



## Special didactics of geography

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### Abstract

Geographical knowledge has a didactic heritage which is particularly stiff and mnemonic and has prevented geography from approaching special didactics. New geographies look for a new disciplinary approach by which the teacher uses creativity and keeps up with the different learning paces, encouraging discovery, cooperation, initiative and openness towards other people and other places. Finally, a didactics that emphasises the emotional dimension of intelligence, stimulating curiosity, interest, enthusiasm and motivation.

Integration and inclusion imply extreme stances in organizing didactics and methods so that the categories of time and space are shaped according to the "Special Educational Need". Each problem requires focused didactic, pedagogical and methodological solutions, in terms of personalised plans and adjustments in didactic strategies and methods.

The idea is of a special didactics of geography that may provide not only technicality but an authentic training: it is fundamental to regularly implement a methodological approach which makes it possible to tackle tools, languages, knowledge of disciplines and general learning, in an inclusive viewpoint. Such a perspective establishes a dynamic interactive relation between the teacher and the pupils and therefore implies a constant use of the knowledge and skills of any individual involved.

**Keywords:** Exploration, Discovery, Creativity, Inclusion

### 1. Introduction

"These children are born twice. They must learn to move in a world that their first birth made more difficult. Their second birth depends on you, on what you will be able to give" (Pontiggia, 2001)<sup>1</sup>.

The 2012 Guidelines, as an extension of those dated 2007 and the 1991 Guidance, outline a school whose mission is to satisfy the right to education, care and multiple needs, which is always close to the growth and development rhythms of each individual, which welcomes and enhances skills, knowledge, and experiences that any child holds in his/her identity and history.

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<sup>1</sup> "Questi bambini nascono due volte. Devono imparare a muoversi in un mondo che la prima

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nascita ha reso più difficile. La seconda dipende da voi, da quello che saprete dare".

For this reason it is fundamental for a curriculum to be flexible, integrated and open, and to unite implicit features, such as relations, spaces, times, materials and anything else. The educational care plays a basic role, intended as focussing on each child in his/her entirety, his bodily, emotional, affection and learning needs; as the responsibility to lead him/her through his/her own development, discoveries, learning, in his/her capacity building and strengthening process, never taking his/her place yet supporting him/her through an attentive educational direction, and indirect and mediated didactics, in an environment which should be intentionally set and prepared. In a school thus outlined, the child is at the core of the educational project, and plays the role of an active main character in his/her development and learning path, made easier through a context which carefully meets the deep need of welcoming his/her way of being, of recognising and appreciating different identities, scheduling the day so that games alternate with learning and caring, organizing the spaces so to allow the child to play, explore, discover, meet, test, build (Bruzzo, 2012, pp. 208-210).

An inclusive education makes a quality school, where any pupil is endowed to learn at his/her own rhythm and above all is allowed to actively participate. Differences are understood, perceived as normality and enrichment. Inclusion aims at making it possible, for each individual, to access the “ordinary” life and grow and become an independent person.

Inclusion has to confront with a long history of exclusion, culture of dependence, pietism and indifference. On the contrary, integration and inclusion are based on reciprocity, not only the right to help but the duty to learn and to be helped reciprocally.

Integration and inclusion imply extreme stances in organizing didactics and methods so that the time and spaces are shaped according to the Special Educational Need<sup>2</sup>.

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<sup>2</sup> The idea of Special Educational Needs (BES, Bisogni Educativi Speciali) relates to a broad range of pupils living in a peculiar situation, which hinders learning and development. The term refers to the ICF-CY classification (International Classification of

Each problem requires focused didactic, pedagogical and methodological solutions, in terms of personalised plans and adjustments in didactic strategies and methods.

Where shall we start from? From experience. An experience made of practical, direct and involving participation. A stage of exploration to develop observation and cooperation skills introducing conceptualization, stimulating a gradual and progressive movement from perception to operation, from concrete to abstract, from sign to symbol. This stage makes interaction with reality more and more meaningful and produces significant knowledge contents.

