made elements … No feeling is independent. Rather, it develops within a system, unless the presence of adverse conditions leads to feelings of unease or 'cognitive leaps'", (Gazzola 2007:109).

Sociologists also speak of children's "cognitive maps", by which they mean images of the space around them. These maps are produced on the basis of information and data from different contexts and memorised in connection with a wide variety of situations and relationships.

It has been stated that there is:

> a slight correlation between the spatial features of cognitive and objective representations; a relatively significant correlation is noted only with respect to a circumscribed space … Cognitive spatial maps are part of cognitive maps and refer to images and cognitive representations of the environment (Gazzola 2011: 116)

According to most specialists in this area, these representations constitute a kind of pivot, a link between the individual – in our case, a child – and the social and physical environment.

Children tend to perceive a town as a collection of open spaces and their own district as a collection of circumscribed spaces (such as courtyards and gardens). They often depict in these spaces people, animals and natural elements such as trees, flowers and birds.

The drawing technique employed in the case of cognitive spatial maps may help analyse the child's image of the landscape – its way of sensing and perceiving the situation – especially in the case of an inhabited urban landscape, which is more frequent in individual children's portrayals.

2.3. Awareness-raising processes and landscape education in primary schools

In landscape education, schools should take into consideration educational activities and learning processes that are appropriate for the classes, ages and different stages of mental development of the pupils concerned. They should ensure overall educational continuity together with the primary school teaching staff and, if possible, some teachers of the first secondary school class. This continuity should be developed throughout the educational process, avoiding any unhelpful superimposition of concepts and a lack of information necessary in order for learning to progress. There is one generally observed weakness in education courses, especially at secondary school level: the limited time allocated to topics concerning the area and the relationship between human beings and the environment. This makes it difficult to identify a specific subject area in which to develop an initial approach to landscape that directly involves building a progressively deeper critical awareness among future citizens of the problems faced by the landscapes that form part of their everyday lives.

There is a need for more intensive efforts to be made to raise awareness, including the awareness of teachers, in order to ensure the continuous provision of the appropriate educational input on the subject of landscape once the limits to school activities have been overcome in the subjects concerned. It is crucial for the official bodies involved to devote considerable attention to this and make a proper contribution in this direction, both to teacher training and the co-ordination of activities aimed at the acquisition of a knowledge of the values attached to the landscape and landscape protection, management and planning.

Primary school education should contribute to pupils' cultural development through a multi-stage approach that enables them to familiarise themselves with and understand the landscape, beginning with the one familiar to them. In this way, it will be possible to provide an initial understanding and functional evaluation of landscapes in preparation for the successive formulation and application of the principles of landscape quality, protection and planning (with reference to the provisions of the convention).

The five years of primary school are sometimes split into three stages according to age and teaching objectives: a first year followed by two two-year stages.

As mentioned in the previous section, primary school landscape education cannot be a single course of lessons but must be regarded as a subject in which several disciplines work together in a general process of building knowledge of landscape. Broad interdisciplinary links between subjects taught during the year need to be established in order to encourage recognition and interpret the processes, signs and phenomena relating to nature, the human presence and human activities.

The most common types of teaching during compulsory schooling are didactic instruction, hands-on experiments and direct observation and fieldwork.

In order for didactic instruction to be effective, it must be presented in the form of verbal, pictorial and concrete communication that pupils can use to build and process concepts by separating out the properties common to the various objects. It is effective when the intention is not to teach concepts but to have pupils construct them. This is when the lesson becomes a research activity in the form of new discoveries and knowledge, with the work being finalised with practical workgroup sessions.

2.4. The organisation of activities in primary school landscape education

At primary school level, the first steps to follow to introduce children to a knowledge of landscape must include active processes, making use of educational opportunities during which the pupils are turned into protagonists, drawing on knowledge that they already possess and beginning with places known and familiar to them.

From the first year of primary school, teachers should ensure that children become protagonists with regard to knowledge of a landscape of limited geographical extent by engaging in active participation based on a process of research, curiosity to explore and discovery. This process first of all requires them to be taught how to look at a familiar landscape experienced every day by transforming the simple act of "looking" into "observing" and enabling them ultimately to recognise objects that normally escape their attention. In this way, pupils are taught to look with observant eyes at the surrounding environment that they see every day.

This process will be all the more significant if the place is familiar to the children, but at that moment they will no longer manage to activate their ability to discover and contemplate, so it is necessary to restart this ability to listen, touch and see and to recognise smells, scents and sounds by leaving sufficient scope for surprise and emotions when something may still be unexpected and unforeseen.

At this first stage, it is desirable for the approach of research, curiosity to explore and discovery to take place in situ, that is, in open-air lessons, by means of direct observation or making use of special teaching areas set up for this purpose, or even special classrooms equipped for drawing or projecting pictures and films.

Direct on-the-spot observation is the first phase of a landscape education process successfully introduced in some schools. It provides an initial understanding that,

starting from the known and experienced landscape, is gradually applied in the following years to other landscapes situated outside the area in which the pupils live and beyond their normal visual environment by undertaking school outings, trips and field investigations meticulously prepared in class.

The transformation of the usual act of seeing the landscape into looking at the landscape through direct observation fosters the subjective perception that begins to bring together the visually different elements that make up the outdoor space perceived by everyone spontaneously and subjectively through their different senses (hearing, smell, touch and, especially, sight).

It is through perception that it will be possible to activate the ability to recognise the difference between natural elements and those created by human activity, and then gradually identify, with the teacher's help, the different relationships between them.

Through perception we begin to grasp the more obvious and more significant presence of natural elements and signs, objects and human interventions that make it possible to start identifying the relationships of interdependence between the natural factors of the landscape and man-made modifications to it.

A child's sense of observation can be stimulated through the identification of natural elements and objects of human activity that help him or her recognise a familiar place, such as trees along the street leading to the child's home, the garden fence, the school building, the church square or the tree-covered mountains in the background. Looking at the landscape with observant eyes therefore helps pupils begin identifying the landscape and connecting it with the one to be subsequently studied.

Activities in landscape education

Sight: seeing things with which we are too familiar sometimes prevents us from activating our capability for discovery and contemplation
Observation: learning to examine the things around us in a new way and with observant eyes, thereby fostering the element of surprise and the ability to listen, touch, observe and discover
Perception: a subjective, spontaneous visual experience generated by sensations provoked by viewing perceptible forms; image of a situation that produces aesthetic judgments
Exploration: acquiring the basic insights to identify and understand the natural and human factors that characterise the landscape
Identification: understanding, interpreting and attributing roles and meanings to natural and human elements and factors recognised in the landscape

The teacher's aim will be to teach pupils how to transform looking at the things around them into observing them with new eyes. Observing the landscape is the start of a process that leads to enabling a child to acquire, for the first time, and at the beginning of his/her school life, the ability to perceive and identify the elements

present in the space observed, and the objects that characterise it. The child learns to recognise and identify:

- the natural elements of the landscape: trees, hedgerows, flowers, meadows, small lakes, etc.;
- objects built by human beings: roads, pavements, garden railings, the school building, the church, etc.;
- his/her personal relationship with the landscape.

In the next phase, the child learns to:

- explore the landscape with curiosity by identifying, for example, the features of the route taken from home to school, of the village square and the school playground, as well as the differences between his/her own route from home to school and that of other children;
- recognise the quality, beauty or variety of this landscape;
- explore and recognise the landscape through its signs and forms: a tree-lined avenue; dead leaves on the pavements according to the season; the shape, height and colours of the school building, the garden railings and garden play equipment.

From the third year at primary school onwards, the information perceived and acquired in familiar landscapes will be enriched and amplified in the following years with assistance and input from geography, the sciences, the history of art and drawing – subject areas that will provide the initial concepts necessary to learn to recognise and grasp the meanings and functions of the various elements of, and objects in, familiar landscapes.

Geography will encourage the shift from the perception of the landscape experienced to its objective dimension and to identifying its different elements and learning about the reciprocal relationships between elements and their significance and use (natural or man-made).

The natural sciences will encourage the observation and analysis of the present situation and recognition of certain elements present in various natural environments, such as forms of vegetation (woods, trees, shrubs, meadows, etc.) and development of the natural environment and man-made changes.

The history of art will show how certain painters (Giotto, Leonardo, Poussin, etc.) have observed, interpreted and depicted different landscapes in their respective periods.

Drawing will teach children to explore the forms and objects of the landscape around them, recognise the colours, forms and materials of the different elements and depict those in the foreground, the middle-distance or the background. Through drawing, pupils should be able to express their emotions freely and personally explore the landscape observed by depicting the images and different elements that characterise it.

The same images, forms and objects of the landscape can be drawn once again the following year on the basis of the new knowledge acquired and of a better understanding of the relationships between natural and man-made elements.

2.5. Learning methods and objectives

The learning methods provide for a first phase of direct observation and a second phase of indirect knowledge acquisition.

In landscape education, children must become active protagonists with regard to their knowledge of a landscape of limited geographical extent from the first year of primary school, through active participation based on a process of research and the curiosity to explore and discover a place that is familiar to them as they experience it every day.

The fact must not be overlooked that most children today live in urban or peri-urban areas, where natural elements are either rare or totally absent and the landscapes observed are dominated by traffic noise and full of things difficult to analyse at primary school. However, these are landscapes that children recognise since they constitute places familiar to them and close to their home and living environment.

The objective must be to restore children's relationship with nature and to help them develop their ability to listen to the noises of nature and the wind in the trees, to pick up leaves, touch tree trunks and grass in the meadows and to smell the scents of nature, while at the same time leaving enough scope for discovery, surprise and emotions with regard to everything we do not always succeed in perceiving in everyday life.

This first phase of research and curious exploration must be carried out in open-air classes through direct observation. When this is not possible, for example in a town because of car traffic, facilities available for these purposes, such as special rooms equipped for drawing and for projecting pictures, can be used as the visual basis for this exercise.

