

LANDSCAPE LEARNING AND TEACHING: INNOVATIONS IN THE CONTEXT OF THE EUROPEAN LANDSCAPE CONVENTION

Gómez-Zotano, José¹ and Riesco-Chueca, Pascual²

¹University of Granada and ²University of Seville

¹Granada and ²Seville / Spain

jgzotano@ugr.es; riescochueca@us.es

Abstract

University teaching syllabuses dealing with landscape have been traditionally addressed in Europe by means of diverse conceptual, methodological and curricular approaches. However, following the implementation of the European Landscape Convention (ELC) in 2000, landscape education has turned into a new and challenging item within the Higher Education Area (HEA). Indeed, landscape is undergoing a deep renovation process and a conceptual and methodological renaissance; the university is at the core of this renovation, in agreement with its role as a promoter of the social sensitivity and public interest required by a changing relation between people and place, as embodied by the landscape concept. The importance of landscape as an ingredient for quality of life and culture, the steady degradation of a substantial fraction of the territory, and the increasing demand of experts in the fields of landscape protection, management and planning: these factors are impelling the teaching community to include landscape among the issues demanding an upgraded knowledge transfer. Therefore, a necessary step is to include the education-landscape couple into the pedagogical circuit, and to ascertain the role demanded from teaching innovation in this subject-matter.

The research leading to this paper is based on a Specific Cooperation Agreement established in 2006 between the Spanish Environment Ministry (Department of Territory and Biodiversity), the University of Seville and the Seville-based Institute for Landscape and Territory (CEPT), for the execution of a "Report on the state of landscape in Spain, and drafting of policy measures aimed at implementing the ELC". A methodological sequence for landscape analysis along the lines of the ELC is presented, focused on the design of a shared language and theoretical frame, compatible with similar developments across Europe. In concert with the European Higher Education Area (EHEA), the method here presented gives the student some tools for the acquisition of a conceptual framework and a knowhow platform in agreement with the ELC Guidelines and the requirements and expectations of the labor market in the countries subscribing this treaty.

Following the ELC Guidelines and the basic aspects of the British Landscape Character Assessment (LCA), one of the inspiring sources of the ELC, the proposed methodology consists of two stages. The first one, *identification and characterization*, involves four steps: 1. Definition of the scope and location of the study; 2. Office work; participation and awareness raising strategy; 3. Fieldwork; 4. Identification and characterization. The second stage, *assessment and proposals*, includes three steps: 5. Qualification; 6. Setting of landscape quality objectives; 7. Follow-up.

This paper is aimed at spreading an updated insight on landscape issues, and to engage in a learning and ability building process whose final outcome should enable any student to participate as a civilian and as a practitioner in landscape issues, and to acquire a solid standpoint concerning landscape-related notions: the character and the quality of landscapes, their dynamics and transformations, their natural and ecological foundations, their economic background and their historical and/or ongoing processes, as well as the perceptions and cultural meanings attached to them by the population. Landscape being a key resource for the construction of a holistic intellectual approach, the proposed method opens the door to new research lines and trans-disciplinary strategies in the general and specific didactics of Geography, Architecture, Environment Sciences, History, Education Science or Arts.

Keywords - Innovation, landscape, method, European Landscape Convention (ELC).

1 INTRODUCTION

In agreement with the key objective of the new framework European Higher Education Area (EHEA), the international competence of the European Union universities is bound to become a priority goal involving all of the university community: students and faculty. All are invited to engage in a process of change aimed at establishing a set of values and good practices which are compatible with the best quality at the Higher Education level.

To achieve a continuous increase in the university teaching quality implies a periodic revision and updating of the study programs and the degrees supplied, keeping in mind the needs of the work market and the prospective graduate integration in the society. In addition, the qualification and the competence of the teaching community is a requirement which can be met by building up educational insights with the help, among other, of workshops dealing with a renovation of the teaching-learning methods and the evaluation strategy.

On the other hand, the new methods call for a flexible work atmosphere, where the new information and communication technologies (ICT) are integrated to enable the implementation of learning tasks such as knowledge retrieval and teamwork skills. A teamwork approach is also required on the part of the student-teacher interaction, providing alternative paths to the traditional strategy of individual, accumulative learning. The professors become mediators and managers of knowledge resources [1].

As indicated in the Lucerne Declaration on Geographical Education for Sustainable Development (2007), the benefits of the use of ICT contribute to the aims and objectives of Geographical Education, and therefore to landscape teaching, in a context oriented to sustainable development, because these technological frame helps in the following [2]:

- Acquiring up-to date knowledge easily.
- Comparing contradictory information.
- Looking at things from different, multi-perspective points of views.
- Gaining direct insight into the attitudes and perspectives of people who are personally affected by issues of sustainability (i.e. impacts of natural disasters, environmental pollution, economic crises).
- Analyzing the world and its mental representations.
- Helping to understand the conceptualizations and attitudes concerning issues of sustainability of people from different cultures.
- Visualizing multi-dimensional environmental issues related to sustainable development.
- Promoting higher thinking skills like synthesis and evaluation.
- Developing understanding, skills, attitudes and values, necessary for sustainable behavior.