Only through specific paths, designed by a careful consideration, organized by selecting contents and certain appropriate material, can a synthesis between practical experience and expected learning and education be achieved.

Such a kind of methodological and didactic approach is based on the awareness that the basic contents selected conceal the true complexity of skills and scientific attitudes at the base of knowledge.

## **2. Special Geography: from exploration to discovery**

Exploration, observation, interpretation, pleasure of discovery and creativity: these are the keywords for special geography. The ancient static and sciolistic learning makes way for an educator-space, created by tailoring the geographical space according to a variety of elements: senses, perceptions, emotions, motivations, learning, and creativity.

Therefore, beside the real territory, a personal, sensitive, emotional territory is built which mirrors human attitudes towards the surrounding environment.

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Functioning, Disability and Health-Children and Youth Version) and other impacts on the individual with reference to the persuasive, specific, sectorial troubles, both permanent and temporary. The ICF vision is based on a global approach with a conceptual model focused on the health and operation rather than on disability and pathologies.

This is why it is necessary to reshape geographic education starting from its objectives, which are strictly connected to its methods.

Methods of geography teaching have a long history. For many years geographic knowledge at school has been merely limited to a long list of information to be learned by heart. Such methods were undoubtedly effective in reaching the objective of storing knowledge yet they follow an epistemological model of descriptive geography which only reported facts without providing any explanations or mentioning their dynamic features. Also later didactic models, which considered geography as a science of relations where the description of spatial structures replaced enumeration, focused on the selection of information and on the connections between geographical objects and players of the territory. In such framework the pupil plays once again a passive role and is given access to a pre-packed knowledge which hinders the achievement of a higher level of understanding and intuition (Giorda, 2006, pp. 97-100).

This methodology heritage, which is particularly stiff and mnemonic, has prevented geography from getting close to special didactics. For this reason a new teaching approach is necessary, by which the teacher uses creativity and keeps up with the different learning paces, encouraging discovery, cooperation, initiative and openness towards other people and other places.

Finally, a didactics of geography which emphasises the emotional dimension of intelligence, stimulating curiosity, interest, enthusiasm and motivation.

Emotions have an impact on the acquisition and development of knowledge, they make the individual the explorer of the surrounding world, and they emphasize the desire to discover the external reality and prepare to engage in the travel to get to know the world and the others (Bruni, 2008, pp. 93-98).

All this because emotions and cognitive processes are interdependent; it is impossible to think, choose and act in a rational and mature way without going through a personal path of emotional literacy (Contini, 2006, p. 3).

In this perspective, educating to emotions means bolstering intrapersonal and interpersonal meta-cognitive and problem solving processes which facilitate the encounter with others and, above all, the contact with diversity, that is often rejected rather than perceived as enrichment and added valued (Morganti, 2012, p. 20).

Neither can the new knowledge be disconnected from its cognitive matrix. No learning turns into being effective if taken out from previous achievements. It is necessary to devise involving and playful methods to perform initial assessments of consolidated learning, on which the new ones can be successfully built, in a continuous process of knowledge and capacity building. Without forgetting that the learning individual must play an active role in knowledge building and be directly involved in the research and discovery process. "In daily didactics, a heuristic approach, always focused on the learning individual and which implements as many workshop activities as possible, is more likely to prevent the risk of passive reception, lack of interest and the following failure or dispersion" (Pasquinelli d'Allegra, 2011, pp. 51, 50).

The idea is of a workshop didactics that may provide not only technicality but an authentic training: it is fundamental to regularly implement a methodological approach which allows tackling tools, languages, knowledge of disciplines and general learning, in an inclusive view. Such a perspective establishes a dynamic and interactive relation between the teacher and the pupils and therefore implies a constant use of the knowledge and skills of any individual involved (Dellucca, 2010, p. 12).

Indeed the etymology of the word "emotion" itself, from the Latin verb *moveo*, meaning "to move", indicates that emotions are inclinations to movement, dynamism and action (Morganti, 2012, p. 33).

An inclusive geography is fed with these principles and is based on inductive methods that use a workshop, constructive and cooperative didactics.