During the phase of research, curious exploration and discovery, it is necessary to choose, with the teacher's help, the best observation points in order to obtain as much information as possible on the landscape observed, and make this first approach to the observation, perception and processing of the information easier. The best places are usually those located in an elevated position or at eye level with no obstacles in the way.

It is also necessary to take account of the parameters of the space concerned, which vary according to the child's field of vision based on his/her own height – spaces that can be observed from the height of a child, for example 100 or 150 centimetres. Some higher details, such as road signs, tall buildings or hills in the background are difficult to see and take in.

In the last years of primary school, it is undoubtedly worthwhile gradually carrying out certain educational activities in landscapes different from those frequented on a daily basis. These are landscapes that can be visited, observed and experienced on brief excursions prepared in class. In this way, it will be possible to make comparisons with the landscapes of towns, outlying areas or villages familiar to the pupils concerned.

This will provide an opportunity to discover and experience hilly, rural, marine or lake landscapes, where it will be possible to encounter situations different from those that are familiar, due to the presence of a typical morphology (rolling hills, terrace farming along steep slopes, large stretches of farmland, etc.), or the existence of a wide variety of natural elements or objects created by human beings for various purposes.

The forms and elements that characterise an urban landscape and a rural environment can undoubtedly contribute to developing a child's curiosity and to stimulating his/her visual experiences and interest in new discoveries.

This is also the best way to set up the first interdisciplinary activities in the classroom in order to become familiar with and put a name to the elements and objects observed, and understand their uses and their significance with respect to a landscape in which the community lives.

Stages of understanding

Knowledge/direct observation
Seeing – observing – perceiving through the different senses
Processing the information perceived, recognising it
Learning its meanings and uses
Depicting – relating

Direct knowledge develops during the successive phases, when the aim is for pupils to be able to relate what they have observed in a new landscape that they have just visited with their teacher and their fellow pupils. In this first phase, we suggest using a model landscape interpretation template. This can be adapted whenever necessary according to the ages and classes for which it is intended and the objectives it is wished to achieve (see template below).

The use of the template in interpreting the landscape can also be an exercise carried out in a sequence of steps to foster closer attention paid by pupils to what they can observe in the landscape and at the same time to get them to engage in self-reflection on their observation activities. For the youngest pupils, the format, terminology and objectives of the template can be adapted, but it is important to maintain the basic structure and keep to the steps proposed. It is possible through this exercise to learn and internalise a method for approaching and interpreting the landscape that, although it does not involve the study of cultural aspects (which can be included later), will help nurture a more responsible relationship with landscapes that will subsequently be encountered.

A new landscape – relating what has been observed

Significant natural elements	
Human-built elements	
Activities carried out	
Landscape quality	
Dominant colours	
Land use	

The observation of a new landscape helps pupils recognise, through direct experience, the significant elements of the landscape, the uses to which the land is put and the activities carried out, including how the landscape is used and by whom.

It provides an opportunity for discussion not only in the classroom with the teacher and the other pupils but also with the family.

A first step could be to use drawings to explore the organisation of spaces and their visible correlations and the child's relationship with his/her landscape, for example the route taken between home and school.

Drawings will show trees, a meadow, swings in a garden, the road and pavements, people on their way to work, the child's own home, the homes of the other pupils, and so on. It is important to begin teaching pupils to discover, through their observation of familiar landscapes, the relationship between the natural environment and man-made structures and to develop the abilities required to define that relationship.

Pupils will gradually explore a number of keys to interpreting the landscape in different and more complex situations, including the relationship between the natural landscape and human intervention (with regard to road or industrial landscapes) in order to establish the link between this relationship and the various ways of transforming the landscape. The awareness, exploration and discovery of other landscapes that have been observed and travelled through will make it possible to identify the various natural elements and human activities, drawing on the skills acquired through observing the familiar landscape. This will be a first step towards making the children recognise the need to familiarise themselves with, and analyse, the landscape in different phases:

- as a subject of observation – subjective perception: perception brought about by the overall image – the beauty of the landscape, its forms, colours, sounds, etc.;
- as a subject of analysis – objective knowledge: knowledge necessary to identify the different natural and man-made elements that make up landscapes (those of the child's and the other children's living environment) – relationships and processes that take place in the constantly changing complex reality of the landscape;
- as a subject of exploration and discovery: of the organisation of different spaces; the interdependent relationships between natural factors of a known landscape and the transformations brought about by human action; the distribution and the relationships between the elements and objects and the people who use them; the various functions and activities taking place;
- as a landscape to be drawn/depicted.

2.6. Drawing and depicting spaces at primary school

Drawing is the most direct way for children to put on paper their subjective-passive perception after observing the principal elements that make up the landscape, with their shapes and colours. It is the means of beginning to distinguish between the elements in the foreground – natural elements such as groups of trees, bushes,

watercourses and human activities such as houses, cultivated fields, roads and bridges – and it enables a start to be made in distinguishing between those elements that characterise the middle-distance and the terrain in the background.

The outside world depicted by children may be seen as a useful means of informing the teacher about what the children perceive and take in, and how they recognise it.

Above and beyond the importance of direct observation/knowledge, it is imperative not to overlook the importance of indirect observation/learning through didactic instruction, the use of pictures, photo exhibitions and meetings with outside players who can provide further information.

Landscape education begun through the process of observation and perception, discovery and knowledge must be continued and enhanced in the classroom by showing pictures that typify various places. The teacher can have the pupils observe and recognise the colour, shape and features of the various natural elements and the main functions of the man-made structures and the different objects present in the space that they know. The teacher should help the children recognise the use that they make of those places and of these elements that form part of their experience in their everyday landscape and accordingly discover their personal relationship with the place concerned.

A first step in the classroom could be to illustrate on a few simple sheets the principal morphological and plant- and human-related aspects of the landscape which has first of all been perceived and then understood through direct observation and subsequently explored/looked at in more detail by searching for initial information.

This is a phase in which it is important to use both documentary material and instructional exhibitions, which can also be created using work by children in more senior classes. However, meetings with cultural and environmental facilitators, tour and nature guides or countryside workers, such as farmers, animal breeders and builders, are particularly useful and interesting because of the observations they can make. These are occasions that can stimulate greater interest in the landscape but it is not always easy to organise them in the context of school projects.

Moreover, one should not underestimate what children relate to their families about what they have done and learnt at school, by showing them their worksheets and drawings, etc.

2.7. The contributions of different subject areas

In the case of indirect observation, the contribution of different subject areas that form part of the course (geography, natural sciences, art, history, drawing) has a very important role to play.

At primary school, the teacher can begin to have pupils observe and recognise the morphological aspects of the natural environment that identify mountains, hills, slope gradients, valley shapes and coastal and lake shore interfaces, and to analyse the link that exists between the different physical forms of the natural environment and the location, form and extent of built areas: villages, rural houses, roads and cultivated fields.

It is important to stress these facts as early as primary school with regard to the landscape observed and to begin to have pupils notice the relationships between the physical forms of the environment and the use of the land – such as man-made changes along a river to protect its banks and make them usable, or terracing constructed along hillsides to make them cultivable – and to have pupils recognise the damage done to large rural areas for commercial or industrial development.

2.8. Proposed teaching approaches to be followed and skills to be acquired in the five primary school classes

As the course progresses, one should teach in an appropriate way and at the right time the concepts necessary for pupils to find their bearings and understand the landscape experienced by the community to which they belong.

1st year

Understanding, exploring and discovering, through direct observation, the places/landscapes that make up the area in which pupils live. Comparing the different situations (similarities and differences); understanding the organisation of space and the distribution of natural elements, objects and people in an area familiar to them.

2nd year

Ability for pupils to find their bearings and see how they fit into a landscape familiar to them, to know how to recognise the most obvious man-made changes in the places/landscapes in the area in which they live. Oral descriptions and depiction, by means of drawings, sketches, etc.

3rd year

Recognising the relationships between the environment, resources and quality of life and the activities carried out by human beings in the area in which the pupils live. Then gradually include this area among other landscapes in the municipal area. Enable pupils to find their own landscape on a simple map and the municipal area in which it is located.

4th and 5th years

Analysing a landscape and knowing how to recognise and identify on a map recent man-made changes to certain landscapes in the pupils' own neighbourhood. Making proposals for the reorganisation of landscapes known and experienced, as well as describing and depicting these proposals.

2.9. Proposals for workgroups

1. Describe the route taken by children to school by answering a series of questions:
   - Is your school far away? Do you walk there? How long does it take you to get there?

- Are there any buildings along the way? Are they tall and how many storeys do they have?
- Are there shops or homes? What types of activities take place there?
- Are there any trees along the way? How many? Are they tall?
- Are there any gardens?
- What is there on the other side of the road? Houses or countryside?

2. Compare the description with the ones made by other pupils in the class.

3. Have the children draw what they see through the window of their home.

Instructions:

- Use an ordinary pencil and coloured pencils and draw what you want.
- Go to the window at home with a drawing book and draw what you see: the road, a garden, a square, trees, a meadow, cars passing by, etc.
- Draw what you see when you walk along the road that you take to school.
- Draw the park where you go to play.
- Compare the drawings with those made by the other pupils.

4. Prepare a small exhibition of drawings produced during the year.

3. LANDSCAPE EDUCATION APPROACHES IN SECONDARY SCHOOLS

Secondary school should make provision for landscape education in the final classes of compulsory schooling, taking as a reference point the basic knowledge already acquired during the years at primary school. The aim is to provide pupils with a complete education on the value of landscapes, their role and their transformation, to ensure their development is compatible with the goals set out in the convention: according to the "specific measures": "Each Party undertakes to promote ... school and university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning".

The approach adopted will aim to provide a complete knowledge of the concept of landscape by introducing progressively more co-ordinated and specific ways of understanding it and conducting research. The same applies to visual/sensory knowledge (and the resulting perception process) and to an analytical and scientific understanding of landscape that makes it possible to understand its structure, and its natural and man-made elements, and the ways in which they are interlinked through an introduction to in-depth practical exploration.

