

School Geography: Our Expectations Regarding Routines. A Case-Study

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Received: April 27, 2018

Accepted: May 8, 2018

Online Published: May 30, 2018

doi:10.5539/jgg.v10n2p80

URL: <http://dx.doi.org/10.5539/jgg.v10n2p80>

Abstract

School geography has been reduced to a descriptive knowledge of the world and to the explanation of difficult conceptual facts. This results from the rise of communication technologies and the disregard of the study of relevant problems as a part of the discipline. It is key, in order to create an alternative that promotes critical civic learning, to challenge school routines. In this case, the combination of social representation theories and behavioral and perception geography provides the opportunity to both analyze current practices and introduce alternative praxis. Research is a key element when challenging hegemonic ideas to build a new school geography that promotes civic learning. The purpose of this paper is to prove how research can help support school geography innovation through surveys, interviews, and discussion groups.

Keywords: social representations, school routines, school geography, behavioral and perception geography, citizenship, praxis

1. Introduction

Geography teaching must face several obstacles when developing critical knowledge aimed to explain territory at different levels. From basic laws to the regulations on the organization and functioning of the school center, school regulation is heavily bureaucratized. Moreover, student behavior generally displays indiscipline and refusal when it comes to culture. But, there is a special concern in regarding the conception of geographical knowledge: it is thought to be educational knowledge that is unrelated to day-to-day problems. In other words, unrelated to the issues that matter to the participants in the school system.

In the early years of the 21st century, social knowledge fragmented. Due to an information overload and to the emergence of new theories and interpretations, school geography lost its identity. On several occasions, new subjects were developed: *ciencias de la Tierra* (Earth Sciences) was introduced in the Spanish *bachillerato* at the end of the 20th century. In other cases, there was a feeling that geography had become an array of encyclopedic-like facts and concepts: relief description, thermo pluviometric data, images of agricultural landscapes, industrial output indices, route maps, etc. Consequently, geography is perceived as a discipline that is exclusively dedicated to gather descriptive content, disregarding the explanation of problems that occur at different geographical levels and in different locations.

This concern is nothing new. At least since the second half of the 20th century, geographers have cared to explain territorial organization, dealing with the distribution of basic elements (people, commodities, forms of relief) and identifying basic functions such as economic activities, the relationship between distribution and production and transport of goods and people. Many teachers turned to psychological and pedagogical theories, looking for a base upon which geography teaching could be improved. Thus, diverse proposals to study local environment and active geography methodology came into the picture. These new suggestions were based on Piaget's theories of learning.

However, the 21st century seems to be characterized by a methodological standstill. On the one hand, there is a prevalence of traditional assessment methods: they appear as examples of external assessment tools (for instance, the PISA test). On the other hand, geographical content is increasingly fragmented due to the presence of multiple information transmission techniques (blogs, social media, websites, geography information systems, etc.). These

new tools lack consistency and are incapable of presenting a logical thread that explains a given problem. Territorial analysis becomes a show: Information and Communication Technologies create an illusion in which the spatial situations that concern daily life are being explained.

1.1 Justification of the Problem

Up until the middle of the 20th century, the evolution of geography as a science and as a body of academic knowledge was grounded on the positivism-historicism dispute (Capel, 1981; Capel & Urteaga, 1984). However, positivist quantitative geography failed to explain the problems of territorial organization. The ideological character of radical geography, founded on a teleological interpretation of problems, gave birth to a new comprehension of the geographical explanation and understanding of social and environmental facts.

In the seventies, Spanish university students displayed discontent towards the education-cultural offer provided by academic geography. Subsequently, this intuitive refusal (Honnet, 2011) resulted in the first meeting of *Estudiantes de Geografía* (Geography Students), which was held in Barcelona in spring of 1978. Following these meeting and other later ones, there was an increase in the interest for searching exploring possible alternatives that would associate territorial facts with the emotions and perceptions of individuals, both in respect of the learning process and the image of a given territory. The aim was to bring civic behavior into focus in order to develop a democratic society.

In this context, pedagogical renewal movements came forth. These new movements tried to seek an education proposal that would link individuals to territory and school to society. However, research about how students perceived geography showed that it was seen as a subject closely related to encyclopedic knowledge and rote learning (Madalena, 1990).

According to secondary students, a good geography learner should be “studious” (76.7%) and “capable of memorizing many names” (68.7%). However, only 30.5% of nearly 400 respondents chose “having problem-solving skills” (Souto, 1999, p.65). In addition, they indicated that the objective of geography teaching was, indeed, “to study names of places” (93%) and that some were easier to remember than others. When the students were asked about how they felt about discovering and learning about those places, over 40% of them answered “they did not care”. In other words, they displayed their rejection regarding studying the places of the world.