Certainly science is a key factor for special geography also.

The didactic material must be structured

according to a precise methodological model, which defines general objectives, specifying their characteristics and the reasons for the choice taken (Lucchesi, 1992, p. 76).

### 3. The “special normality” of geographic knowledge

Special didactics requires the need for both normality and speciality, two different concepts which will be equally kept in consideration.

The need for “normality” has an essential value (I am the same as the others, I have their same rights, I have the same opportunities) and an instrumental value (doing the same things the others do), both of which generate psychological wellbeing, self-esteem, social identity and meaningful learning. While the need for “speciality” requires specific needs (communicative, relational, cognitive) and thus educational and didactic actions (languages, methods, tools).

Dario Ianes (2006) speaks about a special normality, meaning integrated qualities that consider expectations, objectives, practices and activities for all pupils, with no exclusions, in the ordinary training offer, enriched with a specific technicality based on scientific data and required by new challenges of special educational needs. From normal to special, normality enriched with speciality, moving through subsequent and rising levels of speciality, if necessary, to using even very technical and specialized resources.

Geographic learning, in its specialities, requires actions that leverage a practical dimension, learning by discovering through the use of specific strategies of adjustment, such as:

- replacement: “translating” the input into a different code or language and/or using different output methods (it is not a real simplification, rather it is a special attention on accessibility conditions);
- re-framing: refers to different presentation methods and different treatment of learning materials (with different people, in functional real environments, with more motivating and

interactive technologies, in highly interactive didactic contexts, in highly operational didactic and meaningful contexts);

- adjustment of space and time: longer and more relaxed delays and more breaks or a more functional space structure, removing distraction factors and adding helpful elements in the learning environment;
- aids: enrichment of the learning context by different types of aids: clues and objective incentives that help in the different stages of the task to be carried out (colours, pictures, cognitive maps, additional explications, relevant models to “show how to do”, advance organizers, various aids to memorize, various aids to plan actions);
- simplification: simplifying the learning task, which means modifying the lexicon or whatever provides the information to be understood, reducing the complexity of the concepts splitting their processing, by simpler materials and examples, simplifying the criteria of correct answering (allow a higher number of errors, inaccuracy, vagueness);
- the basic core: identifying the basic core of the discipline in the curriculum which can be easily turned into accessible and meaningful objectives;
- the culture of the task: the search for opportunities to involve the pupil in significant processing moments or in the use of curricular skills, so that the pupil may test “the culture of the task” (the emotional atmosphere, the cognitive desire, the processed products etc.).

### 4. Geographic Images: a precious resource for special geography

Images contribute to the education of individuals, acting as a didactic catalyst which motivates and optimizes the teaching and learning times.

Geography, more than other teachings, has its

epistemology based on iconology, in a framework of observation and discovery where representation becomes identification. In this sense the geographic map and, more in general, images of the world become a motivating and capturing tool for immediate knowledge which develops through eye perception.

From a didactic point of view, images have a dual connotation: one refers to the pleasure to see beyond the image through fantasy and imagination; the other refers to their direct contact with the individual, with no need for an interface. Images will be included in didactics both because they are an efficient tool in conveying knowledge and because they make the “playful” didactic envisaged by (1988) real. This is not intended to turn the teaching/learning process into a game, yet it underlines the tendency to make the individual participating more lively to the learning effort. The production of images for school, and education, has been a constant element in the European pedagogical culture for the last three centuries, although their use has never been generalized beyond certain minimum levels (Farné, 2002, pp. 8-14).

#### 4.1 The geographic map

“Moreover, what he needs is not an exact knowledge of local topography, but how to find out for himself. No matter whether he carries maps in his head provided he understands what they mean, and has a clear idea of the art of making them. See what a difference there is already between the knowledge of your scholars and the ignorance of mine. They learn maps, he makes them” (Rousseau, 1762, eng. transl., available at [www.gutenberg.org](http://www.gutenberg.org)).

