

GEPARKS AS A REOSURCE FOR THE TEACHING-LEARNING OF GEOGRAPHICAL SPACE IN PRIMARY EDUCATION: LANDSCAPE OF MOUNTAIN AREAS

Rubén Fernández Álvarez¹

INTRODUCTION AND AIMS

The development of the European Landscape Convention (ELC) in October 2000 establishes an international regulatory framework (Prats and Busquets, 2010; Zoido, 2000) which provides basic lines of action about landscape. Among other aspects, it highlights the remarkable interest that training arouses from the educational base, since it considers that a citizenly formed citizenry can contribute significantly to its management (Zoido, 2000). Likewise, the landscape is the visual expression of the geographical space, so its knowledge will help to understand some of the processes that have occurred on the territory (Miralbés e Higuera, 1993). With the landscape as a teaching instrument it is possible to start the process of teaching-learning the territory and the elements involved in it (Batllorí and Serra, 2017).

From education, the landscape must be understood as an instrument whose teaching possibilities increase with its treatment in classrooms and in fieldwork (Lower, 2001). Geography teaching is often supported by fieldwork (Busquets, 2010; Cardona, 2013; Fernández, 2018) because contact with the medium and its elements favors the acquisition of knowledge in a significant way (García, 2012; Weave, 2009) and “contributes to the transversality of the Teaching” (Fernández, 2016: 883). This instrument is effective so that students can understand the relationships between the elements that make up the geographical space and how this can affect the evolution of the landscape (García, 2012; Hernandez et al., 2015; Hernandez and Rivero, 2015; Thomashow, 1995; Torres-Porras, et 2017).

¹ Departamento de Geografía, Universidad de Salamanca.

Contact with the natural environment through the tour causes students to develop environmental awareness (Granados, 2011; Liceras, 2003; 2013) and feeling of identity with the territory lived and perceived (Hernández, 2009; Gómez-Mendoza, 2013; Fernandez, 2015). To this end, geoparks provide teachers with the necessary infrastructure so that content can be worked on in contact with nature of the different subjects of Primary Education (Azman et al., 2010; Fernandez, 2018). Geoparks are “unique and unified geographical areas where sites and landscapes of international geological importance are managed as a holistic concept of protection, education and sustainable development” (UNESCO, 2019). UNESCO (2017) defines them as those spaces that have characteristics, whether geological or geomorphological, that singularize and individualize them and have clearly defined boundaries and sufficient surface to promote strategies economic development that will be articulated by two axes of action: education and tourism.

To complete the objectives proposed by geoparks, two preferred lines of action have been determined: geotourism and geoeducation (Azman et al., 2010). Geoeducation begins to gain relevance in geopark contexts. This figure has geological and environmental characteristics that singularize it and make it a center of attraction for “educational” tourists. This becomes a source of knowledge transfer, an increase in environmental awareness (Farsani, et al., 2017) and in the formation of the citizens who live within the radius of action of geoparks (Justice, 2018). Increasingly, educational initiatives are being offered from geoparks to value the landscape, geological and geomorphological resources that these territories possess (Farsani et al., 2014). According to the study conducted by Farsani et al. (2014) geoparks adapt their educational proposals to be accessible to all people: specialized and common geological information. With the same postulates Bobrowsky et al. (2017) claim that geoscientists are essential for society know the characteristics of the geological resources existing in its territory. In this sense, joining the ideas of both works (Bobrowsky et al., 2017; Farsani 2014), the combination of geoparks and experts can result in a deep knowledge of geology and territory by the citizenry if the appropriate transfer channels are created.

Geoparks must develop a robust educational project that will focus on the teaching initiatives, as well as having the right infrastructure and staff to enable them to act knowledge transmission core (Bitschene And Schüller, 2011). Although autonomous learning is possible through these means, geoparks present lines of action in the formal educational, developing a close collaboration between them and the educational centers. Thus, access to environmental and geographical knowledge is being promoted from the educational base and creating a society with a certain level of awareness geological, environmental and landscape (Catana and Rocha, 2009; Farsani et al., 2017; Mieczkowski, 1995; Alafsdóttir And Tverijonaite, 2018; Rodrigues and Net, 2009). In addition, the

population living in geoparks needs to know in depth the territory and its resources to offer the visitor a better service, to participate in management and protection initiatives and to understand the impact socio-economic status that this figure may have on space. Geoparks can be considered to be spaces that receive this rating by UNESCO by virtue of their geological and geomorphological characteristics. However, among the requirements of the Organization of The United Nations includes those related to education and economic development. As previously indicated, all geoparks must have a detailed educational project aimed to schoolchildren and to the general public (UNESCO, 2017).