The greater maturity of secondary school pupils (aged between 10-11 and 15-16) makes it possible to adopt teaching methods that can help nurture a more complete understanding of the landscape – as an integral part of an area shaped by natural and/or human factors and their interrelations – through diverse approaches offering more appropriate responses to the many problems posed by the variety of geographical, cultural, historical and economic situations in European regions.

Pupils should therefore be taught about how the landscape has been perceived, depicted, analysed and considered from the historically most important periods of the past to the present concept of landscape defined in the European Landscape Convention. Above all, it will be necessary to make pupils aware that the landscape issue is bound up with our everyday environment, that it is part of our human development and that participation in the search for better ways of managing and planning the landscape must be seen as a human right and duty, as well as a social responsibility. Pupils must therefore be shown how and why the convention has arrived at the current thinking about landscape issues, which is the subject of their studies illustrated in the introduction to this report.

The organisation of teaching at secondary school level must place an emphasis on cross-curricular work, which, with the appropriate educational materials, can contribute to analysing and gaining a deeper understanding of the features of the environment and territorial structures: the dynamism and evolution of natural elements, the formation of towns, the history of landscapes and a knowledge of their features, resources and identity. Secondary school teaching should accordingly help to make pupils appreciate the cultural, ecological, environmental and economic value of the landscape to enable them to become aware of the problems existing in their living environment.

It will also be necessary to analyse when and how the landscape – on account of its differences, specific features, identities and values – has had, and continues to have, a subtle but profound influence on how it is perceived by society and how and to what extent it has played a role with regard to the interventions that have taken place over the centuries, in different societies and geographical situations.

A key objective to be pursued in the classroom is to consider pupils attending compulsory education as the future citizens of a community who have to get to know their living environment better in order to participate, as committed stakeholders, in its preservation, planning and sustainable development – a community that must be made aware, be informed and properly educated with regard to the principal problems, both natural and cultural, facing the landscape that it lives in and experiences, so that it is capable of contributing to its upgrading and/or rehabilitation.

3.1. The approach to understanding the landscape

In the last years of secondary school, the concept of landscape, which often fails to be differentiated from view, picture or space, needs to be studied in greater depth, in a comprehensive and co-ordinated way. The landscape is the part of the land that can be seen from several observation points or, as the great French geographer Paul Vidal de la Blache put it, "what the eye embraces". However, it is not possible from this point of view to understand the difference between the view of the landscape and the analysis of the relationship of human beings, and the community as a whole, with the part of a space and all the elements that can be seen, because visual knowledge is only one part and one, albeit important, aspect of understanding the landscape.

In landscape teaching, a clear distinction must be carefully made in highlighting the difference between seeing and observing the landscape (which is regarded as an image of the area, an overall view or panorama). However, although this makes a valuable and useful contribution to visual understanding, it is not enough. An understanding needs to be based on an analysis of the landscape as a physical, real and complex entity made up of natural and artificial systems and subject to spontaneous events and human action. It is influenced by cultures, signs and traces of historical stratification. The landscape's "character is the result of the action and interaction of natural and/or human factors", according to the definition in the convention.

The landscape is a diverse environment that changes over time, a group of organisms and living systems interlinked by different kinds of relationships that make up the world in which we live. It is a combination of interacting phenomena and functions, and the result of countless measures carried out by human beings, both in times long past and more recently, to adapt various places to their requirements. At the same time, it is the result of the spontaneous evolution of nature.

In the landscape continuum, various types of intervention have become superimposed on one another: construction, agricultural production, forestry and changes brought about by the social and economic development of communities. These interventions can often be recognised in traces left in archaeological remains, urban settlements, historical architecture, the agricultural structure, terrace farming and ancient pathways.

An analysis of the structure and the various constituent elements of the landscape makes it possible to understand the numerous configurations adopted in various places down the centuries, and helps in identifying the processes that have brought about the main changes that have occurred, and in understanding the natural situations that have made possible the multiplicity of measures and man-made transformations to the landscape: roadways, settlements (concentrated or scattered), pastures, reforestation, industry, and so on.

The initial interpretation of the landscape should refer to the natural shape and the inert structure that characterise the land concerned, enlisting the support of geology, geomorphology, pedology and hydrology, in order to understand the shape of the slopes (flat hillsides, gentle or steep gradients), the valleys eroded and hollowed out by the action of torrents and rivers, and the different coastal interfaces.

By analysing the soils, it is possible to establish their fertility, their permeability and potential for their many different uses, and to identify the original plant cover (trees, shrubs, grasses), which can still be seen in some parts of the area.

It will be necessary to interpret both the natural features and the human colonisation of the area, in order to understand the relationship between the landscape and the community that has lived there or is living there: the succession of many different measures, transformations and behaviours brought about, in the course of time, by the characteristics and specific features of the places concerned, which have, in turn, shaped the landscapes of today.

3.2. The subject areas that help foster an understanding of the landscape

A study of landscape at secondary school presupposes the teaching of a large number of subjects that combine, in different ways and using different specific terminology, to provide a knowledge of particular aspects of the landscape situation: multidisciplinary co-operation arrangements can be set up for the various lessons that help pupils become aware of the values, features and identities of landscapes and to understand the problems which can have a direct or indirect impact on the landscape and which relate to its protection, management, planning and sustainable development.

Where schools do not offer specific teaching on acquiring knowledge of landscapes, the educational work carried out through interaction between different disciplines becomes particularly important, especially on the basis of the cultural requirements contained in the "specific measures" set out in the European Landscape Convention.

Geography is a theoretical and methodological approach that enables pupils to learn the basic elements for recognising the geographical differences that characterise areas and environments. It can explain the present appearance of the Earth, as the result of action taken down the centuries, and can provide information on the different situations and levels of development brought about by the interaction between humans and the environment. Mapping, which is an integral part of geography, uses different scales to visualise information that is fundamental for understanding areas, their morphology, the origin of spatial relationships and man-made changes.

History introduces pupils to a knowledge of the cultures that characterise particular areas and the identities that define various landscapes. It enables them to understand the historical evidence present in the area, the environmental and cultural conditions that produced those identities and from which they in turn originate. It can also help pupils acquire, on the basis of the main changes identified, their first skills in forecasting future developments.

The natural sciences (a very wide teaching field) guide pupils towards a knowledge of the phenomena and elements that make it possible to interpret the natural environment as a complex system. It results from many different interactions between abiotic and biotic elements and pupils are encouraged to study them both with reference to natural situations and transformations brought about by human interventions. Ideally, at secondary school, pupils should begin to learn about the effects of climate change and biodiversity. It would also be very helpful to have pupils participate in simple practical activities, such as producing an album of drawings and photographs, in order to study the features and morphology of plants and the different vegetation habitats.

Art education can help inform pupils about the different ways in which painters have interpreted and depicted landscapes down the centuries, according to their cultures and in different regions of the world. It can therefore teach the ability to interpret works of art and develop perception skills and the ability to assess the landscape from the point of view of its aesthetic aspects, and as a cultural asset.

Drawing enables pupils to transfer to paper the part of the landscape that they can see from a particular observation point. It also enables them to analyse and show, through their drawings, the structural elements, shapes and main features of the objects in the landscapes observed and analysed. It is through drawing that pupils can begin to outline and communicate their first ideas and thoughts on possible landscape "interventions".

3.3. Materials, techniques and documents useful for landscape teaching

It is particularly important to make up-to-date material available to secondary school pupils to enable them to familiarise themselves with, understand and analyse the landscape, such as slides depicting landscapes, photographs, thematic maps and orthophoto maps. It would also be valuable for them to be able to use the new technologies, such as consulting the websites, available in many states, with information and pictures of the region and the area where the school is situated.

Pupils should be taught to interpret and use graphical and pictorial documentation containing information for studying the landscape with respect to the reference area, to familiarise themselves with the instruments necessary to consolidate their basic cognitive skills, and to acquire new knowledge of the landscape and the relationship between human beings and nature. By incorporating their analyses, they can then begin to produce the cognitive syntheses necessary to put forward practical proposals on the landscape being studied.

It may be helpful to encourage visits to, and studies of, landscapes different from those with which pupils are already familiar and to organise meetings with associations and individuals involved in landscape-related matters who are willing to be consulted – such as designers, municipal technicians, farmers, agronomists, foresters.

3.4. Educational maps

As far as secondary school teaching is concerned, it is very important to use maps and consult aerial photographs, because of the data and information they contain on various landscapes that will help pupils understand the morphological and environmental features and man-made transformations in the areas analysed.

Geographical maps communicate effectively, through depictions and conventional symbols, the spatial knowledge necessary to locate terrain, plains, watercourses, coastal interfaces and islands and to identify towns, roads, motorways, ports, and so on.

The wealth of material – physical, topographical, political and thematic maps of national, regional or municipal territory – can meet the many different requirements regarding basic information about the area and its particular features, so the use of this material should be encouraged.

A map is a basic instrument for getting to know the place where we live, the detail varying according to the scale used:

- a map with a scale between 1:1 000 and 1:5 000 shows land in a fairly detailed way and can help the user gain a better knowledge of the surroundings of a village, its rural infrastructure and its agricultural system, or the details of a town or district, and the growth of suburbs;
- maps with a scale between 1:5 000 and 1:25 000 show larger areas with less detail than the above, but with more references to the morphology of places and the actual distances between the elements and objects of the places shown.

Existing maps, which can be easily obtained from public authorities, libraries and bookshops, can help pupils acquire a wealth of information about their area and locate the landscape analysed in order to:

- identify, according to the different scales, the features and variety of the morphology and the distribution of man-made elements and their links to the natural forms of the environment;
- familiarise themselves with the thematic maps available containing important and detailed information on the different aspects of the landscape, such as morphology, vegetation, farming, urbanisation.

Aerial photographs (which are often harder to find) provide a clear overall picture of the conformation of the area, the features of the natural environment and the relationship between nature and human activities.