Although student viewpoints should not be considered as a determining factor, the results indicated that the previous syllabus modifications were not the most appropriate. During the late eighties, a hypothesis was proposed to change legislation to improve geography learning. However, a null hypothesis that rejected that option soon developed. Students’ opinions remained unchanged and the changes in legislation which were implemented resulted from agreements between political parties and not from a willingness to improve learning. The *Ley Orgánica General del Sistema Educativo* (also known as LOGSE) (General Organic Act of the Education System) of 1990 was followed by other laws in 2002, 2006 and 2014, with no improvement effects on teaching standards.

Changes in the Spanish legislation and the transition from the fascist dictatorship to a constitutional democracy implied substantive modifications of the territorial organization, which had an impact on education authority. As it has been previously indicated (Pérez & Souto, 1989, p.36-37), the appearance of the *comunidades autónomas* (regions) altered geography teaching in two aspects. On the one hand, it affected the selection of education content (local information, identity attitude). On the other, it changed how the specific syllabus was arranged and the regulation of working conditions for teachers. This double institutional constraint influenced how school geography was taught. In this particular occasion, we will look at the case of the Valencian Community (Figure 1).

It was taken into consideration at all times that making any change in geography teaching is a complex task that calls for the study of the epistemological characteristics of this discipline. In so doing, it became possible to challenge the singular conception of a branch of study that places itself naturally in society as a whole, which represented an obstacle for those who promoted innovation in school teaching.

The trend that began in the eighties coincided with the contributions of some researchers in geography, such as Horacio Capel. Since 1973, he noted that the seventies were witnessing an important change in the way facts were explained. Capel called this phenomenon *el giro del comportamiento* (the behavioural turn) (Capel, 1973). The positivist paradigm and the quantitative models went into crisis when the phenomenological interpretation of human facts emerged. This new model had an impact on Humanistic Geography and Behavioural and Perception Geography (Boira & Reques, 1991). As well as in the other social sciences, emotions, intentions and human behavior were taken in account. At the beginning of the 21st century, neuroscience advances were also brought to the table (Díaz, 2007; Damasio, 2010). This new information has provided empirical data about the influence of emotions and feelings in both individual and collective thinking and decision-taking. This theoretical change also

had an impact on the discipline of history (microhistory) and sociology (social representations).

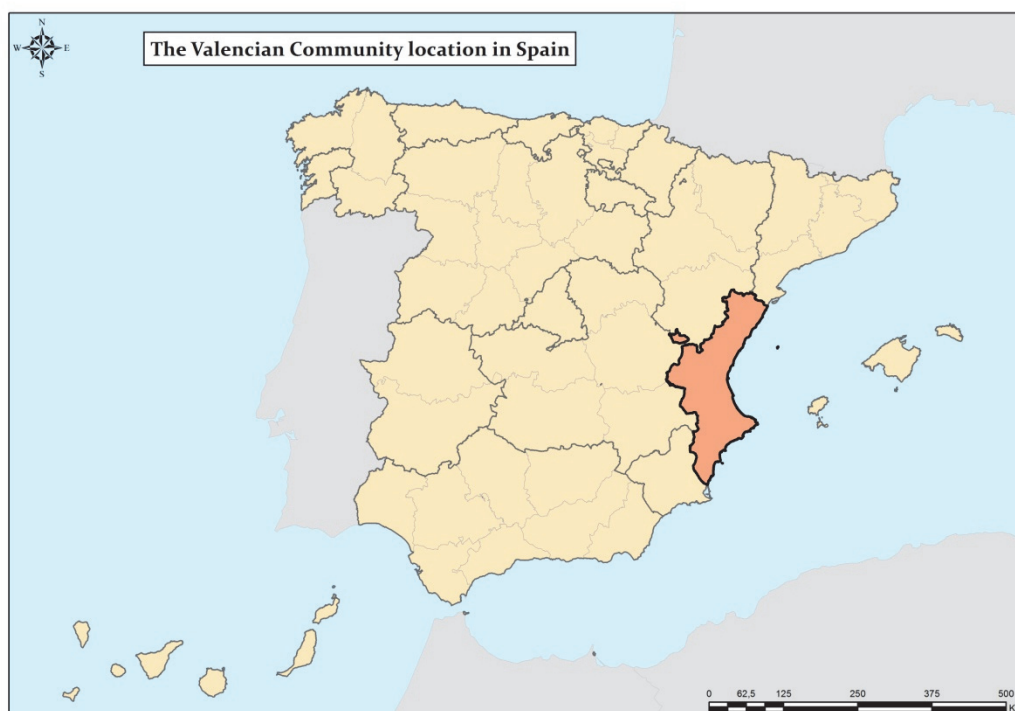


Figure 1. The Valencian Community. Elaboration of the authors

From the year 2000 on, the emergence of mass and individual media has led to an information overload and has created a mirage in which IT techniques enable society to master knowledge. The fragmentation of reality in micro stories, the stimulus of immediate answers and the failure to understand certain kinds of information (as the PISA test proves in the case of 15-year-old students of the OCDE) demand a change in geography teaching. Nonetheless, the perceptions of teachers and students indicate otherwise.