The UNESCO has advocated an approach to ESD (education for sustainable development) urging it to be “interdisciplinary and holistic: learning for sustainable development embedded in the whole curriculum, not as a separate subject”. One of the key subjects where sustainability considerations are to be incorporated is landscape science. However, there is no simple theoretical-methodological formula to deal with these new issues. Success is based on a combination of factors: the institutional prestige and innovation capacity, the flexibility of the faculty, the subject-matter quality, the university environment and the person-to-person communicative atmosphere.

On the other hand, landscape is a key resource for the integrated cultivation of citizenship abilities. Landscape is a social product that evolves along with the society, expressing its crises, mutations and equilibriums, so that the students are deeply involved, as citizens and residents, in it; landscape science is a tool linking disparate knowledge units which would otherwise be classified in remote drawers of their conscience; and landscape experience helps to overcome stereotypes in the perception of the lived environment [3]. In Europe, the growing diversity in the cultural and ethnic background of the students, the increased mobility of the populations, and their diverse degrees of family connections in the area, lead to a perception of the territory where no automatic understanding can be taken for granted: territorial identities are contested, and landscape studies provide mediation by opening up an arena for a re-interpretation and adoption of the land. Different authors have stressed the opportunities provided by landscape as a medium between people and place, and a means to implement a sustainable relationship between the populations and their spatial context [4, 5, 6, 7]. The interaction between local residents and their environment is so intense that it can be aptly described as the mutual shaping of people and place; being able to decode these processes becomes an imperative need, labeled by some as “landscape literacy” [8].

Zanato Orlandini has identified three principal landscape functions in the classroom context [9]:

- Hermeneutical function: reading landscape and decoding its signs.
- Pragmatic function: being able to deal in practical terms with the territory, by managing, planning and protecting it. This implies the ability of decision making and project drafting.
- Social function: developing local identities, opening up to otherness (landscapes of the past; landscapes of foreign or emigrant landscapes).

An interesting best-practice project for education on landscape (Karstic Cultural Landscape) highlighted some aspects of landscape education [10]:

- The strong relevance of the relationship dimension, at different levels
- The scientific and critical approach to landscape complexity
- The role played by emotional learning, as a means to acquire deeper and wider knowledge.
- The strong cooperation among researchers, students and professors, oriented to a common aim.
- The combination of a local scale (the lived or experienced landscape) and an international perspective.

The European Landscape Convention (ELC) and the literature associated with it, specifically the *Guidelines*, advocate the incorporation of landscape issues to the educational strategy: “school curricula at various levels should foster an awareness of landscape themes through learning to read landscapes and through sensitization to relations between *cadre de vie* and landscape, to relations between ecology and landscape problems and to social and economic questions”. In addition, “Landscape constitutes a teaching resource because, when reading it, pupils are brought face to face with visible signs of their surroundings that relate to spatial-planning issues. Landscape reading also makes it possible to understand current and historical approaches to landscape production as an expression of a community’s identity”.

As a result, “special higher education studies focusing on landscape protection, planning and management” should be encouraged; and “landscape issues should be included in training for specialists in spatial planning, urban development, cultural, environmental, agricultural, social and economic policy, as well as other policy areas likely to affect the landscape directly or indirectly”. Training procedures can be included in the university curricula, as a part of specialist education. Practitioners of landscape are immersed in a value-laden activity, and their training requires a carefully balanced combination of scientific knowledge, community insight, and artistic creativity [11]. Education and training in landscape has gradually become a familiar aspect of university and secondary-school curricula [12, 13, 14, 15].

2 EDUCATION AND LANDSCAPE

In a dynamic and complex territory such as Europe, landscape education becomes a crucial issue. In spite of it, there are few countries where a specific dedication is consecrated to this topic, even within the HEA. The scholarly contributions to landscape didactics are few in the European area, a feature shared with other parts of the world. In any case, there is a pressing need for regular contributions dealing with the educators requirements in terms of teaching material, problem coping and up-to-date teaching insights in the field of landscape.

The objectives of landscape education can be differentiated depending on the level, as explained by Pedrolí and Van Mansvelt, and Zoido Naranjo [14, 16]. In a primary school, the key is to provide direct experience of different landscapes, to highlight the diversity of the landscape components, and to show the links with the main producing agents (farming, fishing and husbandry). At second level education, the goals are the direct observation of landscape (being able to read and describe a landscape), the discernment of the causal relations between landscape form and processes, and the inscription of landscape among other branches of knowledge. At the university level, an integrated field survey is to be started, the processes and dynamics of landscape change need to be understood, the transformation degree is assessed, and a proactive attitude (coming up with proposals and solutions) is acquired.

Concerning more specialized training, Zoido Naranjo [14] suggests the need for a clear orientation to the three main areas defined in the ELC, landscape protection, management and planning, and the following goals:

- Harmonize the different scientific and technological approaches to landscape by taking advantage of the new opportunities provided by the European Higher Education Area.
- Launch a specific landscape degree, and define specific postgraduate studies.
- Increase the multidisciplinary and trans-disciplinary connections.

The general objective is to define methodologies to incorporate landscape into a plurality of instruments, such as environment impact assessment, land use planning, urban planning, and community development.