In order to analyse a landscape, we need to locate it on the map and find points of reference (in a valley, on a hill, along a watercourse, at the confluence of two rivers, etc.), and we also have to understand its morphology (the course of a river, the orientation of a valley, hill-slopes, crop-growing, the communications network) and the activities that characterise the local area. That is, it is necessary to discover the information contained in a physical and political map with a scale appropriate for the size of the area and the part of the landscape to be analysed.

Pupils in the last year at secondary school will begin to learn how to use maps, not only to carry out a more detailed analysis of the landscape but also in connection with the very first steps relating to projects and landscape planning, conception and management, all of which will constitute an important activity at upper secondary school level.

3.5. Methods of observation and visual familiarisation with the landscape

The act of "seeing", which is a cognitive act, par excellence, not only involves receiving images from objects by using one's eyesight. It is a "cognitive process" that consists of processing the images and shapes perceived by the "observer" both through different senses and by means of certain mental processes, such as aesthetic evaluation, memory, curiosity or one's personal culture and interest in specific historical, architectural and environmental conditions, and sensations aroused by finding oneself in a given place.

In the case of the visual interpretation of the landscape, however, it has to be borne in mind that the human eye perceives only part of the landscape from where the observer is located. In order to obtain the information useful to know, it is necessary to choose carefully, using a suitably scaled map, the position that enables a number of things to be seen. Visual obstacles of various types (natural or man-made) situated between the observer and the part of the landscape observed, can lead to optical occlusion, limiting the "viewshed".

An observation point located in an elevated position may enable larger parts of the landscape being studied to be seen and therefore make it possible to look at the orientation of the terrain and the dimensions and shape of plains and expanses of water, and to understand the link between the natural and man-made elements of landscapes and their main features.

In the foreground, from 50 to a few hundred metres, the panorama, the form, structure and colour of the elements of the viewshed can be clearly identified. It is possible to make out the different crops, the shapes of the trees and buildings (as well as doors, windows, colours and construction materials).

In the middle-distance, from a few hundred metres to a few kilometres, the ability to see things diminishes. Ridgelines can be clearly made out but the elements of the landscape – the vegetation, crops and built environment – gradually become blurred. It is still possible to see the shape of the urban areas, the boundaries of the forest and farmland, large elements and isolated objects, such as a tall tree on a ridge.

In the background, a few kilometres from the observer, and only in clear weather, the field of vision broadens and the landforms, valleys and major morphological systems can be seen. However, the visibility of the elements making up the landscape gradually decreases, eventually reducing to zero.

The choice of vantage point must be made in advance on the map, giving consideration to the depth and width of the viewshed – that is the place from where the shape of objects, details, materials and colours can be made out and from where it is easier to gain an understanding of the elements and their relationship with the context.

These visual analyses are crucial for establishing the features of the landscape in the viewshed concerned and for beginning to assess the possible visual impact of new interventions on the landscape. The aim of these analyses is to provide assistance for the choice of interventions to transform, upgrade, restore or rehabilitate the landscape.

3.6. Landscape interpretation and analysis

Gaining an understanding of the landscape through a scientific analysis of the actual situation in which it finds itself must be through a logical sequence of cognitive approaches adapted to each specific landscape and territorial situation (rural, mountainous, hilly, coastal, peri-urban, etc.). That understanding is developed through:

- *analyses of natural impacts* (environmental sciences), which involve morphological, geological, pedagogical, hydrological and vegetation features and their interrelationships; these analyses can describe the basic relational structure of the landscape and its natural functioning;

- *analyses of human impacts* (human sciences), which show how the landscape that has been changed as a result of human sprawl constantly interacts with its natural features. These analyses take into consideration the interactions between human activities and the natural environment and the changes brought about, directly or indirectly, by the human impact on the natural system;
- *historical analyses* (natural and human history), which help pupils understand the historical evidence present in the area by linking it to the environmental, social and cultural conditions that produced it. These analyses can contribute to the acquisition of the skills necessary to make forecasts on future planning;
- *an ecological analysis*, which studies the structure of the landscape and the functions of the landscape-related systems of the natural and human habitat. It considers the landscape as a complex environmental system and its aim is to identify the limits – of compatibility or incompatibility – imposed by nature on human actions and man-made changes. It provides useful diagnoses on the "health" of the landscape by analysing the interactions between physical factors and living beings, including humans.

In addition to resulting in a description and knowledge of the landscape, the objective of the analyses should be to provide guidance and support for the choices of action to change, upgrade and rehabilitate the landscape and to identify methods to protect and maintain its balances to ensure sustainable development.

The following analyses can be regarded as very helpful and complementary, as far as a knowledge of the landscape is concerned:

- *a visual-perceptive analysis*, which is strictly visual and semiological in nature, seeks to identify the first cognitive relationships between human beings and nature, and the elements of the landscape that enter into a perceptive relationship with human beings and the community as a whole. It produces an aesthetic judgment that, for a long time in the past, played a decisive role in landscape culture;
- *an analysis of the values* of specific parts of the landscape: the historic-cultural value, the ecological and natural value, the economic value, the identity of the landscape and the quality of life. This can be carried out according to different criteria and parameters on the basis of its importance for various scientific interests and areas of study.

A number of general assessment criteria can be applied to natural and man-made systems, for example rarity, representativeness, integrity and variety.

These are values that can be categorised according to the following scale:

- *high*, if they refer, for example, to landscapes with natural and cultural resources intact;
- *considerable*, if they refer to quality landscapes with some parts or elements that are not fully intact;
- *significant*, if they refer to landscapes that have partly retained their natural and/or cultural resources.

The first phase of the investigation should, broadly speaking, involve both the physical structure – abiotic and biotic – and the man-made structure, by breaking the landscape down according to the principal "systems" of which it consists: major morphological and hydrological structures, systems of biotic components, man-made systems, and the historical and cultural structure imposed on the landscape by human civilisation.

This is a complex phase of analysing the landscape and should be approached gradually by broadening the pupils' understanding of the natural and man-made environment by enlisting the help of geography, the natural sciences, history and ecology.

3.7. Landscape analysis template

Identification of the landscape and its main features	Identifying and defining the scope of the study. Interpretation of the specific structural and functional features of the landscape.
Natural systems	Identification of the main features of the natural system: geological and geomorphological components (height, slopes and slope exposure), pedology, hydrology, climate and vegetation.
Man-made systems	Identification of the main features of the man-made system: constructions, infrastructure (urban, industrial, commercial, roads, railways and waterways, etc.), farmland, forestation, etc.
Visibility	Analysis of the visual features of the landscape, outstanding elements, resources, degradation and fragility. Methods of observation.
Interrelationship between natural and man-made systems	Identification and interpretation of: the relationships between natural and man-made systems and the ways in which these are used; the natural configuration of the places concerned and transformations to these places in the course of time.
Dynamic processes and transformations	Understanding the transformations and developments carried out, and comparison between the present situation and the historical phases known to pupils.
Summarising the analyses made	Summarising the analyses made in order to ensure the acquisition of a more detailed knowledge of the landscape that will help guide the approaches to protection, management and sustainable development.
Evaluations	Identification and evaluation of the resources and identity-related values present in the landscape analysed.

Analysis of natural systems

Analyses of the main features of the natural system in terms of geology, geomorphology, hydrology, climatology, pedology, phytosociology and fauna – features that fully describe the dynamism and the basic relational structure of the landscape.

Geomorphological analysis	Ridges, hills, groups of hills, rocks, valleys, plains, heights, slopes, slope exposure; identification of the different types of rock and their physical and chemical features.
Pedological analysis	Types of soil, erosion, soil permeability, etc.
Analysis of the vegetation	Plant associations, composition of the flora, etc.

Analysis of man-made systems

Analysis of the urban and rural system of habitation	Location and boundaries of urban, peri-urban and rural installations; landscape features of urban, peri-urban and rural constructions, of road and transport infrastructures and industrial and commercial production infrastructures. System of urban green spaces.
Analysis of the agrarian and semi-natural landscape	Structure of the agrarian landscape, tree population and forestry.
Analysis of the historical development of the landscape	State of the landscape in important historical periods. Groups of assets belonging to the historical and cultural heritage. Identification of landscape identities, outstanding architectural elements and rural and urban systems.
Perceptive-visual analysis	Analysis of the visual features of the landscape (forms, structure, fabric, colours); analysis of the viewshed (barriers/visual obstacles, visual openings, panoramic viewpoints, etc.), visual interrelationships.
Ecological analysis	Study of the landscape structure and of transformations of the landscape.

3.8. Landscape enhancement, transformation and management strategies

In order to gain a complete knowledge of the landscape (that is, the various elements that make up its variety and diversity) it is essential to adopt an approach encompassing specific and in-depth analyses. This will involve different school subjects that complement one another and together, to varying degrees, provide insight into the complex nature of the landscape. Due regard must be paid to the structural and functional relationships of the landscape that enable the causes and effects of its endless development to be understood. After analysing and assessing the landscape, it may be helpful, and sometimes necessary, to produce a summary drawing together all these sector-based analyses.

In final year secondary school landscape classes, pupils can be given an introduction to considering possible future interventions with regard to the landscape under study, not only in theoretical terms (identification of its values, identities, fragility, etc.) but also in practical terms with a view to beginning in-depth practical application.

The interpretation of the landscape, first of all carried out through visual and sensory perception and then through scientific analysis, will enable secondary school pupils to begin objectively identifying and listing the different elements, both natural and

cultural, that make up the landscape, to understand the unitary features identifying its structure and to begin discussing and carrying out exercises on:

- identifying the principal qualities of the landscape;
- understanding the fragility of landscapes;
- the attention placed on the protection of landscapes and the rehabilitation of degraded places (quarries, rubbish tips, etc.);
- the attention placed on landscape enhancement or the restoration of landscape identities;
- the recognition of the dynamics and developmental processes that modify landscapes.

3.9. Notes for upper secondary school courses

At the end of upper secondary school (which is not part of compulsory schooling), pupils will have acquired, through their studies, an increasingly deep and scientific understanding of the variety and diversity of the natural and man-made elements of the landscape in which they live. They will also have learned to recognise the different elements and factors, both natural and human, which contribute to determining the state and characteristics of the landscape in a dynamic process. They will have learned to make use of various analyses to identify and understand the features of natural environments and the changes that have been carried out down the ages by the people who have settled there.