The aims of this investigation are focused on the study, assessment and characterization of the Spanish geoparks recognized by UNESCO. It is intended to identify if this figure is useful in Primary Education stage. Specifically, to support the general, several complementary objectives are set, all of which focus on incorporating the landscape and mountain landscape into the content detailed in the national regulatory frameworks and more specifically in Primary Education. In this way, it is intended to analyze the contents in landscape to identify which of them could be worked on from the geoparks.

METHODOLOGY AND MATERIALS

The development of this work is based on a qualitative and interpretative methodology based on the technique of document analysis (Hoepfl, 1997; Massot et al., 2004; Perez et al., 2012). It is a method of induction of thematic categories (Pérez et al, 2012) that is carried out from the explicit references located in the documents. This process has been carried out through the use of MAXQDA 18.2 software, with it has proceeded to search and analyze in the text a series of thematic categories that have allowed to characterize the educational activities carried out in the geoparks and identify the presence of the landscape in the curricular documents of the autonomous communities that have a geopark in its territory. Two category systems have been defined for this purpose: one based on the European Charter of Geoparks and one supported by the postulates emanating from the European Landscape Convention.

In the first phase of analysis of geopark documents, five major categories have been identified, four of them thematic and one to identify teaching methods: Territorial elements; Geology; Anthropic elements; Actions for awareness; Education (materials and methods of activities). All of them are in line with the educational postulates for which geoparks were defined and follow the main ideas of the European Charter of Geoparks: geo-knowledge; environmental awareness; cultural and territorial knowledge. Each of these categories consists of keywords that make it possible to accurately identify the characteristics of documentation and activities and recognize secondary themes that are incorporated across the activities.

The second phase of analysis has focused on autonomic curricular documents. For this has been defined a system of categories articulated by the postulates emanating from the European Landscape Convention: Landscape concept; Diversity of landscapes; Natural landscapes; Anthropic landscapes; Landscape management and conservation; Evolution and transformation of the landscape. This is intended to define a common thread that allows to relate the contents that appear in the regulations with those that can be worked from the activities of the geoparks.

The materials used for the analysis of the activities offered by geoparks through their educational project focus mainly on the websites of the geoparks and on all the material available for download or network consultation. It has been possible to access the educational offer, both formal and non-formal, that geoparks make available to users. Likewise, where it is available, the educational project and the memory of activities have been accessed. All this allows us to characterize the typology of the activities, as well as the stage to which they are directed and whether there is an explicit incorporation into them of the teaching-learning of the landscape. The legislative documents analyzed are the curricula of the autonomic communities in which there is a geopark, more specifically the sections of these focused on the contents of the subject of Social Sciences. With these two blocks of materials we can obtain the presence of the landscape explicitly between the curricular contents and the orientation of the activities proposed by the geoparks and how the landscape appears in them.

RESULTS

Currently (May 2019) there are thirteen geoparks in Spain. The occupied area of the national territory for this figure amounts to 19,923 km², 3.5% of the total. Although it may seem a relatively small percentage for the national whole, it should be noted that all this space is intended for the promotion of activities, including educational activities. It is also intended to create national and international networks for the exchange of knowledge and experience. Geoparks make available to users around 545 geosites of geological, geomorphological, landscape, environmental, cultural, etc. very diverse characteristics that are linked by 172 land and marine routes.

Under its area of influence 753,581 inhabitants are counted with an average population density of 38.9 hab/km². This is relatively low overall (national average of around 92 hab/km²) and, in addition, there is a marked imbalance between each other's. Thus, while in the Geopark Cabo de Gata-Níjar (integrated by the municipalities of Almería, Carboneras and Níjar) there is a population density of about 450 hab/km² in the Geopark Sobrarbe-Pyrénées (19 municipalities in the north of the province Huesca) the density is 3.3 hab/km². This contrast is determined by the urban area of the first versus the rural of

the second. Precisely, if the focus is on the number of inhabitants of the age of studying primary education in Spanish geoparks, we find that this figure directly affects to 49,408 inhabitants. With this data, we could emphasize that the population density for this type of population is 2.55 students of PE/km². In this sense, the densities between some spaces and others are also markedly unbalanced. It is a small number of primary school students who can be received directly by geoparks, situation, in the end, that could be considered advantageous to be able to enjoy a space with remarkable teaching qualities that at the moment is not overcrowded. The total number of schools in which primary education are offered and which are under the territorial radius of action of the geoparks are 244. Now, there is the possibility of creating an intrapark and interpark school red that brings together a large number of schools.

