

GEOGRAPHICAL EDUCATION AND TEACHER TRAINING. CHALLENGES AND PROSPECTS IN THE NEW EUROPEAN HIGHER EDUCATION AREA (EHEA)

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Geography as social science and earth science has always had in Western culture an important educational role. This function should acquire a special interest and importance in the formation of twenty-first century citizens, as members of a society that is particularly complex, which interacts with a multifunctional, diverse and globalized space, and in which changes occur on a dizzying pace. Geographical Science is a mixture of physical and social aspects and it shows us how the world is and why it is so. It teaches us to discern and evaluate the result of the interaction of humans and society with nature, and reveals the process through which mankind has been adapting, living and mastering the natural forces to spread their habitat to most places on Earth, to create the current «global village».

The geographic science has an important educational potential and offers people a lot of opportunities to learn useful life skills and to understand the world and the processes that occur in it at different spatial and social scales. But we teachers often find a negative view of the students towards the subject. They have a negative perception of this discipline, which is studied by rote techniques, it is useless and of little interest. The proof of what we say are the negative outcomes on the research we have done with teaching college students. The study has shown that most students, 76% exactly, have a very poor geographical knowledge in the time they get to university, only 15% showed a moderately acceptable knowledge and only 9% showed an adequate knowledge. In addition to this, this study reveals that 68% of students have a negative perception of Geography, which is considered scarcely interesting and helpful and, consequently, are very poorly motivated to study it. All this is due mainly to the inadequate teaching methodology that they have received in the teaching-learning process, based mainly on memorization and to the inappropriate selection of its content. 77% of students in the sample show this fact. In addition to this, there is a low presence of Geography in the Secondary Education curriculum, especially in High Education.

In this situation it is necessary to teach and learn Geography with an innovative methodology, that must be able to provide a broad and enriching view of what is its object of study: the reality in its multiple spatial scales and aspects. Geography should be taught as a science conceptually and methodologically plural, but increasingly focused on the analysis of society-nature relationships from a broadly humanistic approach. The main interest must not be the study of phenomena by themselves but the meaning of these phenomena and their value to the individual based on personal perceptions of reality. Geography should be able to explain the large socio-spatial changes that are occurring at present, from the expansion of consumption to the great migration, formation of increasingly heterogeneous and multicultural population nuclei, the effect of globalization on cultures and local economies or the impact of economic and technological development on the environment. This means betting on a discipline with new content, away from «a Geography as an inventory of immutable frameworks» and more focused on «trying to understand the world around us, and likely future changes» (ESTEBANEZ, 1996, 19). From this point of view, we believe that teaching and learning of Geography has to build on the achievement of four key objectives:

1. *Understanding that geographic space is primarily a social space, which has its support in the physical environment.* The humans acting on the territory create a cultural ecosystem, in which, beyond their role of a mere component of it, they occupy an important place as active agents capable of breaking or restoring the balance of natural ecosystems. Each village, owing to their own vision of the world has been shaping the territory they occupy long time, providing it with some features of its own. The result is a spatial environment that humans have appropriated and have made their own, generating about it a model of specific interactions, in which is decisive the role of the subjective assessment of their own territory, both individually and collectively. It is the *social or cultural space*. This space, far from being easy to explain and understand, is characterized by a high degree of complexity, and at the same time is endowed with a great dynamism, which offers genuine and specific features of each historical moment. This dynamism of the socialized space is particularly pronounced in the present moment, in which the changes in relationship between countries, the intensification of the activities of multinational companies and the strong growth of information and communication technologies have led to a global society with all that it entitles.

Geography as an educative science must face the challenges that have this situation, adapting their content and methodology to current needs, providing the necessary tools that allow citizens to understand the socio-spatial context to which they belong and to capture the multiple variables that make it up. At the same time, it must be able to allow them to understand the wide variety of actions that different people or societies with different cultural patterns carry out on the territory.

2. *Development of personal skills of perception, orientation, organization and understanding of space.* Geography through its contents will enable the individual to act and function in space, will help him understand reality from different perspectives, to understand phenomena at different scales, to read the cartographic representations of space, to systematize the individual and collective competences of spatial awareness. All this aspects are basics not only to understand spatial phenomena, but also indispensable for the acquisition of spatial skills that are necessary for everyday life.