Fieldwork has been conducted in order to determine if, indeed, these transformations are taking place. Citizens and future and working teachers have participated in discussion groups where they expressed their opinions on geography and geography teaching. Social representation techniques have been used as a theoretical reference model. It allows us to understand the various factors that combine to create a system that hinders rational decision-making.

1.2 The Need for a New Education Model

Many students of teacher training courses or programs (initial or permanent) wonder, why do we study the geography schools of thought? Some people conceive them as just an ensemble of academic knowledge with little impact on their daily lives. However, others are capable of linking this taxonomy with science and knowledge evolution: it allows us to theorize about our decisions and about the need for critical autonomy.

In preceding investigations, we have insisted on the fact that looking at different schools of thought allows us to explain the school and civic context where the learning process takes place (Souto, 2010). For this reason, certain ideas about the implications of this kind of knowledge when creating teaching programs have been developed. The experiences of other Spanish innovation groups, as Fedicaria (www.fedicaria.org); and iberoamerican innovation groups as RedLadgeo, Geopaideia (www.geopaideia.com) and in the Geoforo (geoforo.blogspot.com.es) have underlined the need to define a theoretical framework where innovation is contextualized. A theoretical argumentation would give teachers more security when making decisions.

Because of that, a special interest in educational sociology has been taken: not only to understand the social context of the education center, but also to understand which social representations determine geography teaching and learning. The choice of social representations as object of study already suggests the existence of links between individuals and social context. Thus, we understand that learning is an individual responsibility, even if it takes place in the heart of a cultural and social community. In this sense, the great attention to constructivism is not just

a perspective from cognitivist psychology: it is also a confluence of the world of Behavioral and Perception Geography and social representations.

Why is this confluence of approaches proposed? Firstly, because it opens a way for discussion that traces back to the eighties. At that time, there was a search for pedagogical renewal techniques. The goal was to overcome our dislike for traditional geography teaching, that we experienced, in our turn, during elementary and university education. Secondly, because we realized that this particular search was grounded on a philosophical twist in social sciences: *el giro del comportamiento* (Capel, 1973). Later, it was noted that this philosophical approach was present in the formulations of social constructivism. Said formulations were based on the theories of Vygotski, that explain how social knowledge is built. At a later stage, empirical evidence from the field of neuroscience would also be taken in account during research.

At the same time, educational sciences were in search of a new theoretical model that would facilitate the analysis of the teacher's conceptions during classroom communication (Driver, 1988; Alasino, 2011). In the case of geography teaching, we have at our disposal the PhD of Josélia Saraiva (2007). This doctorate is based on the theoretical presuppositions of M. Domingos (2000), who finds in the synthesis of P. Bourdieu and S. Moscovici (Sammot, Andreouli, Gaskell & Valsiner, 2015) an interpretative model of the spontaneous conceptions of the teacher, which have a great influence on school practice. We consider this perspective to be accurate as it follows the work line of Behavioral and Perception Geography.

Behavioral and Perception Geography demonstrated that geography is not solely what is seen through the eyes (landscape, urban morphology): it is also the mental representation of a territory we perceive through the glasses of emotion and cultural bias.

Constructivism highlighted the weight of prior concepts when building socially viable knowledge. Thus, it is crystal-clear that the analysis of mental representations is key. On the other hand, student behavior can be observed in day-to-day decision making. It affects how they interact with classmates and teachers. Changing this behavior was the most valuable goal for the teachers that wanted to legitimize the value of geography teaching.

2. Methodology and Research Techniques

In this article, a combination of quantitative and qualitative methods has been applied, as they are considered to be compatible in the development of a social and critical methodology (Souto, 2016). The purpose of these papers is to show the difficulties entailed by geography teaching improvement. These difficulties are due to the persistence of school routines that consist of repeating what other teachers have done before. There are two key elements to leave traditional routines behind: reflecting consciously of their character and explaining how they influence school geography knowledge.

Several quantitative techniques were used: we designed two surveys that targeted exclusively current and future teachers. The first survey had closed-ended questions which were supplemented by Likert scale evaluations. The second survey consisted of an open-ended word association task which was later interpreted using the Abric scale to identify the central nucleus of social representations. In addition, interviews to citizens from three age groups (people under the age of 30, people aged 31 to 50 and people over the age of 51) were conducted. Lastly, meetings and discussion groups were organised in order to discuss the results of the quantitative tools and the interviews. The goal was to determine which characteristics geography teachers should have according to students. Conscious thinking is not enough: it requires a theoretical and methodological study of how geography as a subject has evolved since its institutionalization in schools and higher education.

As it will be shown, in some of the tables, the survey's results have been complemented with data that has been processed by software called EVOCATION 2005. This software has allowed us to identify more accurately the ideas that people associate with geography teachers.