Owing to its multi-disciplinary nature, there is no clear location assigned to landscape in the curricular structure. The ELC Guidelines indicate that landscape education may be incorporated to a diversity of pre-existent curricular paths, by means of “education in several disciplines, whether geography, history, the natural sciences, economics, literature, arts, architecture or engineering disciplines, or civics education.” It can be argued that, as is the case in Geography studies, a source subject-matter from which many of the theoretical and methodological assumptions of landscape derive, landscape studies are afflicted by a certain lack of understanding of their goal, method and ambitions. This is an old and well documented problem, which has not been addressed adequately in the scientific literature, not to mention in the didactics.

The university should complete the educational process which is already established in terms of landscape teaching in certain European areas. As indicated in the ELC Guidelines, “While schools in certain states already offer landscape training, such training should be strengthened so as to develop children’s sensitivity to questions which they are likely to experience when looking at the quality of their surroundings. Furthermore, this is a way of reaching a population through the family”.

Therefore, the landscape-education couple is calling for university mediation. A welcome step in that direction is provided by the *La Rábida Declaration on the awareness-raising and professional training of landscape experts* [17] sanctioned by UNISCAPE, the network of universities especially dedicated to the implementation of the European Landscape Convention, during the 1st International meeting of Directors of Master’s Courses in Landscape Studies (in Huelva, Spain, may 2009). According to this document, the main object of college-level teaching in the field of landscape is “the contribution to landscape’s quality, as a factor and as an expression of life quality and identity”. In addition, landscape being a source concept for the generation of holistic thought, its incorporation to EHEA opens the door to new research lines and new trans-disciplinary approaches in the didactics of diverse branches of knowledge: Geography, Architecture, Environment, History, Education and Fine Arts. Accordingly, rather than leaving the initiative to individual and potentially biased projects, an institutional strategy would be required for the universities in order to delineate a joint approach, European-based for the teaching and learning model in landscape.

As a function of these parameters, landscape education can be defined as a process whereby landscape values are recognized, and the concepts and methods are acquired which enable the student to incorporate a landscape-sensitive behavior and aptitude. This entails both a know-how and a conduct, which provide the foundation for a right comprehension and appreciation of the dependency relations linking a society, characterized by its culture, production mode, ideology and power structure, with its biophysical environment, as defined by a peculiar combination of abiotic and biotic underpinnings; in addition, they are instrumental for crafting an improvement of the quality of life, present and future, of the populations to which the students belong.

Landscape teaching aims at enhancing the knowledge transfer in the field, including new findings and insights on the topic. In addition, landscape courses ought to provide a platform for individual learning and ethics, aimed at providing citizens with the following abilities: characterizing and qualifying the landscape, describing its dynamics and transformation, and showing its natural and ecologic foundations, as well as its economic potential. This is a process where the temporal dimension must be brought to the fore, including the recognition of historical and contemporary processes; likewise, the link with societal preferences and perceptions must be enhanced, stressing the connection with cultural meanings and symbolic representations.

Among the diverse objectives in landscape education, the following are to be emphasized:

a) Awareness rising: the student is helped to gain a better awareness and sensitivity concerning landscape in general, within a holistic approach, and keeping in mind collateral problems.

- b) Knowledge acquisition: the student is provided with a basic understanding of landscape, as a complex concept involving natural and man-made components, and a critical conscience of the social and moral implications of landscape politics.
- c) Ability to identify and qualify landscapes: the student is assisted in the identification and characterization of the landscapes, taking into account ecologic, politic, economic, social, aesthetic, perceptive and educational parameters.
- d) Attitude building: the student is encouraged to recognize and to address situations where a landscape problem is developing.
- e) Evaluation ability: the student is provided with tools for the assessment of different landscapes, with a careful and integrated consideration of their associated values, in terms of ecology, productivity, historical content, societal implications, cultural, religious and spiritual meanings, as well as symbolic, identity and aesthetic substance.
- f) Participatory education: the student is helped to overcome fatalistic attitudes, and invited to engage in social and environmental activity. The aim is to counter passiveness, and to develop a sense of involvement and responsibility, by suggesting the urgent need to include landscape among the pressing issues of our agenda, and to design a policy suitable to the needs of the population.

3 TEACHING INNOVATION AND LANDSCAPE

The transformations in the learning-teaching styles are to be set within a wider framework of global societal change. One of the areas where global change is more noticeable, both in its physical reality and in its cultural meaning, is landscape, the backdrop of most societal interaction. University and landscape, therefore, are two correlative areas where innovations go hand in hand with critical appraisal. As an institution, the university is called to address its relationship with the *cadre de vie* and to understand its premises in order to be a fully operational institution in our society. It must pay attention to the environment and the messages issuing from it; accordingly, landscape must become a reference concept to guide attempts aimed at raising our living standard and cultural identity.

On the other hand, following an initial launching stage of the ELC, this treatise is called to be implemented in areas such as training and education, so as to permeate as deeply as possible in the society at large. The new technologies available for education combine here with the innovative insights gained on landscape as a discipline. Landscape embodies a plurality of aspects demanding pedagogic attention: environment, politics, economy, ideology, culture, psychology, among other; and it is deeply set in a diversity of scales and contexts [18].