In Book III of *Emile*, Rousseau develops some topics which provide precious food for geographic thought, especially in the chapter entitled “A study of nature: cosmography and geography”. This modern Genevan defines the teaching of geography through the signs of nature and reality with which *Emile* enters into contact. What stands out is a “derision for bookish, notion based geography, to be learnt by heart, compared to a practical and active one, which does not pivot on knowledge (and let me

add, taken out of any contexts) only, but also on know-how” (De Vecchis and Morri, 2010, pp. 7-8). Rousseau’s method of teaching geography is the one adopted by the best contemporary pedagogy, which embraces the principle of starting from reality and the need for making use of the very activities of the pupil.

Children love geographic maps, which they find fascinating and amazing. Maps let the child travel and “Imagine cold and hot, billions of people like him or different from him, domestic or wild animals [...]. A map is like a very odd bestiary, but it is also a world that the child may discover through the strength of his/her developing intelligence, through words to voice ideas, scales and numbers to count, latitudes and longitudes to measure, lines and points as reference, colours to mark differences, towns and Countries, hence to locate in the space” (Frémont, 2007, p. 47).

The geographic map is a recurring tool necessary to space orientation going from daily routes to the imaginary journey of dreams /desires, to practical reality. From the first years of life, it will become a familiar element, an aid to store notions and become competent in reading and interpreting.

The geographic map is simply a talking image: we cannot only get mere data from it, but also weather, landscapes, population, economies, wars, as well as summer festivals, beaches, museums, archaeological sites, holidays and many more.

It lets you dream through long and short distances and acquire the ability to move in an unknown space. Its bright colours, like those of children’s drawings, are attractive and stimulate rational reasoning: it is the door to geographic knowledge.

Succeeding in making young pupils understand that geographic knowledge is part of our daily life, our movements and even of our decisions and desires, would make their approach less cool and more enthusiastic. This is the first geography, the key to open the most complex, yet fascinating, scientific knowledge.

And again: motivation, discovery, emotions crucially affect the acquisition and the development of knowledge. Emotional

knowledge is unaware, in the sense that its processing comes from experience and not from a meditative mechanism leading to aware knowledge and, in other terms, to that knowledge of knowledge (Bruni, 2008, pp. 93-98).

## 4.2 Geographic images on the world wide web

Nowadays, on the Web maps are three-dimensional, they become alive and they quickly adjust to the individual needs. The world becomes closer and everything seems more accessible.

“In the span of two or three generations maps have undergone many changes. Very often in schools it is still hanging near the blackboard, like a flag of past times since children today prefer the keyboard of a computer. Yet discovering a map is as much astonishing, certainly less shrouded in mystery, and maybe more whirling. Nevertheless, the map has become just one of the many elements in contemporary world, made of words, signs and images, an endless game. Geography has changed; the world has changes and even children have changed today” (Frémont, 2007, p. 48).

Information technology empowers cartography, the map enters the era of Geographic Information Systems (GIS) thus triggering an actual technical revolution, upsetting its methods, strategies and objectives, outlining a new geography, which is no more representative but identifying. In which way? Through sources: cartographic, satellite, photographic, artistic, literary, documentary sources and many others. Google Maps, Google Heart, YouTube, Social Network and the entire online world allow the old static and notion-based knowledge to become alive and take shape. “Even enthusiastic attitudes have been reported in many children, at first in recognizing the places of daily experience and later in penetrating those places they wish to visit and where they can take a virtual tour in the meanwhile” (Pesaresi, 2011a, p. 137).

The Network has plenty of geographic

resources which turn useful both to the teacher, in order to efficiently plan didactics, and to the student, in order to acquire significant knowledge.

Here is a list of useful websites to get virtual atlases, cartographic materials, satellite images, photos, videos and many more.