Recent studies have revealed the existence of a growing lack of incompetence in space skills in men in developed societies. The popularization of large cities, the generation of automated spatial behavior, the artificial growth of urban areas, etcetera are generating in the individual in these societies the idea that the space in which he operates is fixed and immutable and not the product of dynamic and changing relationships between the territory and the people who inhabit it. Given this situation, geographic education must play a key role in developing students' spatial awareness and enhancing the capabilities to interact with the environment they inhabit in a competent, responsible and committed way.

3. *Development of ethical values and social and environmental commitment.* Universal values can be inculcated to the members of a society from any science, but in each of them can work, in addition, specific values related to the contents of its own. Geography in its facet of Earth science pay attention to environmental values and collaboration with nature, and from its human side, it will pursue the development of social values. Geographical education must therefore include a certain ethical value that could set a committed attitude towards the natural and social environment in which the person lives. This value may be different because of the cultural patterns or time, but it should always respond to an environmental or geographic ethic that presides the relationships between space, nature and society.

4. *Attention to knowledge and use of current information and communication technologies (ICTs) and how they have fundamentally altered the spatial relations.* The present era is characterized by the constant building of new space-time relations. It is a time of cyberspace, multiple and heterogeneous networks that are linked to different spaces, so traditional definitions of space and place are invalid, but one must envisage these concepts from a new perspective. Geography now has to pay particular attention to the fact that the space has lost many of the connotations that had so far. Distances virtually «do not exist» and information flows in communication networks at breakneck speed. This fact has generated a new way of perceiving the two categories that articulate the reality: space and time that become increasingly relative. In this context the Geography has to explain the impact of the «hyper-modernity» is having in different places, especially the phenomena of rapid change that are occurring as a result of the networks generated by new technologies, including the appearance of virtual space and its impact on real places.

The achievement of this four educational objectives that we propose requires the implementation of an innovative methodology, based on creative teaching strategies, able to motivate students toward learning, knowledge-enhancing track (knowledge, know-how and knowledge to be), which enables students to understand the multiple causes of the processes and the weighted assessment of the variables that shape it. This way of working is based on the principles of active and participatory learning, in which the trainee could not regard himself or be regarded as a mere recipient of created contents, but on the contrary, should participate actively in the teaching-learning process, both through individual actions or through participation in work teams and implementation of joint projects. The active teaching enhance the student's interest in understanding the world and things, helps him to transfer the academic knowledge to real life and fosters the development of intrinsic motivation, which involves personal desire to learn, love of independent learning and interest in learning to learn. All of these aspects have a transcendent importance, since they determine the individual's ability to learn throughout life.

Versus traditional education, based on behavioral ideas and memoristic learning, which often relies on the association of ideas not related to existing concepts in cognitive structure of the individual, active learning enhances *meaningful learning*, gifted meaningful to the learner. The meaningful learning theory (AUSUBEL, NOVAK y HANESSIAM, 1976), assumes that when the subject starts to learn a new content he does not start from scratch, but from previous mental ideas and representations, and from them he constructs new meanings. From this perspective, learning is a process of building knowledge that the individual makes as a result of coherent interconnections between what he knows and what he learns.

Active teaching, based on meaningful learning, attaches great importance to practice and discovery learning. Therefore, active teaching strategies are essentially two: *inquiry* and *research*, always orientated by the teacher. Both will be key strategies in the teaching and learning of all academic disciplines and at all educational levels. In the case of Geography, through them the trainee starts in the scientific method and analysis of the socio-spatial practice through direct and indirect observations, formulating hypotheses, driving sources, analyzing results and drawing conclusions according to their ability to conceptualize, in order to be increasing their knowledge in a progressive manner. However, there are numerous conceptual and procedural contents that the student is unable to understand by himself through the inquiry, so there is a need to combine learning and self discovery led with the use of exhibition techniques, minimizing their role and enhancing practice and research activities. It is essential, therefore, to adjust the two types of strategies according to the contents of the research. Through the research strategy the teacher will provide the necessary keys and tools for the student to learn the content through their personal experience, but is the student himself that must check the response according with his hypotheses before building it and who put it in his own knowledge structure, using different levels of mental representation.

The newly created European Higher Education Area (*EHEA*) has highlighted the need to innovate didactically according to these methodological assumptions and has emphasized the educational value of active learning. This methodology, however, is not new, and although it is not the most practiced by the faculty, it has a long and prestigious tradition. The value of active learning has been defended for decades by the most innovative pedagogical trends, which have sought in it the turning against memoristic and bookish learning. It is essentially based on the tenets of the New School, which defends personalized and experiential learning and that enriches itself with contributions of posterior educational movements, among which are those made by the Dalton Plan and the Winetka System that have made valuable proposals to stimulate the personal rhythms in student's learning.