Failure or success of the educational innovations in landscape teaching depend essentially of the formula adopted by the different actors in terms of interpreting, redefining, filtering and shaping the proposed changes. The main challenge lies in building constructive attitudes concerning landscape, a process involving individuals, groups and institutions; material aspects and information are in general easier to modify than attitudes, practice and values, a compound which is inserted in the society's agency.

From a more concrete viewpoint, ELC-adapted educational systems require a prior process of pedagogic innovation, leading to conditions compatible with the development of learning and adapting abilities. These abilities are needed both by individuals and by organizations. Therefore, the required innovations are to be deliberately and painstakingly planned, on the basis of theoretical assumptions and taking into account the target (to modify social landscape practice) as a guiding reference to improve its efficiency.

Innovations in landscape teaching must benefit from the potentialities inherent to new ICT, and more specifically Geographic Information Technology (GIT), as well as new methodological models, teacher training approaches and other available resources. The ELC opens the door to a flexible and imaginative application of such technologies, along with a critical and open-minded appraisal of their shortcomings and potentials. In particular, there is a striking coincidence of objectives between landscape studies, with their emphasis on *considering the territory as a whole* (as indicated in the *ELC Guidelines*, the convention applies to the entire territory and covers natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas. It concerns landscapes that may be considered outstanding as well as everyday and degraded landscapes), and ICT as the most visible tool for the interconnection of the world and the universalizing of knowledge. Computer work and

internet communication provide the basis for cooperative learning and anticipate the conditions to be expected in an office setting.

Using GIT in an educational context, under the premises of flexible teaching, can lead to positive developments in different aspects of the university experience:

- Changes in the concepts: what is a lecture supposed to be, which are the didactic processes involved in it, what is the role and identity of the professor.
- Changes in the basic resources: contents and materials, infrastructure (information networking), protocols of use by professors and students.
- Changes in the practice and expectations of professors and students.

Nonetheless, technical innovation by itself cannot monopolize the didactics of landscape, even in a discipline such as landscape, where cartography and the multiple data layers to be combined lend themselves to intensive use of technology. The student and the methodology are to be focused as the leading objects of interest. The remaining considerations (new materials, new behaviors and teaching practice, new understanding and concepts) are ancillary to this primary goal, to improve the dynamics of learning-teaching [19]. A traditional type of instruction consisting of lecture and blackboard can also be adapted to the needs of a reflective modernity, provided that the contents and the student-professor interaction are finely tuned to the spirit of the subject-matter. Fullan and Stiegelbauer indicate that the use of new materials or technologies and the introduction of innovative approaches to curriculum building are just the tip of the iceberg. The difficulty lies in the acquisition by professors and students of new abilities, behavior and practices adapted to the transformation. Innovation leads to changes in the subjects and the context [20]. The subjective scope includes a change in the implicit representations and theories of the actors, i.e. the standpoint from which they interpret and adapt the innovations. The objective scope is linked to the practices requiring transformation: intentions, teaching contents, methodological strategies, curricular materials, approaches and evaluation practices.

At any rate, a methodology for landscape teaching and learning is in part constrained by the characteristics of the institution: the physical space available, the background and calling of the professors, the tools, materials and resources and the geographic context. The new concepts in landscape, including its operative definition, may be accepted without resistance, but the institutions must interiorize the transformation and develop specific, non-standard approaches to its teaching. Each university can find its own style, taking into account its social and geographic context and making the best use of its tradition and strengths. The weaknesses that any institution is bound to experience can be compensated by forging alliances between different teams and universities, developing inter-disciplinary and inter-institutional groups, so as to ensure the correct administration of all the resources required.

In order to face this task, the educational institutions must undertake a revision of their landscape assumptions and promote innovative experiences dealing with learning-teaching processes based on novel methods and ICT. Some structural adaptation is mandatory; a condition that might be more challenging for rigidly organized universities. Landscape groups can engage in a dual process involving scientific and scholarly innovation as well as innovative external projects suitable to be extrapolated to the classroom [21].

Therefore, designing a teaching and training environment in agreement with the ELC requires taking some steps while balancing the pedagogic model, the users (professors and students) and the potential of technological tools in the context of a flexible education model [22].

4 PROPOSAL OF A TEACHING METHOD FOR THE IMPLEMENTATION OF THE EUROPEAN LANDSCAPE CONVENTION

As indicated in the *Guidelines* issued along with the ELC, there is considerable freedom in the implementation of the landscape policy: “guidelines for measures should not be too interventionist as regards the methods, stages and stakeholders involved in the process of knowledge production: certain public authorities may provide landscape catalogues or atlases for use as a stand-alone instrument, with bodies having specific responsibility for producing them. Depending on the state, such documents have various titles: landscape atlas, landscape catalogue, landscape map, landscape

character assessment map, and so on. These supply a common reference framework and constitute a common language which makes communication easier between stakeholders”.

Accordingly, the Guidelines encourage initiatives aiming at providing support and creating a common language for landscape agents, among them teachers. This is one of the main objectives of the present proposal, which is based on a multi-scale method taking into account three scalar levels: region, area and locality. These scales provide a reference for land studies, and are therefore suitable for landscape studies, because they represent significant scope units for an intrinsically continuous concept such as landscape.