- <<http://www.aiig.it/>>;
- <<http://www.esa.int/>>;
- <<http://www.newgeography.com/>>;
- <<http://www.geographyphotos.com/>>;
- <<http://www.dienneti.it/geografia/carte.htm>>;
- <<http://www.ddrivoli1.it/portogeografia/geografia.htm>>;
- <<http://www.globalgeografia.com/>>;
- <<http://google-earth.softonic.it/>>

Google Earth is a geographic atlas which helps you to discover the world in 3D and allows you to observe the world through a collage of maps and satellite images. With this software you can flutter on the Grand Canyon or drop in the middle of the Coliseum, penetrate into deep space and discover galaxies and constellations, explore the Moon and feel like the first man in space, dive into oceans or go back in time to find out landscape changes;

- <<http://miomondo-web.softonic.it/>>

MioMondo Web is a useful program for teachers searching for new methods and new strategies to teach geography. Its versatility makes it helpful for a cross-discipline didactics. It is an Italian software which represents the territory through a hypertext made up of multimedia contents (images, audio, videos, texts);

- <<http://marble.softonic.it/>>

Marble is an open source virtual atlas, an alternative to Google Earth, Nasa World Wind and alike. It allows you to quickly change the maps in use and the methods they are displayed;

- <<http://earth3d.softonic.it/>>

Earth3D is a virtual geographic atlas. It uses images from different sources to create a virtual world map that can be explored thoroughly. It is an open source alternative to Google Earth, and offers a variety of image libraries.

## 5. A sensory geography for autism

### 5.1 Foreword

Autism<sup>3</sup> is considered as one of the most controversial and doubtful disorders in children psychology. The autistic syndrome is a pervasive developmental disorder affecting various brain functions and lasts for the entire lifespan of the affected person.

Despite the serious impairments connected to this pathology, people suffering from autistic-syndrome may become, through the appropriate stimulus, independent and may acquire the basic spatial skills for personal development.

### 5.2 The autistic way of perceiving the world

“Learning about the senses of each single autistic person is a fundamental key element to understand that person” (O’Neill, 1999, p. 31).

Even if autistic people live in the same

physical world, their perception is different from non-autistic people. It has been proved that autistic people have uncommon sensory experiences (from a non-autistic point of view). Such experiences may imply hyper or hypo-sensitiveness, different levels of perception, troubles in interpreting reality or an input from a sense. A different experience leads to a different set of knowledge about the world. Furthermore, what makes everything more complicated is the fact that two autistic people do not seem to exist with the same pattern of sensory and perception experiences.

Some of the features of the autistic perception of the world can be identified (based on the reports by high-functioning autistic adults and on the observation of autistic children): a lateral perception, which means perceiving everything for what it is; inability to differentiate between first level and background information, difficulty in recognizing relevant and non-relevant stimulus; hypersensitivity and/or hyposensitivity; inconsistent perception; disjointed, misrepresented and delayed perception; sensory agnosias, or difficulty with sense interpretation; vulnerability to sensory overload (Bogdashina, 2011, pp. 51-89).

Differences in perception lead to a different perceptual world, which is necessarily interpreted in a different way. Institutions, and school in particular, must become aware of those differences and help autistic people to face painful sensitivities and to develop their strong points which are often neglected. Teachers and other professionals must recognize sensory differences to choose appropriate methods and design significant education measures. Since all the senses are mutually integrated, the impairment of one may negatively affect one or more other senses. Therefore, there is the need to identify which one is impaired and to what extent, and which sense it can be relied on (sets of perceptual tests are broadly described and reported by Bogdashina, 2011, pp. 171-210).

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<sup>3</sup> According to DSM-IV (Diagnostic and Statistical Manual of mental disorders), the autistic disorder appears in three specific areas of mental functioning:

- 1) Quality impairment of social interaction area, or the lack of social interactions (problems with non verbal communication, rare or inappropriate use of eye contact and emotional expressions, inappropriate postures, lack of adequate relations with peers and difficulty to be pleased of other people’s happiness and/or emotions).
- 2) Impairment of the communication area, implying a delay or lack of language development (conventional, anomalous or repetitive use of language).
- 3) Limited, repetitive and routine interests, functional to no purpose.

