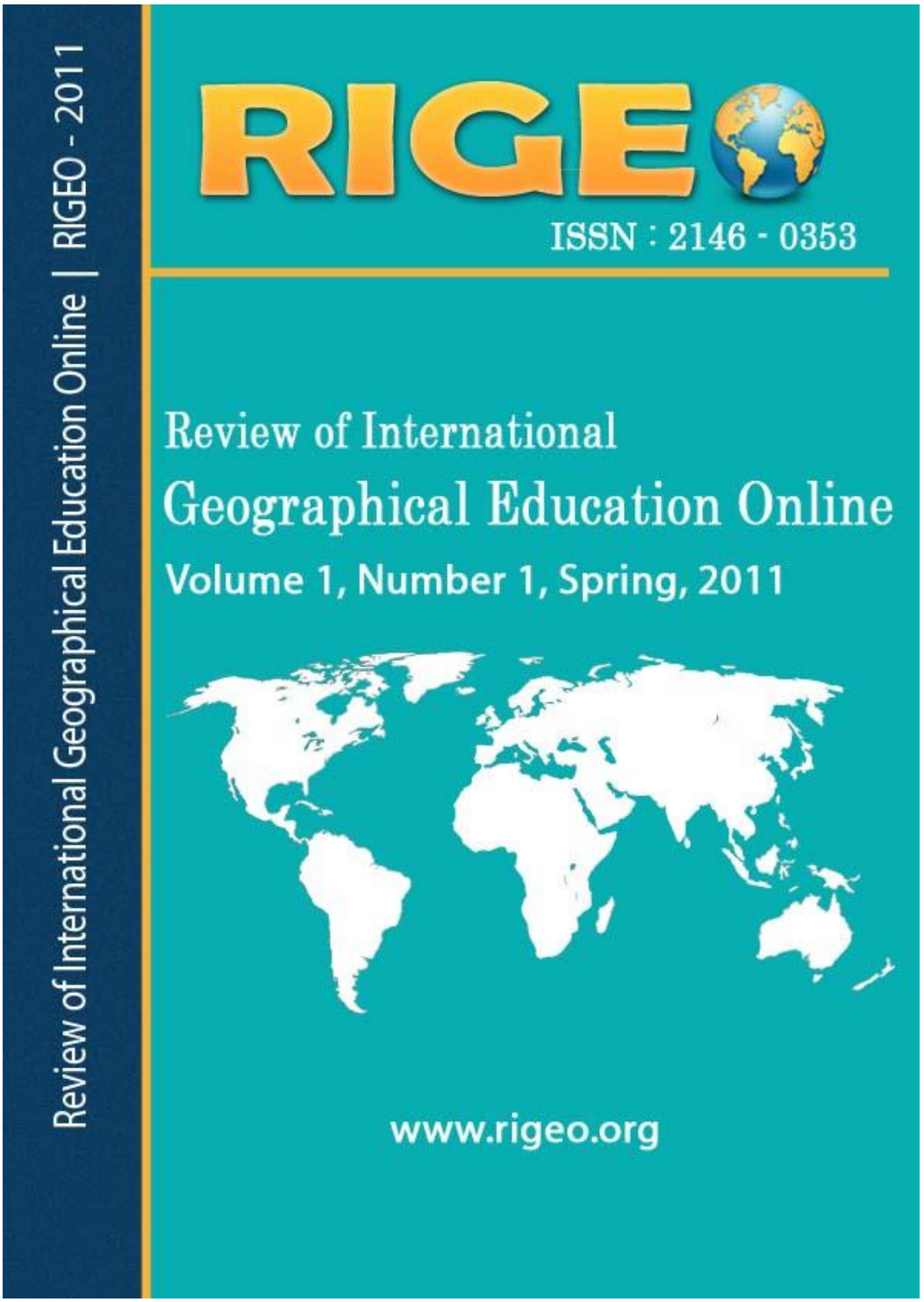
REVIEW OF INTERNATIONAL GEOGRAPHICAL EDUCATION ONLINE



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CONTENTS

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- The name of reviewers who reviewed and edited the papers will be published in the next issue which will include the whole of Volume 1.
- All responsibility of statements and opinions expressed in the articles is upon their authors.