This program has allowed us to pin down the ideas that make up the central core of geography's and geography teachers' social representations (Abric, 1994, 2000). This software allows us to use a free word association technique (Técnica de Asociación Libre de Palabras o expresiones, TALP) using suggestions of associated words. In this case, the aim was to ask for words related to geography and geography teacher. For each suggestion, we asked for five words that we introduced in the same order as the original in a compatible file format (CSV format: comma-separated values) in EVOCATION 2005. This program analyses central elements or historically structured mental schemes as a part of a psycho-cognitive method. After a series of preceding tasks, such as preparing the list of words (Lexique), listing them in alphabetical order (Trievoc) or cleaning the body of analyzed words (Nettoie), the program delivers a list of words in alphabetical order that provides accurate information about the frequency and the order of suggestions (Rangmot) in a simple and accumulative manner.

During the sample selection, the researchers were guided by their experience in initial and lifelong learning. Its validity is not based on percentages or confidence intervals: it relies on the plausibility of the answer we obtained as a result of working directly with the chosen demographic sample. We contrasted the numerical results of the surveys with the statements that were recorded during the interviews and the discussion groups. This has enabled us to test the survey's answers and the statements reliably.

Seventy nine people were selected as subjects in first time. Among them, 34 people were secondary teachers that were active the 4th of March 2016 in the Valencian Community; 16 people were secondary teachers that were in-service on August 2015 in Porto Alegre and the rest of the respondents, 29 people, were in-service secondary teachers in Cali (also on August 2015). We chose to interview teachers from several places to generalize the representations. Previously, the feedback given by 241 students from the 14th to the 29th of October had been examined. Moreover, the feedback of a group of 95 students was examined in two different occasions to see its temporal evolution: the 22th October 2015 and the 25th October 2016. We also worked with the 77 Master's in Secondary Education students the 17th October 2017: in Spain, History and Geography are seen as an only subject. Finally, three age groups of people (non-students) were interviewed by the master's students on October 2015, 2016 and 2017. This monitoring was carried out to identify the degree of continuity in their answers.

Table 1. Groups and used techniques

Techniques	Groups	Comments
Assesment of the epistemological knowledge of geography schools of thought.	79 aspiring and working teachers of Geography and History.	These surveys were conducted in lifelong learning courses and were discussed afterwards.
Assessment of geography teachers work skills (Likert scale).	241 students of the bachelor's degree in Primary education and the master's degree in Secondary education.	These surveys were conducted among students that aspire to become primary or secondary teachers.
Free Word association test concerning geography and geography teachers.	95 students of the bachelor's degree in Primary education and the master's degree in Secondary education.	These surveys were conducted in 2015 and 2016 using hand-tabulation methods and were discussed afterwards.
Free word association test.	77 students.	The results were analyzed with EVOCATION 2005.
Interview with mixed-age people.	362 people.	The individuals have different profiles and are divided in three age groups (people under the age of 30, people aged 31 to 50 and people over the age of 51).

Note. In "groups" the number of people that have participated in each research technique is indicated

3. Social Representation and Data Interpretation

The analysis of the surveys, the interviews and the discussion groups unveiled the existence of a hegemonic vision of school geography knowledge. This was the result of the institutionalization of the school system that the Spanish State carried out at the end of the 19th century. It was then that geography in education was considered a tool teach the territories that make up a unified state. This geographical explanation legitimized the conformation of territories at a historical level. The regional geography model gathered momentum, as it allowed to describe the areas of a given state without challenging its unity. This pattern recurred during the 20th century. Due to the advance of globalization and Spain's integration in the European Union, the regional geography model became outdated. This model was confined to description of concepts, pictures, maps, and statistics. There was little cohesion among these elements and they were organized to be understood by students aged 6 to 16. Academic geography evolved, but school geography remained stagnant: it was reduced to a summary of facts and concepts juxtaposed with graphic and cartographic techniques. At an epistemological level, academic geography was diverse. However, there was just one single hegemonic vision of school geography.

Neither the Master of Geography degree students nor the teachers who participate voluntarily in lifelong learning courses are familiar with the geography schools of thought. The level of disregard of other academic geographies

was shocking in two of the samples of Master's in Secondary Education Training (Geography) degree students. This results from the fact that most of the student body has a bachelor's degree in History or History of Art. Only 4 of the of the 68 students claimed to have substantial knowledge of Behavioral and Perception Geography; and only 8 students stated to have sufficient knowledge of Radical Geography. The same results were obtained among the working teachers. In their case, even if relatively higher, their knowledge about new geographies was also scarce.

This lack of knowledge clashed with the competences that, presumably, an aspiring geography teacher should have, as "selecting social and environmental problems". Participants had underlined this skill as necessary in previous research (Souto & García, 2016). How are teachers supposed to select content that connects with the student's thoughts and emotions if they ignore the theoretical framework for Behavioral and Perception Geography or Humanistic Geography?