The method here proposed follows the indications set out in the ELC Guidelines:

- Strengthening the integration among different approaches for territorial knowledge and observation, from a variety of viewpoints: environmental, economic, social, historical and cultural, perceptive and visual.
- Ensuring that the analysis refers to the territory as a whole, covering outstanding landscapes as well as everyday and degraded landscapes.
- Guaranteeing that the organization and presentation of the knowledge generated is accessible, clear and transparent, so as to enable public participation in landscape policy.
- Encouraging the establishment and availability of landscape databases; these should concern the condition of places, their past and present dynamics, pressures and risks, and both natural and human aspects of them. Information should be updated periodically, most frequently when changes are rapid. They should comply with nationally, and where possible internationally, recognized criteria so as to encourage exchanges of experience between states, regions and territorial communities at other levels.

Taking into account the principles and the vocabulary established by the ELC and the adjoining literature, the fundamental stages in the process leading to landscape action are: 1. Knowledge of the landscapes: identification, description and assessment; 2. Definition of landscape quality objectives; 3. Attainment of these objectives by protection, management and planning over a period of time (exceptional actions and measures and ordinary actions and measures); 4. Tracking landscape changes, evaluating the effects of policies, possibly redefining the choices; 5. Participation, consultation, pooling of ideas and approval (between institutions and the population, horizontal and vertical), a task that should be organized at all stages in this process. Accordingly, the method presented here is based on the following steps. The procedures outlined below are closely inspired by the Landscape Character Assessment (LCA) methodology; departures from the LCA are based on specific indications of the ELC.

First stage: IDENTIFICATION AND CHARACTERIZATION.

- Phase 1. Definition of the scope and location of the study.
- Phase 2. Office work; participation and awareness raising strategy.

As indicated in the *Guidelines*, “All action taken to define, implement and monitor landscape policies should be preceded and accompanied by procedures for participation by members of the public and other relevant stakeholders, with the aim of enabling them to play an active role in formulating, implementing and monitoring landscape quality objectives.” Therefore, the participatory strategy is designed at the beginning so as to incorporate it to all subsequent phases. In the process of setting landscape policies, “participation, consultation, pooling of ideas and approval (between institutions and the population, horizontal and vertical) should be organised at all stages in this process.”

- Phase 3. Fieldwork.
- Phase 4. Identification and characterization.

Rather than the British terminology, “classification and description”, the above concepts issue from the ELC, where point 1.a of the “identification and assessment” procedure refers to the following tasks: i. to identify landscapes; ii. to analyze their characteristics and the forces and pressures transforming them; iii. to take note of changes.

Second stage: ASSESSMENT AND PROPOSALS.

- Phase 5. Qualification.
- Phase 6. Setting of landscape quality objectives.

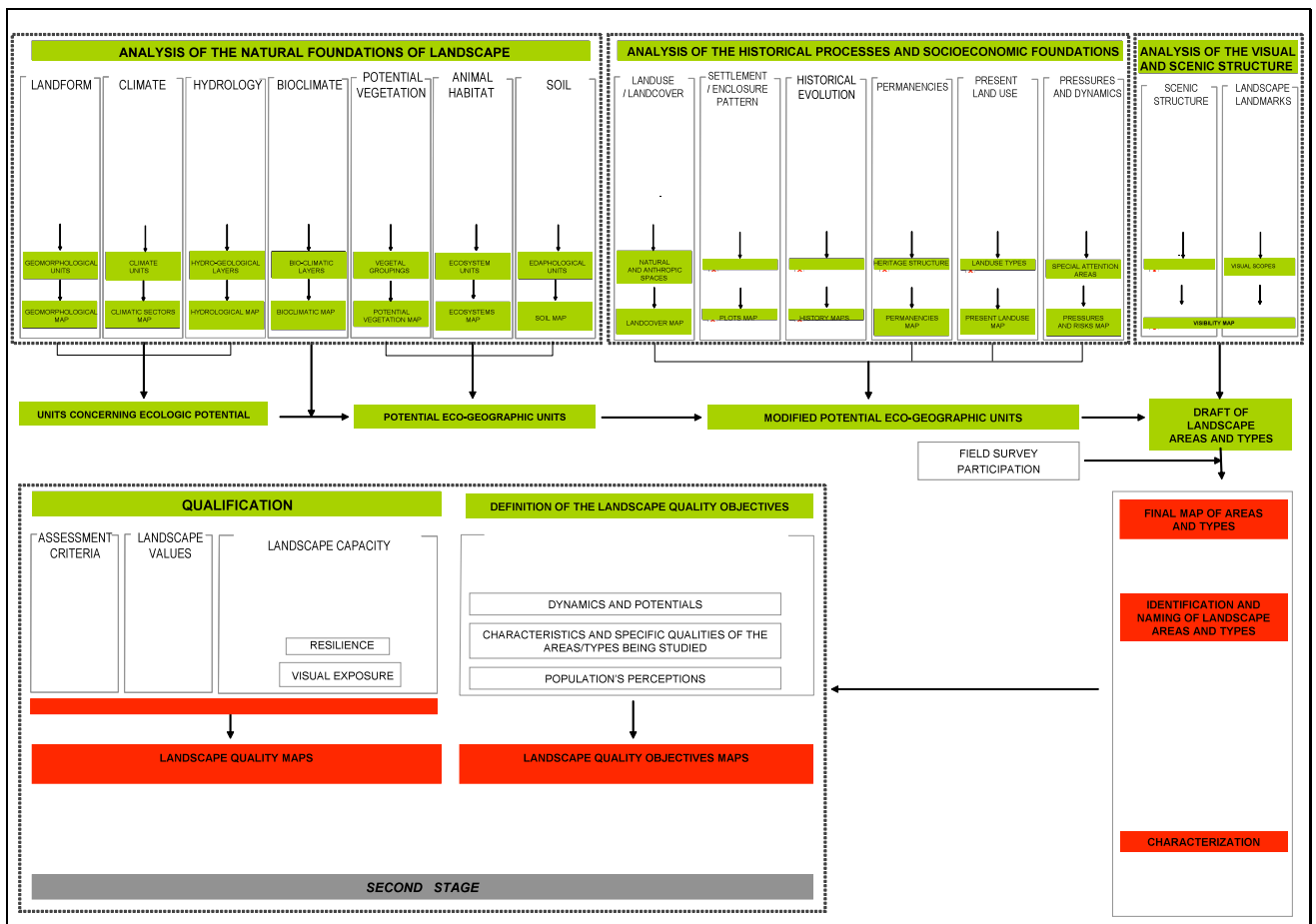
The two phases above are broadly equivalent to the corresponding LCA steps “Deciding the approach to judgments”, and “Making judgments”, but their articulation is different. The ELC perspective is adopted here.