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Dear Readers,

Review of International Geographical Education Online (RIGEO) is founded to develop geographical education by publishing articles on all aspects of education system from kindergarten to upper university level all over the world. In digital era of today, geography educators and teachers need to have more instruments to affect the rest of the world.

One of our aims by founding this journal is to add a synergy in international geographic education. Especially in teaching geography "synergy" comes through not only within geographical educators but also the teaching of ecological and environmental topics in co-operation with the science educators and teachers (where scientific matters are involved) and with the economics/commercial educators where matters of organization/ finance/ social conditions are involved. Thus, RIGEO seeks to build bridge between geography and other related practicing educators, researchers, policymakers and practitioners to help focus on best practices in learning, teaching, training, curriculum, textbooks etc.

In the inaugural issue of RIGEO, there are five articles from different countries. In the first article, Gino De Vecchis (President of Italian Association of Geography Teachers), Daniela Pasquinelli D'allegra and Cristiano Pesaresi from Italy, point to on geography in Italian schools by giving an example of a cross-curricular project using geospatial technologies for a practical contribution to educators. It is obvious that this article presents an actual sample to practitioners about educational projects, geospatial technologies and GIS tools in school geography. This practical sample might provide a good example especially to teachers. In the second article, Cristiana Martinha from Portugal, analyses of competence development in Portuguese geography textbooks. This article is valuable contribution to the field of "textbook pedagogy" together with its methodology as a neglected area in geography education. Tatjana Resnik Planinc from Slovenia presents future prospects for geographical education in Slovenia in the third article of RIGEO. It is also a good example to introduce the place of geography in a country in order to compare with other countries of readers and educators in the context of past, today and future of geography education. The fourth article is one the subject of geography that has been neglected and published very less researches in many countries: Children's geography. John Halocha from UK (President of Geographical Association in England in 2009-2010) discusses some of the complex issues involved in how Europe is represented in a range of maps format by using Simon Catling's theory of children's world. It should be emphasized that such studies are very important to cause them to earn the right and good sides of geography to the people from the beginning of their school life. In the last article of RIGEO, Emilia Sarno from Italy, illustrates some pathways of geographical analysis in the dimension of geographical education by choosing a current theme of Mediterranean region even it is seen a classical subject: Migration. It is also a good example how to adapt the educational pedagogy to a geographical subject.

This inaugural issue wouldn't have come true without encouragement and support of many valuable individuals. I would like to thank foremost, with a great respect, the individuals who spent their inestimable time to review the papers on behalf of RIGEO and the Editorial Board of RIGEO. Finally I would like to thank very much indeed those educators who contributed to the first issue of RIGEO by submitting their papers.

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Geography in Italian schools
(An example of a cross-curricular project using geospatial technologies for a practical contribution to educators)

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Abstract
During the last few years the Italian school system has seen significant changes but geography continues to be considered a boring and un-useful discipline by public institutions. The main problem is the widespread geographic illiteracy and the fact that very often people do not know the objectives, methodology and tools of geographical studies.

In this paper, we provide a framework of the recent modifications concerning geography, recalling the appeal promoted some months ago by the Associazione Italiana Insegnanti di Geografia (AIIG) to avoid a further weakening of the role of geography in senior high schools. We then underline the importance of geography in cross-curricular projects and focus attention on the "*Valorinvilla*" project in order to make a concrete example of an approach which arouses enthusiasm in the students, fulfils interesting purposes and facilitates dialogue with other disciplines. Specifically, the "*Valorinvilla*" project has been created by AIIG for schools of every level and type present in Rome in order to safeguard and enhance the Villa Ada Park, important for its biodiversity and significant historical features. Finally, we show how geospatial technologies, above all virtual globes and world maps, can provide added value both during the preparation phase and during the planning and operational phase of educational projects, generally, and of "*Valorinvilla*" project, particularly. The main aim is to furnish guidelines and a practical contribution to educators and to make geographical research useful, dynamic and pleasant.