Table 2 shows the basic competencies a future teacher should have according to 241 students of the bachelor's degree in Primary Education and the master's degree in Secondary Education. Students had to list 5 predetermined competencies in order of preference. This ranking would later be used to weight the score for each item. As it can be seen, the higher-ranked item concerns the selection of social and environmental problems: this seems to be the most valued skill for the students of the two master's degrees. However, the following item involves charisma: the ability of secondary teachers to control the classroom. The popularity of this item was due, undoubtedly, to the image that teenagers convey. Hence, this item was more popular among the future secondary teachers than among the aspiring primary teachers (students aged 6 - 11). Consequently, the first batch of surveys already underlined that the appraisal of aspiring secondary teachers (working with teenagers) were influenced by their social expectative, which at their turn were conditioned by hegemonic culture.

Table 2. Basic competencies of Geography and History teachers

Valued item (1st, 2nd, 3rd, 4th, 5th position)	Bachelor's degree in Primary Education	Master's degree in Secondary Education	Total
Competence to interact with students and parents	257	163	420
Ability to select environmental and social problems to create educational content	444	309	753
Ability to structure educational activities in a given amount of time	283	175	458
Charisma to manage the class and prevent a negative classroom environment	281	284	565
Contribution to the development of the educational project of the educational center	252	192	442

Note. The score for each item appears in the two central columns.

We would like to emphasize how paradoxical the prevalence of the competence that links social sciences to the selection of relevant problems is. From our perspective, it is a double stereotype. On the one hand, a pedagogic stereotype: problem selection is deemed to take place during practice sessions in the classroom and it does not need epistemological thinking to be defined or to organize a sequence of activities. On the other, we have an academic stereotype: the lack of linkage that exists between geography teaching and university research.

To verify this assumption, we resorted to people's understanding of geography teaching profession. To do so, a survey with an open-ended word association task was conducted. By means of this survey, a big amount of words was generated. Their great variety shows that citizens do not have an accurate idea of which qualities teachers should have. The most frequently mentioned words are related to dynamism, motivation, curiosity or to a knowledgeable individual (table 3). Only working teachers referred specifically to social problems awareness, from different perspectives. The teachers of Porto Alegre (Brazil) took a critical approach, the teachers from Cali (Colombia) opted for a more educational and creative perspective and, in Valencia, the interdisciplinary and encyclopedic character of geography teachers was underlined. It can be speculated that the bachelor's and Master's degree students see geography teachers as knowledgeable, dynamic and thoughtful people. Teachers from other

disciplines also share this vision: even if they consider that anyone is able to participate in a discussion about social sciences, they consider that only specialists have a say in their own disciplines (math, Spanish or physics or chemistry).

Table 3. Words associated to/with geography teacher.

Group	Associated words	Comments
Continuous training (n:68) (Brazil, Colombia and Spain).	Interdisciplinary 8, Thoughtful 7, Creative 6, Dynamic 5, Didactic 4.	They were teachers that attended training activities voluntarily.
Bachelor's degree in Primary Education (n: 65).	Dynamism 18, Motivation 11, Historian 5, Knowledge 4, Boring 4, Communicator 4.	Students of 3rd and 4th year of the bachelor's degree in Primary Education.
Master's degree in Secondary Education (n: 28).	Active and dynamic 3, knowledgeable person 2, public speaking skills 1, cultured person 1.	Students of the master's degree in Secondary Education.

Note. *n* indicates the number of people in each group. The numbers in the “associated words” column indicate the frequency of occurrence of the terms.

Then, EVOCATION 2005 was used to work extensively on the categorization of the keywords in order to identify the nuclear core of the social representations of aspiring secondary teachers. The first thing that stood out was the diversity and the dispersion of the terms, as if there was great uncertainty to define geography teacher's characteristics. Among these, we find words linked to the emotional behavior of the teacher (practical, organized, boring, dynamic, analytical, passionate...). These concepts reveal that the teacher's perception is related more to spontaneous personal behavior than to mastering specific skills to lead the building of spatial, environmental and social behavior. Only “interdisciplinary” is closer to an analytical and argumentative vision of the teacher.

Table 4. List of words associated with geography teacher created by EVOCATION 2005

Group	Central Core	Comments
Academic year 2016-17 (n:40)	Practical/methodical 16, Organized 10, Boring 10, Dynamic 9.	The frequency of the central core is higher in the most evoked words.
Academic year 2017-18 (n:37)	Analytical 4, Interest 3, Passion 3, Interdisciplinary 3	These words express the emotional dimension of being a geography teacher

Note. *n* indicates the number of people in each group. The numbers in the “associated words” column indicate the frequency of occurrence of the terms.

Taking this information into consideration, one hypothesis can be advanced: the social representation of geography teachers is related to a conception that stems from common sense: a conception that teachers accept as such. So, studying social sciences, geography or history coincides with the image of rote learning of facts and concepts that has been synthesized through academic knowledge. This kind of knowledge has always been seen as higher culture. This reveals the existence of a gap between academic knowledge and the image that the profession and the diffusion of geographical knowledge has, which is supposed to be the application of academic knowledge. That was the reason why we wondered about the spontaneous conception of Geography as a discipline as we intended to figure out if it was based on well-argued knowledge or on a superficial one.