- Phase 7. Follow-up.

As such, this phase is not included in the LCA, but it is an implicit and unavoidable component of the method, where monitoring change identifying landscape indicators are compulsory tasks. The ELC Guidelines describe landscape policy as a set of procedures that need to be completed by their follow-up. A prevision is made of “the monitoring of changes, evaluation of the effects of policies, possible redefinition of choices”.

The method is explained in what follows, as illustrated by an intermediate scale, situated between the local and the regional (Fig. 1).

Figure 1. The proposed integrated methodological approach.



a) First stage: identification and characterization.

Step 1. Definition of the scope: the area to be studied is framed in terms of the parameters used for its demarcation, natural or administrative. Whatever the criterion used for this task, the decision is important for the definition of policy, land planning and other landscape activity. In sub-regional landscape studies, a survey scale of about 1:25.000 or more detailed is

needed. As indicated in the Guidelines, “All landscape character assessments need a clearly defined purpose. This will critically influence the scale and level of detail of the assessment, the resources required, those who should be involved in its preparation, and the types of judgement that are needed to inform decisions”.

Step 2. Desk study. This involves review of background reports, bibliography and mapped information to analyze the natural foundation of landscape (landforms, climate, hydrology, bioclimate, potential vegetation, animal habitat, soil), as well as its historical processes and socio-economic data (land use and land cover, settlement and enclosure patterns, historical evolution, permanencies, land exploitation, pressures and dynamics), and the visual and scenic structure. The intimate interrelation between the different data invites to cautious use of the information layers, keeping in mind the complexity of their causal connections. This information is used to develop a series of map overlays that can be interpreted to detect spatial discontinuity and suggest landscape units. In the first place, a map is drafted with potential eco-geographical units (potential geo-systems), resulting from the overlay of the natural components of landscape as explained by Gómez Zotano [23]. This draft is subsequently modified by incorporating man-made aspects (socio-economics, visual and scenic attributes, culture, perception and discourse), leading to a second draft map of landscape types and/or areas. This draft is to be cross-checked by the subsequent step, the field survey.

A substantial part of the desk work is the analysis of the social representations and cultural patterns associated with the space under study. As a result, the awareness rising and participation strategy is to be developed. This must be a permanent ingredient of all the steps and stages. As indicated in the ELC Guidelines, “All action taken to define, implement and monitor landscape policies should be preceded and accompanied by procedures for participation by members of the public and other relevant stakeholders, with the aim of enabling them to play an active role in formulating, implementing and monitoring landscape quality objectives.”

Step 3. Field survey. The draft areas and types previously identified are visited, and observation points are established, each of which is to be described with the help of a survey file. According to the LCA procedure, “field data is collected in a rigorous way to test and refine the draft landscape character types/areas, to inform written descriptions of their character, to identify aesthetic and perceptual qualities which are unlikely to be evident from desk information, and to identify the current condition of landscape elements”.

Step 4. Identification and characterization: the areas and types are definitely established, identifying, naming and mapping them, and describing their character. Three classification layers can be used at the intermediate, sub-regional level.

1. Main areas: large physical geography units having distinct identity.
2. Types identified from the draft potential geo-systems.
3. Areas associated with lesser topographic units (hills, mountains, valleys).

The identification of areas and types leads to a characterization where the data previously gathered can be structured within the proposed spatial classification. In the first place, a general description of the landscape character is carried out. Second, the key characteristics are identified. Next, the recent landscape evolution is described. After that, the pressures on the landscape are analyzed. In the last place, the dynamics are studied.

b) Second stage: assessment and proposals.