Keywords: Teaching of geography, cross-curricular projects, virtual globes/world maps, GIS, geospatial technologies

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Introduction

For the last few years, notably from 2004 onwards, the entire Italian school system has been subjected to a series of far-reaching changes that have led to new arrangements and new teaching policies. These changes to the system were instigated by the Ministry of Education, Universities and Research as part of its provision of coherent guidelines for the structure and organisation of the Italian school system. Until several decades ago, the Ministry would issue "ministerial syllabuses" which amounted to an inventory of subjects that had to be continually updated; w hen this updating often did not take place, as was the case in the senior high school, the result was excessive delays and widespread malfunctioning. The need for continuous updating was due mainly to two factors: the first concerned theories of knowledge, and the second, more generic, factor was a result of social and cultural changes (and thus intrinsic to each society). Periodical renewal of syllabuses, therefore, allows for new research findings to be transferred to teaching, as well as providing a response to social changes and progressively emerging demands (Griffiths, 2010).

From Syllabuses to Guidelines: Primary education

The syllabuses for primary schools, introduced in 1985, were a sure sign of the interest in innovation prevailing at the time and were revolutionary in that they replaced a system based on inventories of subjects, and thus dependent on content, with an on-going schedule of educational activity projects. Today, with the emphasis definitively shifted from teacher-centred to learner-centred instruction, the inflexibility of the old "Syllabus" has been transformed into the more tractable "*National Guidelines*", which allow for more appropriate personalisation and more attention paid to the learner's educational needs. The *Guidelines* are identical on a national scale for all students at the same level and in the same type of school, and are implemented on a local scale. The teacher no longer has a function based on class management and rote-learning, but takes on a creative, knowledge-based role which is more complex but certainly more satisfying.

The new *Guidelines for the Curriculum* (dated 2007, but undergoing further changes) serve as a reference point of departure for teaching geography in schools (Ministero della Pubblica Istruzione, 2007). As an academic subject, geography suffers from a prejudice which is prevalent and difficult to eradicate: that of being boring, descriptive and encyclopaedic, made up mainly of concepts, numbers and place-names that have to be memorized and located on maps. This widespread impression starts in the very first years at school and becomes more universal as time goes on, tarnishing the subject's image and making it unattractive and misunderstood.

The *Guidelines* can play a decisive role in shedding light on the essential nature of geography as an academic subject, even if the designing of the teaching of it is the task of school directors and the teachers themselves. The *Guidelines*, however, put forward

a framework for establishing geography as an active discipline, with a significant, if not to say irreplaceable, presence in the curriculum. The last sentence of its presentation of the subject is striking in this regard:

> *Doing geography at school means producing citizens of the world who are aware, independent, responsible and critical, who know how to live within their environment and how to make creative and sustainable changes to it, with an eye to the future* (Ministero della Pubblica Istruzione, 2007, p. 87).

These primary educational objectives are found in the definition of the discipline, as a science that studies "the humanization of planet Earth", in other words, how societies over time have shaped terrestrial space. Hence geography's major specific aim is to provide keys to reading and interpreting the territorial environment in its increasing complexity and rapid transformations.

Nevertheless, whenever it is claimed that children "don't know geography", this does not refer to their lack of keys to interpret the territorial environment, but to the fact that they do not know where to find a city, a state, a lake or a mountain, even if these are well known. We are back to the usual prejudice on the nature of the discipline: geography is essentially descriptive, all about seas and mountains. We must decisively affirm that this kind of geography lacks the educational purposes necessary to justify its presence on a school curriculum! Fortunately the *Guidelines* set out approaches that concentrate on the evolution of the discipline, without neglecting, even so, the need for a basic knowledge, when they include among the aims of skills development the pupil's ability to know and locate the main physical and human geographical "objects" of Italy (in primary school) and of Europe and the world (in junior high school).