A similar approach was taken in the case of the ideas that concerned the academic discipline itself. First, the free-word association exercise was analyzed. Further on, a more in-depth analysis was conducted using EVOCATION 2005. This process allowed differentiating, catalogue and categorizing the ideas expressed by the future primary and secondary teachers. On this occasion, a group of teachers from Peru was designated as means of contrast, so the generalization and universalization of school routines could be observed.

Table 5. Ideas/words associated with geography.

Groups	Central core	Comments
Master's degree in Secondary Education (n:30)	Maps 5, Landscape 3, Environment 3, World 2.	The results were obtained collecting data from 5 groups of 4 people each after comparing the individual results.
Bachelor's degree in Primary Education (3rd year) (n: 35)	Maps 24, Countries 20, Mountains 13, River 11, Population 9, Climate 6.	The students were trying to remember their own experience during secondary education.
Teachers from Perú (n: 88)	Space 56, Maps 29, Territory 20, Ubication 19.	It was a course for experienced teachers in PAE and they were searching for generic issues.

Note. *n* indicates the number of people in each group. The numbers in the “central core” column indicate the frequency of occurrence of the terms.

Geography representations such as maps, space and territory and the representations of the teachers associated with words such as “dynamism” and “motivation” has led to a search for a theoretical logic in the interpretation of these words. That is the reason why we have resorted to social representations as a theory that links social context to personal arguments. In other words, we attempt to understand the following paradox. On the one hand, geography teachers believe that their cause is guiding students through the learning of social and spatial problems. On the other, they do not consider the knowledge of the geography schools of thought as a requirement, even if they represent different ways of understanding different situations, especially when they search for complementarity between social context and individual perceptions. We would like also to explain why, even if Geography is associated with space, territory and maps, such concepts and techniques are not used to define the problems that take place where the students live or that are seen in the media. In this sense, the conducted research allows us to affirm that initial teacher training, at least in Spain, is conditioned by the “common sense” ideas of hegemonic culture; and not by the academic ideas that stem from educational sciences and specific disciplines (geography, in this case). It is assumed that said knowledge is theoretical and does not have an impact on the professional growth of the teaching profession.

However, here are nuances. Following discussion in the debate groups, it was underlined that the conceptions of future secondary teachers were influenced by ideas related to academic concepts (such as landscape or environment). However, the prospects of primary teachers reflected descriptive facts, such as mountains or rivers. This discrepancy is relevant for two reasons: first, it shows the influence of initial training; secondly, it brings to light an expectation of building school knowledge linked to the morphological representation of the geographical area.

Thanks to the participation of the teacher group from Peru it was possible to verify this statement, as the concept of space was linked to the description of local environment. This meant a transformation of initial ideas as a consequence of student demand. In this case, there is a need to stress that the students were adults, as PAE was the field of expertise of these group. In other words, lifelong school geography teaching education is obstructed by the local environment where it takes place. In this aspect, the competence to analyze said territory becomes significant.

In all cases, it has been found that maps were pinpointed as an inherent feature of school geography. Nevertheless, the presence of this tool did not imply the study of the distribution of its elements or the study of the relationship between the elements of physical surroundings and human activity. Even when a study of the map as a territorial political representation is proposed, it has been impossible to analyse the impact that map projections have (for example, the Mercator or Peters projection) on creating a conception of our planet. A significant detail was that the teachers from Perú conceived the Eurocentric representation of the world as “natural”.

The analysis of the word association exercise led us to delve into the study of how maps are perceived. In order to do so, we used EVOCATION 2005, software that has been previously mentioned. Our aim in using EVOCATION 2005 was to identify the central core of the ideas of future geography teachers, but also to discern words or concepts that could be analyzed as part of the peripheral aspects of social representations, more contextual and less frequent.

The focus of this study is on two groups of students of the master's degree in Secondary teaching, that is, on the future teachers of the Spanish school system. On the basis of the results, students have integrated the classical division between physical and human geography, and between concepts and techniques (see table 6). This

acceptance results in a fragmented vision of school geography. This leads, on the one hand, to juxtaposition of concepts and facts; and on the other, to the improper use of graphic and cartographic techniques. There is a lack of connecting links, of a thread: in our opinion, the solution lies in using problem-solving as teaching approach.

Moreover, another educative paradox was identified. Geography is mainly associated with maps, territories and space (Table 6). Nevertheless, it has been noted that the participants of the study do not use cartographic language as a fundamental tool to interpret and standardize the information that has been previously selected from social and spatial facts and phenomena. When asked to present a relevant geographic location in the discussion groups, almost the entirety of the sample mentioned the geographical area. However, they did not use maps to represent it: maps were simply used to locate a place.