Interpreting the signs left behind in the past will enable them to recognise the connections and relationships between the various elements and the causal links between the physical conditions in the area (climate, exposure, soil, water resources, plant cover, etc.) and the ways in which the land is used for human habitation and its resources exploited. They will also be able to recognise the influences exerted in the course of time by mountains, slopes, land exposure and plant cover on installations, crops and human land use.

These increasingly specific ways of interpreting and understanding the landscape must then be developed at upper secondary school level from both theoretical and practical points of view. Pupils will have to make systematic use of landscape analyses to link all the gathered information in such a way that they always consider the structural and functional unity of the landscape in an integrated way.

The analyses will therefore have to:

- look at the systemic situation of the landscape;
- focus attention on the development of the landscape and its components, for example: plant species dynamics, the expansion or reduction of wooded areas, changes in tree cover, the latency or sudden manifestation of morphogenetic processes and their past or present causes and consequences;
- establish the functional and structural relationships linking the different elements of the landscape and identify the relationships present in the landscape system;

- refer to both the spatial and the temporal dimensions of the landscape and, if possible, the basic elements of each dynamic process and mutation;
- develop the necessary skills which will make it possible to determine the value of the landscape, its vulnerability and its ability to support very specific changes, uses and activities;
- bring together the various strands necessary to identify the most appropriate strategies for the protection, planning and management of the landscape, to ensure its sustainable development.

Studying the landscape in greater depth (see Appendix 2)

Choose a panoramic picture showing different landscapes located in the same area, designated as a "case study"; select a number of details of the photograph chosen that characterise the landscape and illustrate key concepts of past, recent and present formation or transformation processes ; prepare a map, of an appropriate scale (or an aerial photograph) enabling pupils to locate the different landscapes to be analysed ; recognise and analyse the elements that characterise the different parts of the "case study" landscape, recent changes and ongoing processes.

Landscape analysed	Characteristics	Recent changes	Ongoing processes
Morphology	flat terrain, mountains, hills, valleys		
Vegetation	woods, tree groups, isolated trees, shrubs		
Water	rivers, streams, ponds, lakes, sea		
Infrastructure	bridges, streets, motorways		

Representation of the landscapes observed and analysed

Use the documentation available to obtain the information necessary to identify data on the features of the landscape from different points of view. On the basis of the following questionnaire, find a number of possible solutions regarding the activities that may be carried on.

Questionnaire	Description and analysis of the landscape
What effects has the expansion of the urban area had on the landscape?	
Should rural areas be preserved inside urban areas?	
How can the conservation of the landscape be compatible with tourism development?	
How can a town and a nature park be made compatible with each other?	
Is a river landscape and a traditional agricultural landscape compatible with the settlement of new industry?	

Draw a fairly expansive landscape observed from a good observation point during a field trip or depicted in a photograph or slide.

Make this landscape something to be actively observed and understood: interpret and reproduce the things observed; describe the natural resources, forms and critical features that make up the landscape.

Work template for analysing different landscape types

Landscape type	Natural resources	Critical features	Analysis of development
Landscape traversed by infrastructure			Strong impact on the landscape
Agricultural landscape under development			Environmental risks close to the urban area
Tourist landscape under development			Loss of identity. Conservation of the natural landscape
Urban periphery			Loss of identity, occupation of the landscape by infra-structure and industry
Upgrading of a landscape and agricultural activities			High quality of agricultural production. Agritourism, etc.

CONCLUSIONS

General principles in the teaching and learning process

The acquisition of knowledge is one of the objectives of school education. It must take account of the pupils' learning processes and speed of learning by fostering approaches to knowledge acquisition commensurate with their age and mental development. It must also acknowledge the value of overall educational continuity throughout the school experience, avoiding the pointless superimposition of concepts already acquired and disregarding others. It must succeed in finding, throughout the different school stages, the right relationships between the subjects taught during the year and give all pupils, at the various schools, the possibility of achieving the appropriate level of maturity and preparation.

The subject of landscape accordingly provides many advantages for the pupils' education and is an important vehicle for them to become familiar with and understand their surroundings. It enables them to be taught to see the things they know well from a new perspective – things they are used to "seeing" without "observing" and to frequenting without understanding, that they are natural and cultural assets common to all of us and, consciously or unconsciously, a source of well-being for the community. Above all, it provides an opportunity for pupils to discover the role of each individual as one of the landscape's inhabitants, a guardian of its identity and its culture, and a protagonist aware of its future development.

List of proposals to the national and regional public authorities for the implementation of the European Landscape Convention

School pupils – the citizens of tomorrow – must be able to develop the knowledge necessary to safeguard this resource and understand the best ways to help manage and preserve it for present and future generations.

It is therefore necessary to provide pupils with knowledge of the landscape at all school levels in order to show them that the landscape is not just the visual aspect of a place but a territorial entity where numerous natural and human factors interact. The landscape must consequently be studied in all its complexity through the developmental processes that modify it.

The European Landscape Convention makes school education one of the important specific measures to be adopted by countries. It clearly states: "Each Party undertakes to promote school and university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning".

The educational method must primarily be based on direct observation and active participation involving pupils' research into, and discovery of, the landscape around them. It must encourage as many school outings as possible to enable them to understand, through direct observation, that the landscape is much more than just nature.

Different approaches must be used depending on the pupils' ages and maturity. In the case of primary school children, the principal method will be the sensorial approach, which comprises not only sight but all the other senses too. The visual dimension will be employed to provide an initial knowledge of the landscape, and this personal perception of places and familiar areas will help pupils observe the variety of forms, materials, colours and uses and the many different activities carried on there. In order to teach the concepts they need for their education, primary school children should either be put in direct contact with the landscape by means of careful, guided observation or use audio-visual material, pictures and documentation.

At secondary school, a new knowledge acquisition method will be used: a first analysis of the distinctive characteristics of landscapes and the diversity of elements of which it is composed. Pupils should be taught about the different landscapes of the places familiar to them and taken to visit landscapes characterised by various relationships between human beings and nature. This will make it possible to begin implementing cross-subject activities to enable pupils to understand and analyse the landscape, and these activities can be extended as a result of the input from several subject areas taught in the course of the year.

List of proposals to national public authorities for the implementation of the European Landscape Convention through the promotion of landscape education in the classroom

The "specific measures" (Article 6.B) of the European Landscape Convention relate to the importance for each state party to promote: "school and university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning".

The principal objective of these measures is to persuade administrators to adopt the necessary ways and means of including the landscape dimension in school (and university) curricula by providing the knowledge required to understand not only landscapes and their values and features but also the social, ecological and economic developmental processes, in order to help secure their sustainable development.

The convention seeks to ensure that the public campaigns which are necessary and important to raise awareness of the landscape dimension are preceded by school and university courses, at European level, "which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning".

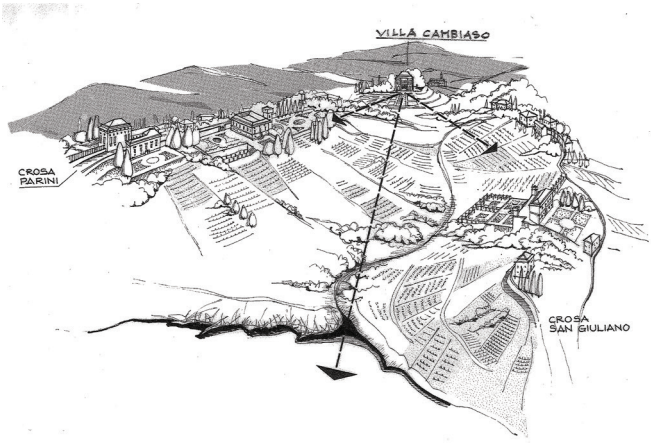
Following the observations in the conclusions to this report, it is useful to draw the attention of the relevant local and regional authorities to a short list of proposals which comprise a possible response to the provisions and objectives of Article 6 of the European Landscape Convention. These proposals concern the need to:

- introduce landscape education into primary and secondary school curricula, to enable pupils to acquire an understanding of the values, features, importance and role of the landscape with regard to people's quality of life;
- promote school teaching that involves activities which will foster familiarisation with and understanding of the landscape; landscape cannot be considered a specific subject area but, on the contrary, involves several disciplines that consider and analyse its various aspects;
- provide appropriate teacher training especially at secondary school level, to teach pupils the basic knowledge they need to understand the landscape, and to have landscape specialists produce a handbook of teaching methods that will be helpful to teachers in this particular field;
- encourage pupils to acquire a personal knowledge not only of the landscape they frequent but also of other landscapes with different characteristics and features; provide schools with materials and audio-visual equipment that will help them develop and update their knowledge of landscapes;
- encourage secondary school pupils to undertake projects, coming up with proposals to address the problems facing the landscape in the area in which they live.

APPENDIX 1 – PRIMARY SCHOOL

Pictures, practical exercises for studying the landscape and templates for analysing different landscape types

Figure 15. Villa Cambiaso and its surroundings



Source: Silvana Ghigino, Faculty of Architecture, University of Genoa

Learning methods and objectives

An initial phase of research, curious exploration and discovery of the landscape should be undertaken by means of outdoor lessons based on direct awareness/observation. The teacher's aim will be to teach pupils how to transform looking at the things around them into observing them with new eyes and a different focus.

Sight: seeing things with which we are too familiar sometimes prevents us from activating our capability for discovery and contemplation.
Observation: learning to observe the things around us in a new way and with observant eyes, thereby fostering the element of surprise and the ability to listen, touch, observe and discover.
Exploration: acquiring the basic insights to identify and understand the natural and human factors that characterise the landscape.
Identification: understanding, interpreting and attributing roles and meanings to natural and human elements and factors revealed in the landscape.