Step 5. Qualification: a judgment is made on the quality of the landscape leading to a quality map, based on values of different type: ecologic, productive, historical, social use, cultural, spiritual, symbolic, identity and aesthetic. On the other hand, the landscape capacity is defined, i.e. “the degree to which a particular landscape character type or area is able to accommodate change without significant effects on its character” (LCA); this is a concept that

may be extended to include a diagnosis of the socio-economic potentials of the landscape, the attributed offering a potential for sustainable development of the space.

Finally, a quality map series is produced, showing the assessment of the landscape physical condition from visual, functional, heritage and ecological perspectives, while keeping in mind the current policy measures (protection, management and planning) on the landscape.

Step 6. Setting of landscape quality objectives: as indicated in the ELC Guidelines, “the objectives should constitute the preliminary guidelines for drawing up the measures to be taken to protect, manage and plan landscapes and manage them over time”. The goal is to provide policy directions for all the components of landscape, from different perspectives and value-orientations, and keeping in mind the three axes of activity: protecting high-quality areas, managing daily-life landscapes and planning in degraded areas.

In this step, clear indications should be given on how to link the study with the policy-making at this level, and the implementation of the quality objectives in the available instruments.

Step 7. Follow-up: by taking into account the quality objectives previously defined, the landscape condition is followed. To that end, tools are needed “to follow the transformation process and to gauge the level of effectiveness of the policies that have been put in place” (ELC Guidelines). Quantitative and qualitative indicators are to be drawn up, summing up environmental, cultural and social aspects, and ensuring that they are easy to understand by the general public, politicians and other actors.

5 CONCLUSIONS

From the final years of the XXth century, landscape practice is undergoing a deep renovation process, illustrated by such conceptual and methodological breakthroughs as the ELC. This renewal looks at landscape education as a key component of its strategy, and the herald of a new sensitivity towards the surrounding world. In Spain, a gradual recovery of the concept is taking place, as an echo of parallel processes in the rest of Europe. A number of indicators point to the new vitality of the concept, both in the theoretical agenda and in the policy making; however, there is a certain dearth of instruments for landscape education. The need for new criteria and good practices in education is pressing, given the importance of landscape as a discipline providing the key ingredients for a democratic deliberation on the social construction of space.

Understanding the complexity of a landscape requires a painstaking, deep and iterative procedure, whereby insight is gained in the spatial dimension of our society. A plurality of layers needs to be surveyed from diverse viewpoints in the process. The student gets a conceptual and terminological enrichment, by learning a vocabulary and becoming familiar with a holistic approach. Landscape sets the educational institutions before the task of defining innovative projects in this field. The key condition to that end is the selection of a method that is adaptable to the needs of society, while taking advantage of the technological options available. The goal must be to train students in achieving the desired flexible and critical mind, to generate an inspiring learning environment and to ensure an agile and intense interaction between professors and students.

In agreement with the ELC, the proposed method takes into account the different aspects of landscape description: identifying, characterizing, showing pressure forces and trends, displaying the natural foundations, the economic potentials and the historical dimensions. It is flexible to different scale settings, and invites a participatory approach. An important aspect is the conceptual bridge built between landscape and other policy and decision-making areas: land use planning and development, environment, culture and heritage, sectoral politics.

The proposed methodology displays some interesting aspects of the ELC. It develops the links between landscape characterization and assessment, enhancing the need to describe the dynamics of landscape, along with its natural foundations, economic function, and the new social needs dictated by ongoing developments. The perception of landscape by the public is a key aspect, from the viewpoint of both its historical development and its recent significance: this is an important educational dimension, instrumental in the process of “participation, consultation, pooling of ideas and approval

(between institutions and the population, horizontal and vertical)", and a compulsory political component of deliberative democracy. By differentiating landscape types and areas, it offers a procedure that can be applied at different scales from the national level to the local or municipal level, therefore fostering the engagement of students with the community. On the other hand, it provides different routes to shape the opinion about such questions as the territorial resources, supplying the students with the knowledge required by the instruments of landscape policy definition and implementation. The emphasis on multi-scalar thinking helps to develop a flexible and adaptive attitude to policy, community building and societal criticism, depending on the administrative level, scale, objectives and tools.

Landscape is the foundation of many educational resources, and it can be used to inspire new learning scenarios. It offers a variety of routes to knowledge-acquisition; it is suitable to establish a future-oriented educational communication style; it develops the competences required for a fully developed citizenship; it strengthens the ties between people and place, while supplying tools for critical assessment of territorial change; it prepares university students to face their responsibility in a constantly changing world, where identities are immersed in an accelerated mutation. In addition, it helps to increase the students' flexibility and basic training, so as to deal with a working environment where the lifelong, voluntary, and self-motivated pursuit of knowledge is required.