Table 6. List of words associated with geography using EVOCATION 2005

Groups	Central core	Comments
Academic year 2016-17 (n:40)	Maps-cartography 21, climate and weather 11, Relief 10, Visuals 10.	These words refer to geography work techniques.
Academic year 2017-18 (n:37)	Environment 11, Society 7, Territory 5, Human geography 5.	These words describe concepts that could possibly be the subject of study of geography.

Note. *n* indicates the number of people in each group. The numbers in the “central core” column indicate the frequency of occurrence of the terms according to EVOCATION 2005.

The studies that have been conducted since the end of the 20th century show continuity in geography teachers' routines and traditions in the social representations of the school subject (Souto, 1990). Innovation proposals based on Behavioral and Perception geography in the school environment and social representations in the social field are two theoretical tools that will allow us to both reject traditional routines and to propose alternatives to the school praxis of geography teaching.

In this case, we rely on the standardization of this school of thought (Capel, 1973; Estébanez, 1979), its dissemination (Boira & Reques, 1991) and its application in geography teaching in secondary education (Souto, 1983). Even then we would argue that cultural stereotypes were an obstacle to understanding phenomena such as migration, urban spaces, and even the concept of geography itself.

Following the same argumentative line, we must consider theory listing as something opposed to practice. We tried to overcome the gap between theory and practice through the concept of didactic praxis. This determination was reflected in the subtitle of every *Gea-Clio* book, as we tried to integrate theoretical thinking in the pragmatic proposals of educational work.

4. Concluding Remarks

The purpose of this article was to show how the theory of social representations can complement an analysis based on Behavioral and Perception geography in order to study the stereotypes that future and working geography teachers have of the study object and the study subject of school geography. Both theories link personal and individual learning to historical constructions, which are a collective of social manifestations. The theory of representations underlines the importance of beliefs, emotions and metaphors when building common sense ideas (figure 2). This synthesis takes place in the context of social relationships. Hence, hegemonic culture forces the sense of relationships.

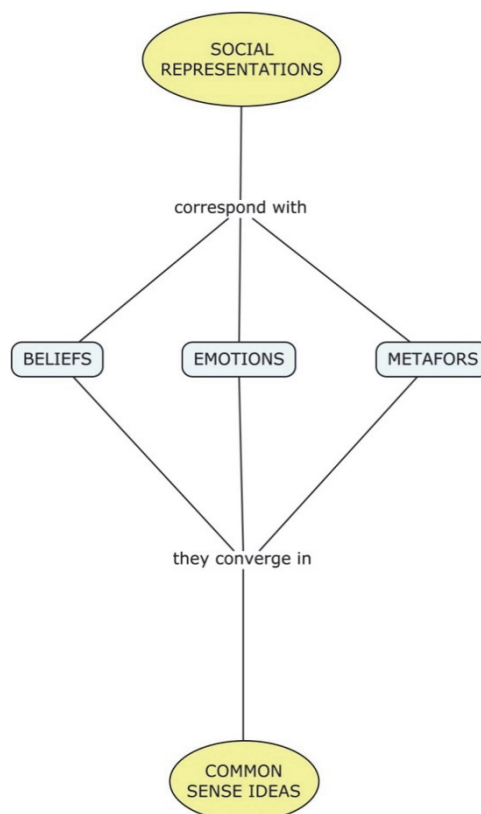


Figure 2. Social representation structure

Thanks to this explanatory model, the underlying issue in school geography information has been identified. It is a question of lack of knowledge about the diversity of geography schools of thought. School geography is conceived as a “single” school of thought. In other words, the perception of teachers and the discipline itself is constrained by a prevailing vision that considers the goal of school geography to be the transmission of facts and concepts of countries and regions. According to this perception, geography does not address the problems that affect individuals, which in this case would be the student body.

In addition, as no argument to improve the body of knowledge has been made, experts focus their efforts on improving the practical side of geography. This practical aspect is associated with the use of visuals and maps as entertainment, as a routine exercise. Most of the time, however, the use of these tools has little relevance regarding facts and concepts. Hence, the reference of the survey respondents to a “practical” and “dynamic teacher”.

If we are unable to challenge the dominant ideas in school geography teaching, it will not be possible to carry out a school alternative. In general, future teachers consider that the key to improving school teaching lies in introducing techniques that built on the previous ones. And so, this is the overall picture of education, stuck under the pressure of common sense ideas, teacher’s social consideration, and the theoretical lack of knowledge about diversity of geographical explanations. And several case-studies prove that these findings could be extrapolated to several countries; at least to the iberoamerican states: we know them well thanks to exchanges through the *Geoforo Iberoamericano de Educación*.

We are aware that this difficulty is, to a large extent, partly due to labor relations and school system regulation. But we are also aware that it is possible to overcome said obstacles if we use the critical sense at our disposal to reject dominant ideas and develop an alternative model. This model should be grounded on group work, where knowledge about geography plurality becomes necessary, as it has been stated in previous articles (Souto, 2010). Moreover, it requires cohesion between research and teacher training. All of this would be possible with a theoretical framework such as, for instance, a curriculum project (see figure 3). Our research group has been insisting on this particular point since the *Gea-Clío* project (Ramírez & Souto, 2017).