The awareness, exploration and discovery of other landscapes that have been observed and travelled through will make it possible to identify the various natural elements and human activities, drawing on the skills acquired through observation

of the familiar landscape. This will provide an opportunity to discover and experience hilly, rural, marine or lake landscapes, where it will be possible to encounter situations different from those with which pupils are familiar.

Knowledge/direct observation
Seeing – observing – perceiving through the different senses
Processing the information perceived, recognising it
Learning its meanings and uses
Depicting – relating

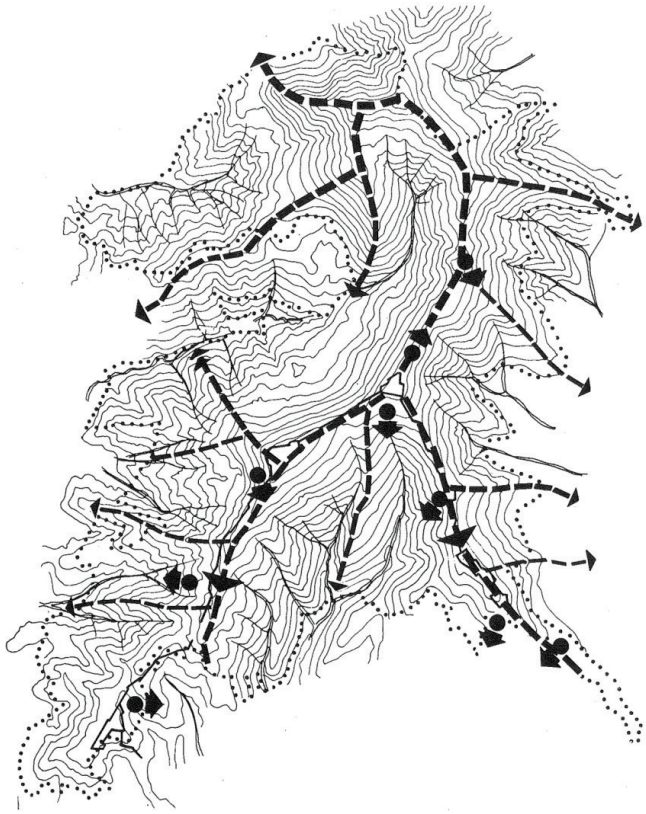
Observe and analyse the example of an urban park characterised by the presence of ancient fortification[3]

Figure 16. A fortification in the park

Source: L. C. Forti

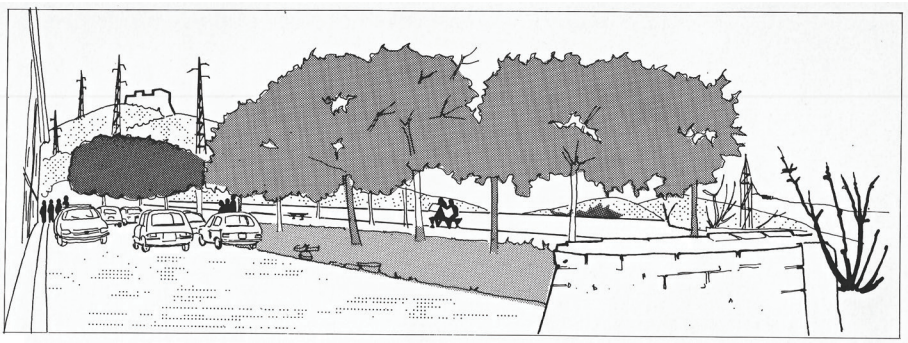
3. Analysis of the fortifications of Sperone Fortress in Genoa conducted in 1983 as part of the specialisation of landscape architecture courses, Faculty of Architecture, University of Genoa, to find solutions to the project "The fortifications of Genoa Park".

Figure 17. Analysis of the morphology of a park

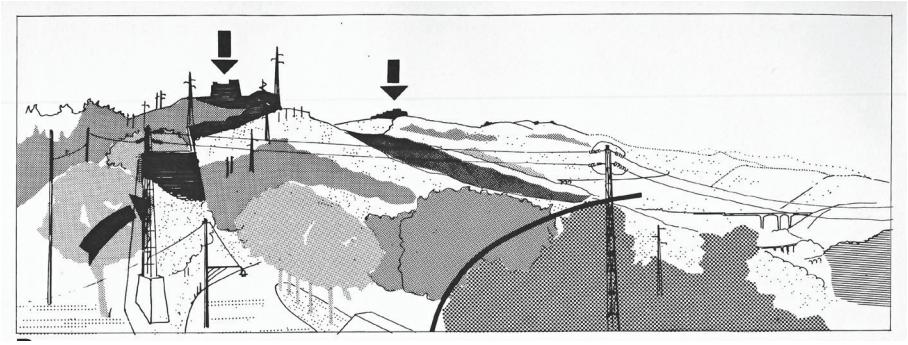


Source: Landscape Architecture Programme, Faculty of Architecture, University of Genoa.

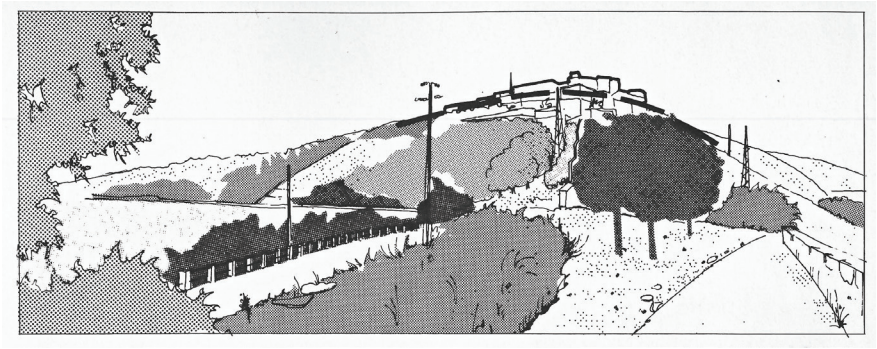
Figure 18. Observation points



Source: *Ibid.*

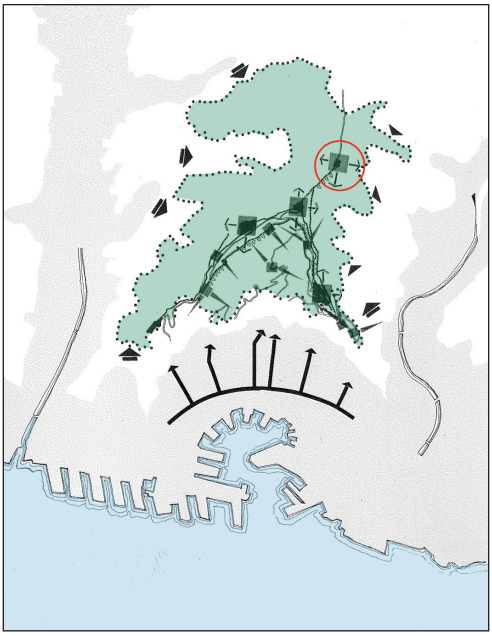


Source: *Ibid.*



Source: *Ibid.*

Figure 19. Position of the fort in relation to the city



Source: *Ibid.*

Model approach to interpreting the landscape: first phase

Discover, through previous observation of a familiar landscape, the relationship in another landscape between its natural features and the work carried out by man.

The first step should be to develop awareness of the relationship between natural features and the changes in landscapes with a different morphology, different vegetation and buildings; to understand how space is organised and become aware of the visible correlations.

Pupils will gradually explore a number of keys to interpreting the landscape in different situations: in urban, suburban, industrial landscapes, and establishing the link between the various ways of transforming the landscape.

Figure 20. Observing a new landscape

Source: L. Nespolo

Observing a new landscape helps identify the features and objects in the area under observation which make up that landscape.

Figure 21. Observing the landscape

Source: T. Mannoni

Human-built elements	
Activities carried out	
Landscape quality	
Dominant colours	
Vegetation and land use	

Getting children to understand that the landscape must be discovered, explored and analysed in a phased approach

Among the plant cover on the hills it is possible to see a path crossing the valley, a group of houses on the right and on the left an open quarry, breaking the continuity of the landscape.

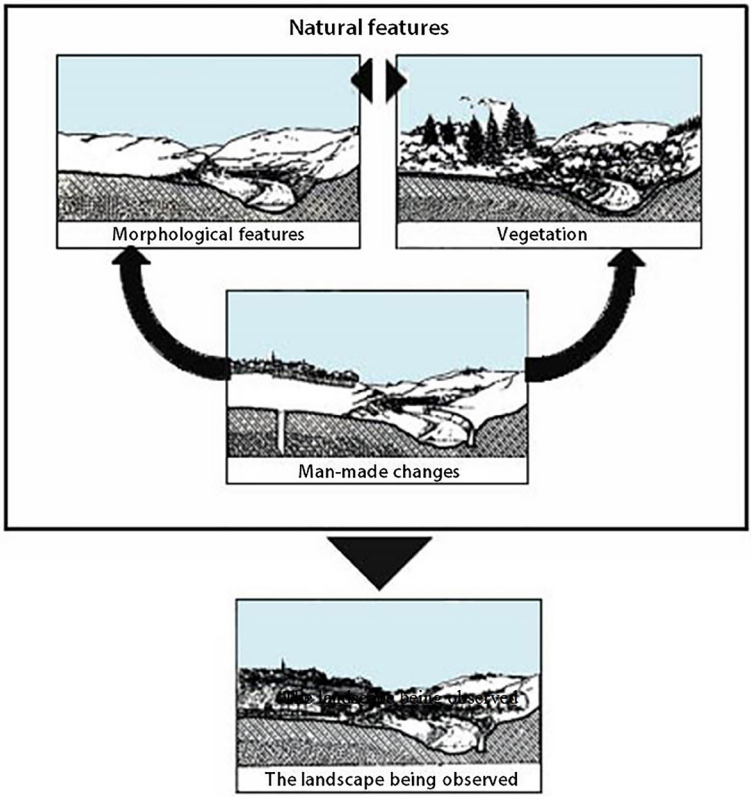
Landscape as a subject of observation – subjective perception	Perception brought about by the overall image – the beauty of the landscape, the forms, colours, sounds, etc., of nature.
Landscape as a subject of exploration and discovery	Organisation of the different landscapes and the relationships of interdependence between the natural factors of the landscape and man-made modifications to it. The distribution and the relationships between the elements and objects and the people that use them.
Landscape as a subject of analysis – objective knowledge	Recognising and identifying the different natural features (inert or living) and the man-made elements that make up landscapes. Introduction to knowledge of the relationships and processes that take place in the constantly changing complex reality of the landscape.
Landscape to be drawn/depicted	

A good observation point makes it possible to see a fairly extensive part of the landscape and to take in the visual features of the landscape as a whole (Fabbri 1984).