References

- [1] SALINAS, J. (1998). Networks and teacher professional development: Between the serendipity datum and the collaborative work forum. *Profesorado*, 1, University of Granada (Spain).
- [2] HAUBRICH, H., REINFRIED, S. & SCHLEICHER, Y. (2007). Lucerne Declaration on Geographical Education for Sustainable Development, in: S. REINFRIED, Y. SCHLEICHER, A. REMPFLE (ed.): *Geographical Views on Education for Sustainable Development*. Proceedings of the Lucerne-Symposium, Switzerland, July 29-31, 2007. *Geographiedidaktische Forschungen*, 42: 243-250.
- [3] HERBILLON, J. & POUYSÉGUR, L. (1996). Lecture sensible et interprétative du paysage : analyse d'une expérience pédagogique, *Mappemonde*, 1: 34-39.
- [4] CASTIGLIONI, B., CELI, M. & GAMBERONI, E. (eds.) (2007). *Il paesaggio vicino a noi. Educazione, consapevolezza, responsabilità*. Proceedings of the conference 24th of March 2006, Museo Civico di Storia Naturale e Archeologia, Montebelluna.
- [5] LE ROUX, A. (2001). *Enseigner le paysage?*, Actes d'un séminaire IUFM de Caen, 17-24 mars 1999, Caen, Centre Régional de documentation pédagogique de Basse-Normandie.
- [6] LUGINBÜHL, Y. (1996). Le paysage aujourd'hui et son enseignement, *L'Information Géographique*, 60 (1): 20-29.
- [7] THÉMINES, J.-F. (2001). Quel paysage enseigner en classe de 6e?. In : *Enseigner le paysage ?* LE ROUX, A. (coord.), Actes d'un séminaire IUFM de Caen, 17-24 mars 1999, Caen, CRDP de Basse Normandie, 63-77.
- [8] SPIRN, A.W. (2005). Restoring Mill Creek: Landscape, Literacy, Environmental Justice and City Planning and Design. *Landscape Research* 30(3): 395-413.
- [9] ZANATO ORLANDINI, O. (2007), Lo sguardo sul paesaggio da una prospettiva pedagogico-ambientale, in CASTIGLIONI, B., CELI, M. & GAMBERONI, E. (eds.), *Il paesaggio vicino a noi. Educazione, consapevolezza, responsabilità*. Proceedings of the conference 24th of March 2006, Museo Civico di Storia Naturale e Archeologia, Montebelluna.
- [10] CASTIGLIONI, B. (2007). Education on landscape: Theoretical and practical approaches in the frame of the European Landscape Convention. In: S. REINFRIED, Y. SCHLEICHER, A. REMPFLE (Edit.): *Geographical Views on Education for Sustainable Development*.

- Proceedings of the Lucerne-Symposium, Switzerland, July 29-31, 2007. Geographiedidaktische Forschungen, 42.
- [11] THOMPSON, I.H. (2002), Ecology, community and delight: a trivalent approach to landscape education, *Landscape and Urban Planning*, 60 (2): 81-93.
- [12] BENAYAS, J. (1992). *Paisaje y educación ambiental: evaluación de cambios de actitudes hacia el entorno*, Ministerio de Obras Públicas y Transportes, Madrid (Spain).
- [13] BENAYAS, J., HERAS, F., DE LUCIO, J.V., MARCÉN, C., PINO, E. & RUIZ, J.P. (1994). *Viviendo el paisaje. Guía didáctica para interpretar y actuar sobre el paisaje*. Fundación NatWest. Madrid (Spain).
- [14] ZOIDO NARANJO, F. (2003). Educación, formación y sensibilización sobre el paisaje. Objetivos y prioridades en España. Delta Project, *Gestion et développement du paysage et intégration de l'architecture et de l'art contemporains*. Seville (Spain), 29-31 May 2003.
- [15] PENKER, M. (1999). Assessing the Teaching of Landscape Management Skills and Knowledge in the Austrian Agricultural Education System. *The Journal of Agricultural Education and Extension - International Journal on Changes in Agricultural Knowledge and Action Systems*, 5(4): 255-262.
- [16] PEDROLI, B. & VAN MANSVELT, J. D. (2006). Landscape and awareness-raising, training and education, in: *Landscape and Sustainable Development: challenges of the European Landscape Convention*. Council of Europe Publishing, Strasbourg, 119-140.
- [17] UNISCAPE (2009). *Declaration on the awareness-raising and professional training of landscape experts*. First International UNISCAPE meeting of Directors of Master's Courses in Landscape Studies, 14-16 may 2009, La Rábida (Spain).
- [18] RIESCO CHUECA, P., GÓMEZ ZOTANO, J. & ÁLVAREZ SALA, D. (2009). Región, comarca, lugar: escalas de referencia en la metodología del paisaje. *Cuadernos Geográficos*, Granada (Spain), 43: 227-255.
- [19] FULLAN, M. & STIEGELBAUER, S. (1991). *The New Meaning of Educational Change*. London: Casell.
- [20] ANGULO, J.F. (1994). Innovación, cambio y reforma: algunas ideas para analizar lo que está ocurriendo. In: Angulo, J.F. y Blanco, N. (coord). *Teoría y desarrollo del currículo*. Aljibe, Málaga (Spain).
- [21] SALINAS, J. (2004). Innovación docente y uso de las TIC en la enseñanza universitaria. *Revista Universidad y Sociedad del Conocimiento (RUSC)*, 1, 1.
- [22] MORAN, L. & MYRINGER, B. (1999). Flexible learning and university change. En: K. Harry (ed.). *Higher Education through Open and Distance Learning* (57-72). London: Routledge.
- [23] GÓMEZ ZOTANO, J. (2006). *Naturaleza y paisaje en la Costa del Sol Occidental*. Servicio de Publicaciones de la Diputación de Málaga. CEDMA. Málaga (Spain).