As noted in figure 3, according to the proposed school practice, research and innovation should integrate through teacher training activities and the organization of didactic activities to create an organized group: the Didactic

Units. To do so, classroom practice must be assessed: a session evaluation that allows us to go from the identification of the problem to the proposal of a solution.

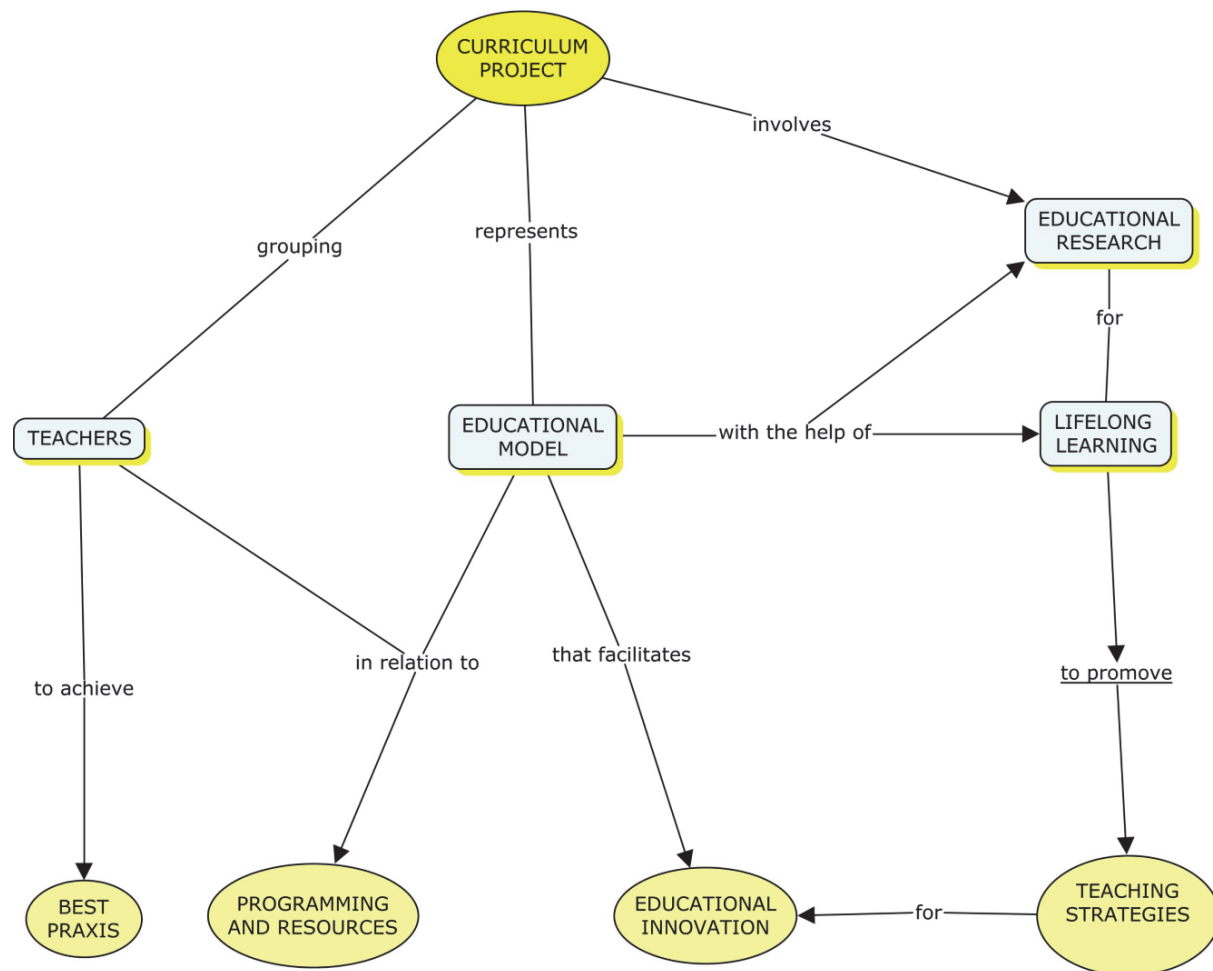


Figure 3. Curricular project structure

The thesis of this paper underlines the actual possibility of resorting to theoretical knowledge of school geography to challenge school routines. But the need to analyze other variables is also emphasized, such as available resources or activity scheduling. These are not only founded on a geographical theoretical justification, but also on philosophical principles and well-reasoned learning proposals. The large input observed during the innovation process allows us to conclude that any school learning proposal needs a disciplinary and educational theoretical synthesis.

Acknowledgements

This study is part of a research funded by the MIMECO (EDU2015-65621-C3-1-R) and co-financed with FEDER of the EU funds. In addition, it has used the funds of the project "Personal marginalization and the social utility of school knowledge" (GVAICO2016-092, Generalitat Valenciana).

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