The implementation of this methodology requires adequate teacher training. Everyone knows that the teacher's educational action is crucial to encourage or discourage the students regarding the learning of any academic discipline and to attain or not the correct learning of scientific content. Therefore it is essential to train good teachers (in this case of Geography) who master the epistemological contents of this science and that have also a strong didactic training. It is not enough to know the geographic content that the curriculum of each level of education prescribes when working with students. It is essential, as well, to know how to teach them. That is, to master the methodology and teaching the most appropriate strategies for teaching each content and optimize each share of teaching-learning process.

To the European Higher Education Area (EHEA) it is essential investing in education if Europe wants to be in a prominent place in the *Knowledge-based* economy. Following the publication in 1995 of the White Paper on Education and Training by the Commission of the European Council of Education, and after many subsequent meetings, it has been established some common objectives of education systems and training for all member countries, stressing the importance of the teacher's training in didactic qualification, because teachers, in addition to convey scientific content, «also have functions as mentors, guiding learners on their individual pathway to knowledge» (White Paper, 1995, 238). Following this, the Council has established the Program *Education and Training 2010*, which includes thirteen specific aspects that need improvement in European countries. Among these aspects it stresses especially the Teacher Training, noting that «investment in teacher training... is critical for increasing the efficiency of education systems». This idea was stated in a communication of Commission to the Council and European Parliament on 23 August 2007 entitled *Improving the Quality of Teacher Education*, which establishes the following points:

1) *Increase quality and quantity of training requirement for teachers of Primary Education*. Thus the initial training of teachers provides the same number of ECTS credits than the rest of the graduates. The Bachelor (BA) and the Diploma disappear after the creation of the European Higher Education Area (EHEA) and become Degrees.

2) *Professionalization of the Teacher in Secondary Education Training*. It follows rules much more demanding in the teaching-educational training of this group of teachers, including teachers of Secondary Education, High Education, Vocational Training and Teaching of Languages.

3) *New skills requirements for teachers due to the new difficulties to become a teacher*. The complex situations that teachers must face in the classroom, resulting from multiple factors, including the extension of obligatory education until age sixteen, multiculturalism in the classroom resulting from the increase of immigration in Europe, the relaxation in the living habits of the boys, among other things, makes teaching especially difficult to carry out, so *it is essential to provide a solid teacher training, not only scientific but also didactic*.

Spain, as a country belonging to the European Higher Education Area, has this sensitivity and has launched significant legislative changes in teacher training. Changes aimed to improve and enrich science education and teaching faculty in general and therefore Geography teachers. Regarding the initial training of teachers, Teaching degrees have been reduced to two categories: Early Childhood Education and Primary Education, disappearing the rest of the specialties set in 1990 by the Organic Law of Education. As in all member countries of the EHEA, the Diploma in Teaching becomes a Degree, changing the formative period from three to four years. The extension of this period will allow a greater presence of geographic content and Teaching of Geography in the training of these teachers.

Regarding the initial training of teachers of Secondary Education, legal regulations provides that to work at this educational level it is necessary to have the title of Master in teacher education of Secondary and High Education, Vocational Training and Teaching of Languages. This master has 60 ECTS credits, divided into three modules: a generic one, a specific one and a third module that includes *Practicum* and Master Final Report. Generic Module, with 12 ECTS, is common to all specialties and its fundamental aims are to provide to the future teachers of Secondary Education with psycho-pedagogical skills that are

necessary for the appropriate practice of their profession. The Administration has set three compulsory subjects: «Learning and Personality Development», «Processes and contexts» and «Society, family and education», 4 ECTS each. The Specific Modules comprising 30 ECTS and changes among different specialties which includes the curriculum of Secondary Education. In Geography, which is located in the «Master in Geography and History,» students take 5 ECTS of Teaching of Geography. Of the remaining 25, 15 are dedicated to different complementary courses, five to Didactics of History and another five to Teaching of Art History. *Practicum* Module, with of 12 ECTS, engaged in different areas of teaching-learning process of Secondary Education. Finally, the Master Final Report, with 6 ECTS, it is obligatory and should reflect the skills acquired by students during the Master. The year 2009-2010 is the first in which Spanish universities offering this Master. For this reason we have no data to assess results. We hope that results in better training of teachers teaching in Secondary Education, both Geography and the rest of the academic disciplines.