### 5.3 Learning in the integration and inclusion process

Learning is a fundamental part of the integration and inclusion process, the more important it is, the more it is hindered by factors of various types: biological, behavioural, relationship-wise, social. Even the pupil with the most severe impairment has the right to learn and get an adequate school service for his/her educational and didactical needs. Some problematic conditions, such as autism, need a well-structured environment to facilitate the child's learning and behaviour. Structured does not mean different and separated but including efficient elements of structuring and predictability in the normal activities. On those premises a methodological handbook can and must be drafted, including concrete activities, new methods of educating and solid pedagogical/didactical principles.

### 5.4 Spaces and times

The workplace should be organized in optically delimited spaces, with specific functions clearly displayed, in order to allow the pupil to know exactly what we expect from him/her in any place and at any time.

The pupil needs an individual work area, a group activity area and a space for leisure; each should be clearly delimited and marked with identification symbols. It is fundamental that each space is devoted to only one activity, to help the pupil in self-orientation and quickly become independent in his/her movements, which will be rewarding for him/her.

The passing of time is a difficult notion to learn, since it is based on data that cannot be seen. This is why it is important to have a daily time-schedule, informing at any time the pupil on what is happening, what happened and what will happen, thus increasing predictability and the control over the situation and reducing uncertainty which causes anxiety.

Time must be structured according to a daily time-schedule, built by a sequence of objects, images or written words, depending on the pupil's abilities, listed from top to bottom. At the end of each activity, the pupil will move its

relating symbol to a different dedicated space which records the time elapsed: in this way the pupil can always know how much time has elapsed and how much is left before going home.

It must be underlined that the time and space structure is not an objective to be reached, it is rather a developmental tool, a means to help autistic people achieve a better mastery of their environment and life.

### 5.5 Experiences and didactic methods

According to Ausubel, meaningful learning takes place when new knowledge is related to what is already known. Yet, this is to be discovered, recognised and, above all, implemented. This should be true for any didactic action, especially with pupils experiencing trouble, for whom using previous knowledge and experiences must be the compulsory method to apply.

Another basic element: before actual real situations pupils learn more easily, especially through discovery. Autistic children often have access to learning through the sensory channel; training and enhancing the latter may contribute to developing new languages and relative personal independence.

A didactic approach, which through focused educational strategies can enhance the abilities of autistic people, is the Teacch Method, an acronym for Treatment and Education of Autistic and Communication Handicapped Children.

The user is presented with a daily schedule with visual images: pecs, an acronym for Picture Exchange Communication System<sup>4</sup>. This system aims at developing functional communication like social exchange, through a step-by-step learning program which includes six stages (stage I-VI). It is easy to learn and it can be implemented in different contexts (at home, at school etc.) and it is not very expensive either. It

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<sup>4</sup> <[www.iocresco.it](http://www.iocresco.it)>;  
<[www.pecs.com](http://www.pecs.com)>;  
<[www.autismo.net](http://www.autismo.net)>;  
<[www.teacch.com](http://www.teacch.com)>;  
[www.dienneti.it/handicap/#autismo](http://www.dienneti.it/handicap/#autismo).



is based on the use of supports, and aims at encouraging the child's spontaneity and initiative in communication and in managing personal and relationship independence.

### 5.6 What kind of geography for autism?

Personalized Educational Plans (Piani Educativi Individualizzati – PEI) of autistic-syndrome pupils rarely embrace spatial and geographical skills, since the autistic spectrum implies a stiffness in recognizing and exploring places.

Being aware of this, it is necessary to adopt methods that use games and sensory and psychomotor experiences in which the object-body-mind relationship, through direct experience, allow us to make sense of what we try to learn.

The right approach to geography is a sensory approach, when the surrounding world is discovered through exploration, games, and creativity.

Careful physical experiences, with visual distinctions and the other senses, facilitate more long-lasting learning in any therapy for children with difficulties.

“By now, we have many means to see and know places and the beauties (or tragedies) of the world. School is in charge of stimulating curiosity and critical thinking so to let pupils, since their early childhood, test observation styles, clues to understand and interpret, methods to link and evaluate, and above all ‘new eyes’ to start a discovery journey, which begins with meditating on direct, daily experiences and spreads to the knowledge of the world” (Razzoli, 2012, pp. 126-127).

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