Observe more attentively, obtaining information on:

- the physical landscape, showing the natural abiotic shapes and signs of the geological origin of the environment;
- the biological landscape, showing the natural biotic features, vegetation and forest cover;
- the man-made landscape, showing the cultural signs of human activities past and present.

Figure 22. Observing landscape features



Source: P. Fabbri, teaching material, Landscape Architecture Programme, Faculty of Architecture, University of Genoa

When the observer is in an elevated position, he or she can see a fairly extensive part of the landscape and identify the foreground, middle ground and background, with barriers (areas obstructed from view), the visible features and objects and the specific elements of the landscape which become less and less clear the further away they are.

Figure 23. Elevated observation point

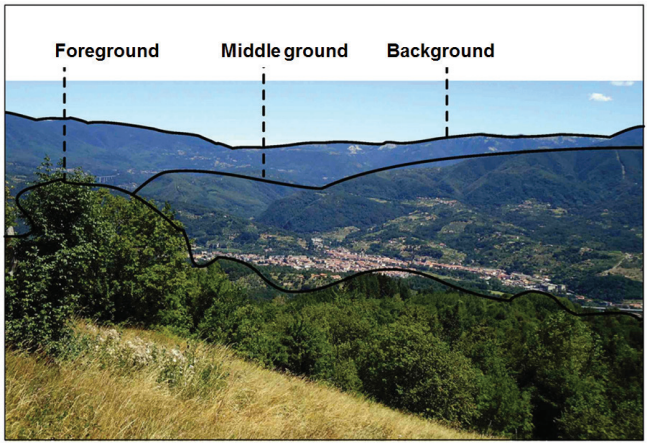
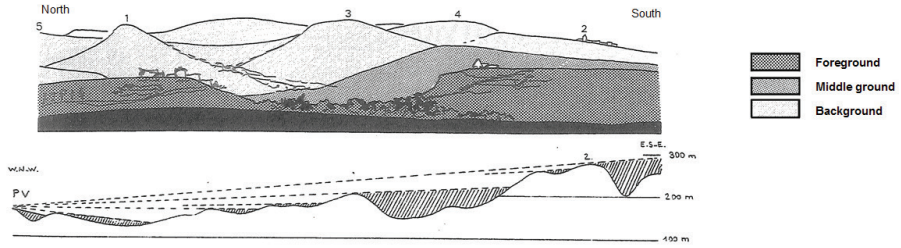


Figure 24. Depth of landscape



Source: Calcagno Maniglio 2002.

Figure 25. Elevated position for landscape observation – Identification of the foreground, middle ground and background

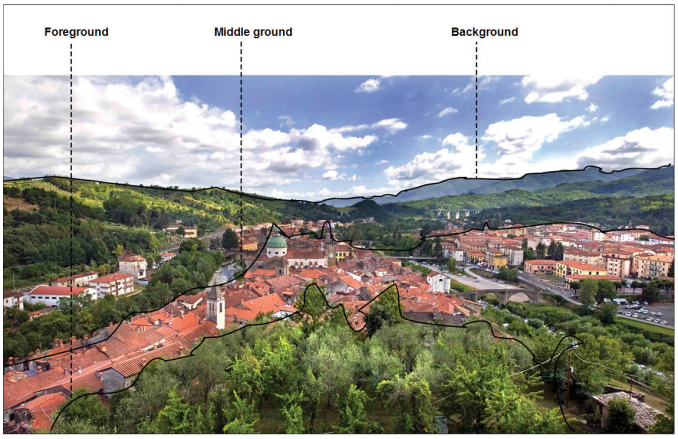
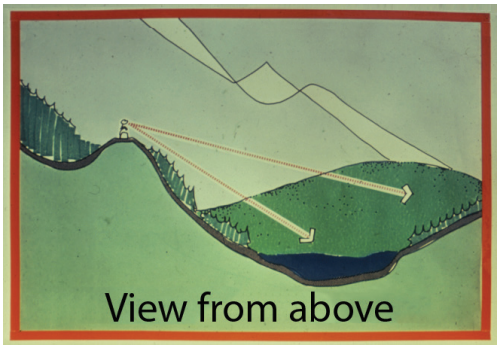


Figure 26. Observing the landscape

The best position for observing landscape is generally an elevated or eye-level position with no intermediate obstacles: this enables one to take in as much information as possible on the landscape.

Source: Teaching material, Landscape Architecture programme, Faculty of Architecture, University of Genoa.



Learning about, exploring and discovering in other landscapes that have been observed and visited the various natural features and human activities and transformations; getting the children (in the final years of primary school) to understand that the landscape has to be discovered and analysed through different approaches.

Landscape as a subject of observation – subjective perception	Perception brought about by the overall image the beauty of the landscape, the forms, colours, sounds, of nature or urban and peri-urban spaces.
Landscape as a subject of analysis – objective knowledge	Organisation of the different landscapes, the interdependent relationships between the natural factors of a known landscape and the transformations brought about by human action (those of the child's and the other children's living environment); Introduction to knowledge of the relationships and processes that take place in the constantly changing complex reality of the landscape.
Landscape as a subject of exploration and discovery	**Organisation of the different landscapes:** – the various functions and the activities taking place there; – the distribution and the relationships between the elements and objects and the people that use them.
Landscape to be drawn/depicted	

Figure 27. Sestri Levante, Liguria

Tourist development has occupied land in the plain and has transformed the beaches.
Source: Merlofotografia.

Figure 28. Mediterranean scrubland

The sand dunes along the coast have been covered with Mediterranean scrubland.
Source: A. Calcagno Maniglio

Drawing and telling a story

Draw what you see when you make your way to school.

Draw the park where you go and play.

1. Pupils should observe and describe the route taken to school by answering a series of questions:

- Is your school far from your home?
- Do you walk there?
- How long does it take you to get there?
- Is the road flat or on a slope?
- Are there any trees along the road?
- If so, how many and are they tall?
- What can you see right at the end of the road?
- Are there any gardens?
- What is there on the other side of the road? Houses or countryside?

This illustrates the different routes taken by children to go to school and gets the pupils to describe them.

Figure 29. Pictures by primary school children

Top: S. Eusebio Primary School, years 4 and 5;

Bottom: Andersen Primary School, year 5, Genoa.

My school

My school building

The road home

The park in my village

2. Compare the description with the one made by other pupils in the class.

3. Get the children to draw what they see through the window of their home.

4. Show different routes that other children take to get to school and ask the children to describe them.

Instructions:

- Use an ordinary pencil and coloured pencils and start to draw.
- Go to the window at home with a drawing book and draw what you see: the road, a garden, a square, trees, a meadow, cars passing by, etc.
- Draw what you see when you walk along the road that you take to go to school.
- Draw the park where you go to play.

Figure 30. School routes

School routes

Village road. Source: A. Calcagno Maniglio

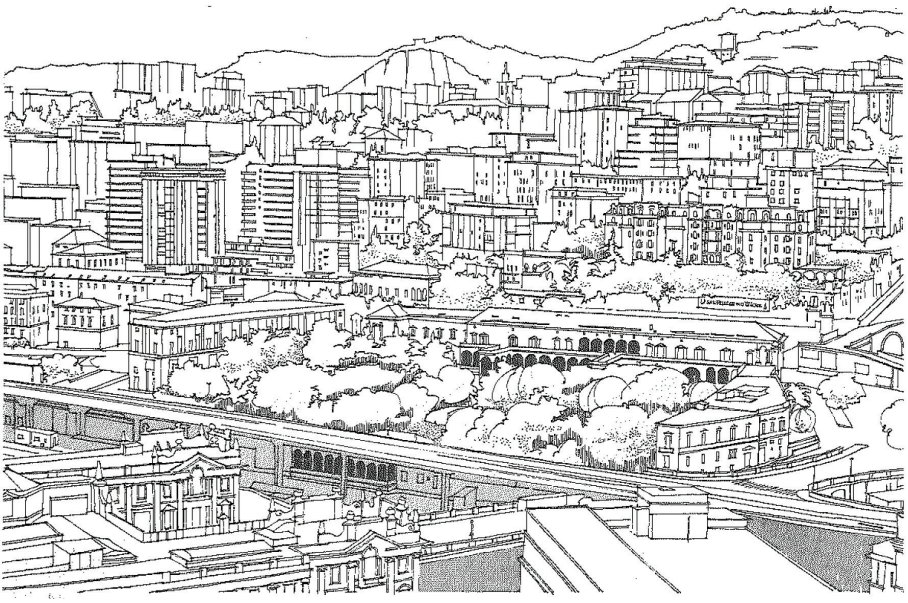
Railway/road intersection. Source: *Ibid.*

Riverside path. Source: *Ibid.*

APPENDIX 2 – SECONDARY SCHOOL

Pictures, practical exercises for studying the landscape and templates for analysing different landscape types

Figure 31. Drawing for landscape studies



Source: Giulia Robbiano, Faculty of Architecture, University of Genoa

Landscape analysis templates

Summary of the analyses carried out to achieve clearly defined objectives, including the acquisition of general and more detailed knowledge of the landscape: useful for guiding approaches to protection, management and sustainable development.