One of the prerequisites to be met by the territories that intend to be catalogued with the geopark figure is to undertake the development of an educational project aimed at all ages, both in the field of formal and non-formal education (UNESCO, 2018).

In this case, the Spanish geoparks have a solid educational project, oriented to training and education in environmental, landscape, social, cultural, geological and geomorphological matters. In this sense, we are faced with a figure who tries to value the work *in situ*, the excursion, as a mechanism to do the teaching-learning process. Although they have activities and materials that cover all age ranges, this heading will focus on the stage of primary education. To this end, a catalogue and comparative analysis of the proposals common to all geoparks will be carried out in order to enhance the offer made.

All of them have two types of approaches, on the one hand, they implement those activities that are oriented to the general public (non-formal education) that can be carried out by primary education students in the family sphere. On the other hand, they present a set of training actions framed in the formal contexts of education in collaboration with the schools in their areas of action.

As for the proposals offered for the non-formal field, the vast majority focus on the development of routes, well guided by a geopark expert, well governed by milestones and signage to be carried out autonomously. Both cases are complemented by visits to the interpretation and reception centres with which these spaces have. The tours go through joining different geosites where visitors can analyze the various natural elements that articulate the mountain landscapes (orography, geology, hydrology, vegetation, etc.) Likewise, on a regular basis it is offered the possibility of conducting training workshops in environmental, landscape and cultural matters.

It is in the context of formal education that a diversified offer is defined, both materials and teaching activities, in collaboration with schools. In this sense, proposals focused on the mountain landscape become more important. It should not be overlooked that all of

them will be defined by the territorial and cultural peculiarities of the area in question, although the contents worked are the same in all geoparks. Much of the activities developed from geoparks are focused, for the Primary stage, on the contents related to the landscape (landscape and its elements, mountain landscape, human action on the landscape, landscape evolution), geology conservation and environmental awareness. Likewise, cooperation with schools promotes the development of articulated teaching units for work, both in the classroom and in the spaces of geoparks. Although, in principle, these units are designed by the technicians of these spaces, the contribution of teaching professionals is frequent to adapt to the particularities of the center and to the needs of the classroom and students. Broadly speaking, all those that make up the Spanish network offer the following elements or activities: teaching material, activities and workshops, training courses, geodays and routes designed for schools. In addition to the range of common activities there is a diversified offer of cooperative educational proposals that integrate either several geoparks into common projects or a group of schools in the project of a geopark.

Geoparks must work for the active participation of schools by encouraging the creation of networks of knowledge exchange between these spaces and schools and between the schools themselves in the environment, thus emerging a varied offer of materials and methods available to all teachers. Thus, a fabric of guides and teaching units has been built that can be used by teachers to start the process of teaching-learning focused on the landscape, more specifically in the mountain landscape, because all these spaces are characterized by their location in mountain areas.

CONCLUSIONS

In conclusion, it should be noted that geoparks are an instrument of environmental qualities that develop two complementary lines of action: geotourism and geoeducation. With the first of them they try to promote new socio-economic actions that have an impact on the development of the territory. With its second line, oriented towards the field of teaching, they focus on the development of an educational plan in which environmental awareness and knowledge of the natural and cultural values of the geographical space are its two fundamental pillars. In this line the Spanish geoparks have a series of didactic proposals in which the main axis is the environment and the anthropic action on the landscape. These proposals can be used for the teaching of landscape content that is part of the regional curricula. They also pursue the development of networks of educational collaboration, both with the society of their area of action and with other spaces that have the same qualification.

Educational projects designed by Spanish geoparks promote autonomous and inclusive work of the speakers, the transversality of content and the learning of a significant type.

This methodology of *on-site* work is recommended for landscape teaching as it promotes meaningful learning and understanding of the interrelationships between the elements that make up it.

Geoparks located in the state territory offer a wide variety of teaching proposals for the Primary Education stage that directly affect a large number of schools, as all those located in the area of action of this figure can participate in the design and execution of the educational project. Although school-geopark collaborations occur mainly in the territorial area of the geopark, any school could request cooperation. Specifically, for the primary education, geoparks become a remarkable resource for developing the teaching-learning process of some of the contents that are defined, both by the national framework and by the autonomous instruments for their implementation curricular. Specifically, the contents related to the landscape and, concretely, with the landscape of the mountain areas can be treated from these spaces because they offer a series of proposals that facilitate it and are carried out in the context of mountain areas. Similarly, proximity to the elements that make up the landscape (experiences on them) can help the development of environmental awareness and conservation values.