Topic	Content
Identification of the landscape and its main features	Identifying and defining the scope of the study. Interpretation of the specific structural and functional features of the landscape.
Natural systems	Identification of the main features of the natural system: geological and geomorphological components (height, slopes and slope exposure), pedology, hydrology, climate and vegetation.
Man-made systems	Identification of the main features of the man-made system: constructions, infrastructure, (urban, industrial, commercial, roads etc.), farmland, forestation, etc.
Visibility	Analysis of the visual features of the landscape, outstanding elements, degradation and fragility. Methods of observation.
Interrelationship between natural and man-made systems	Identification and interpretation of: the relationships between natural and man-made systems and the ways in which these are used, the transformations to these places in the course of time.
Dynamic processes and transformations	Understanding the transformations and developments carried out when making a comparison between the present situation and the historical phases known to pupils.
Summarising the analyses made	Summarising the analyses made in order to ensure the acquisition of a more detailed knowledge of the landscape that will help guide the approaches to protection, management and sustainable development.
Evaluations	Identification and evaluation of the resources and identity-related values present in the landscape analysed.

Examples of a coastal landscape

Figure 32. Natural landscapes

Sestri Levante. Source: Merlofotografia

Some natural characteristics are still present in the landscape, including sandy beaches and old olive groves. The sea and coast line have produced an example of remarkable natural heritage.

The man-made changes over the last 20 years have led to dramatic changes to the coastal landscape: the pressure from tourism, the urban concentration on the coast and the construction of the coast road has had a considerable effect on the natural resources of the coastal zones. There has been a negative impact on the environment and the quality of the landscape. The hinterland has been marginalised, as has the traditional farming carried out there.

Figure 33. Recent anthropogenic transformations of coastal areas

The western coast of Liguria, Italy. Source : S. Soppa.

Template for identifying the values and qualities of the landscape

Values	Evaluation criteria
Historical and cultural value	Presence of structures and settlements of historical, cultural and/or artistic interest Presence of local identities, traditions, community memory, etc.
Natural and ecological value	Rich variety of flora and biodiversity Geomorphological values, vegetation and water resources Stability of ecosystems, etc.

Values	Evaluation criteria
Economic value	Viability of farming, forestry, tourist activities Accessibility of land to infrastructure networks and services Value of urbanised, agricultural and forest areas in relation to development and environmental protection rules, and to visual, tourism qualities, etc.
Quality of life	Quality of the microclimate Quality of air, water and soil Quality of the landscape (historical-cultural, social, economic) Quality of services, infrastructure, etc.
Landscape identity	Outstanding features of the landscape, natural, historical, cultural and economic resources
Recognition of landscapes	Residents' and visitors' understanding of the features of the landscape

Maps and aerial photographs

It is very important to use maps and consult aerial photographs as they contain data and information on various landscapes. This helps foster an understanding of the morphological features, environmental features and man-made transformations in the areas analysed.

This aerial photograph clearly shows the totally wooded slopes and the village built on the crest of a mountain.

Figure 34. Topographical map

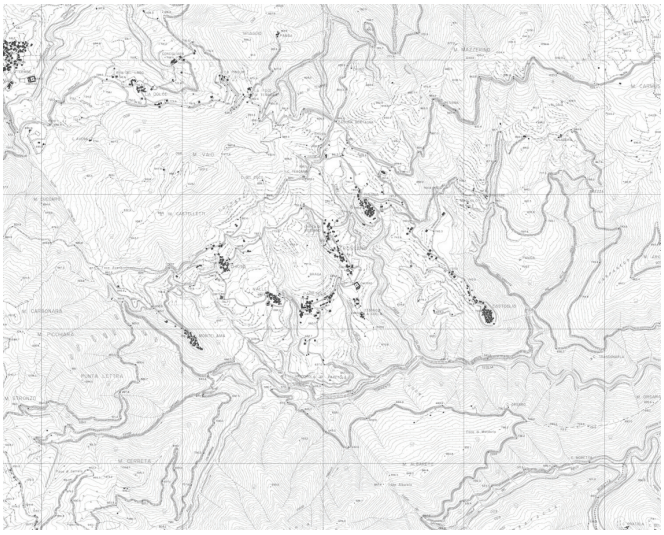
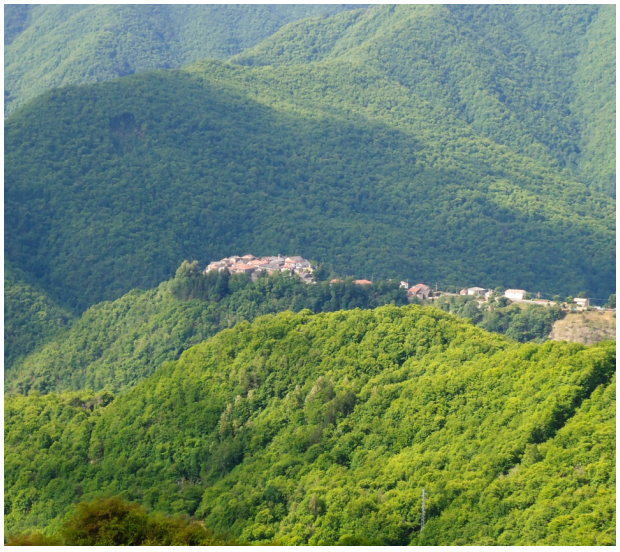


Figure 35. Aerial photo (distance)

Source: A. Calcagno Maniglio, Faculty of architecture, University of Genoa.

Figure 36. Aerial photo (close up)



Source: Tiziano Mannoni

Example of an evolving riverscape

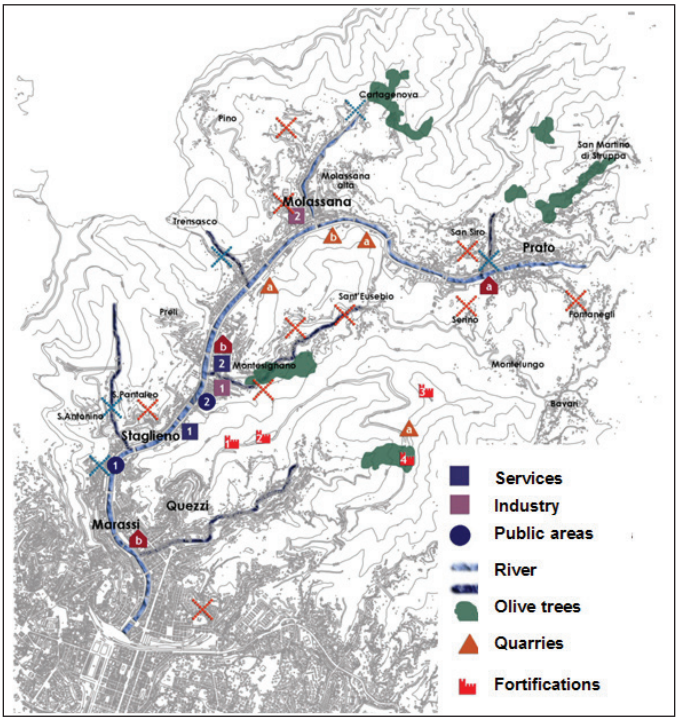
The observer's elevated position makes it possible to see a fairly extensive part of the landscape and to identify the course of the river, the urban development along the river bank, the wooded hills and the main features of the landscape.

A detailed image of the foreground shows recent changes to the landscape: buildings constructed all along the river.

The photo of River Bisagno shows the riverscape's structure, morphology and the natural and man-made features typical of the area.

Figure 37. Riverscape of River Bisagno

Source: Municipality of Genoa.



Source: Franca Balletti, Faculty of Architecture, University of Genoa.

A network of rural pathways and a small farming village today abandoned. Source: *Ibid.*

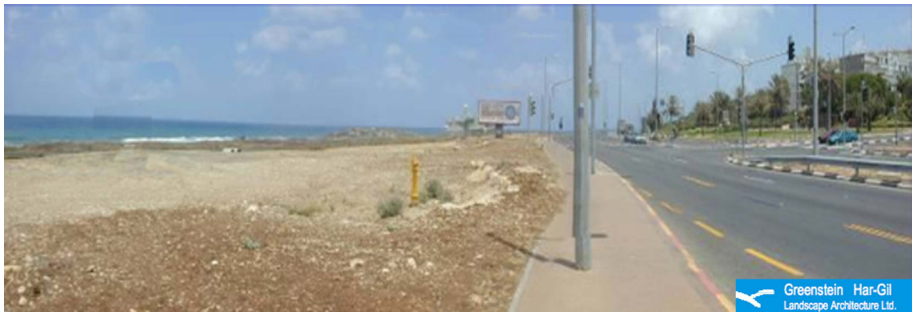
Figure 38. Riverscape: bridges, roads, vegetation, agriculture

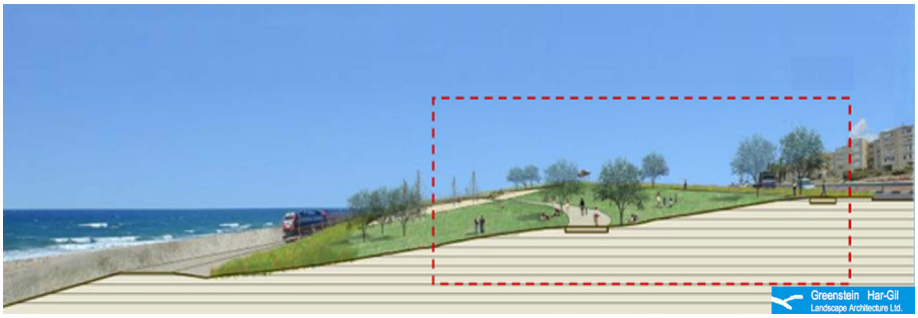
Source: Franca Balletti, Faculty of Architecture, University of Genoa.

Example of an evolving coastal landscape

A promenade project (by Har-Gil) for a new park in a very urbanised area Shikmona Park Haifa.

Figure 39. Promenade project





Source : Greenstein. Har-Gil, Landscape Architecture Ltd.

Source: *Ibid*.

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