Mind maps and geo-graphic language

Without reference points in our minds we are unable to orient ourselves, we get lost, unless we move according to our personal information bank, which is located and positioned, both absolutely and relatively, in space. If we possess secure mind maps that are as accurate as possible, we will not find ourselves alienated in space, at whatever scale, from our immediate environment up to the world at large. The construction of mind maps is a continually evolving process that starts in infancy; we use them to acquire information on the position, qualities and nature of an object, a fact or a phenomenon (De Vecchis, Staluppi, 2007, p. 137-138). Thanks to our internal map, for example, of our neighbourhood, we can "reconstruct" it, observing it from many different viewpoints, mentally travelling through it and judging what changes could be made to it. At the end of their primary education, students should possess a mind map of Italy that is as detailed as possible, and be able to place it within areas and contexts that are progressively more wide-ranging, up to the level of the whole world, when they reach the end of their first stage of education.

Among the topic units of the *Guidelines* for geography (in the *Learning Objectives* for both primary and junior high schools) are such "mind maps", such as the important unit "Geo-graphic language" (one of the strong points of the discipline), which involves a series of activities, such as reading and interpreting geographical and thematic maps, photographs, diagrams and graphs, judging directions, distances and dimensions, using coordinates, hand-drawing sketches and using a computer. All these operations help to enrich our mind maps, since geo-graphics improves our spatial orientation and our geographical imagination. The study of geography should include, right from the start, the constant use of maps, to activate students' visual memory and facilitate the memorisation of, and ability to locate, various objects.

The *Guidelines* also refer to the latest technological advances in the field of geographicity, such the use of new devices of spatial representation like satellite imaging and computerised cartography. These tools and methodologies can open up new vistas in the teaching of geography, and instil curiosity and an appetite for exploration in the students. Google Earth, for example, is a teaching aid with enormous potential for combining direct and indirect observations. Without leaving the classroom, the students can go on virtual journeys, visiting vast cities or small villages, or even visit everyday environments, including their own homes. These virtual journeys make it possible to acquire new important geographical information and encourage inter-disciplinary discussions (Helmer, Bloch, 2010).

Geographical scales, environmental protection and relationships with others

The *Guidelines* establish a greater continuity in teaching from primary school to junior high school. Instead of the old cyclic method, where the same topics were revisited in ever more detail, teaching is progressive, with the emphasis in the primary school on the space surrounding us and the geography of Italy, moving on to European and global geography in the junior high school.

There is a significant obstacle to effective learning when little consideration is given to changes of scale, allowing comparisons to be made between what is close by and what is distant, an essential skill if we are to interpret the world around us. The *Guidelines* encourage a continuous correlation between the largest scale (what is close by) and progressively smaller scales (up to planetary level). In the *Guidelines*' presentation this concept of changing scales is explicit, when it states that:

> *From primary school upwards, [pupils] should become accustomed to analysing each element within its spatial context, starting with the local environment and eventually reaching a global dimension. By constantly comparing spaces that are read and interpreted at various scales, students can contrast reality at a local and a global scale, and vice versa* (Ministero della Pubblica Istruzione, 2007, p. 86).

Teachers have the sensitive task of transmitting the knowledge that is specific to their own discipline, yet to obtain unequivocal results, they must incorporate the basic precepts of other disciplines. In geography, the educational task of the teacher involves developing an interpretation of the territory represented at different scales and a cognizance of the relationships between human societies and the environment. These are complex issues, replete with significance and valuable for a discussion on major problems of contemporary society: the protection of the environment, the human-nature relationship, social development and the differences between cultures.

These issues should be carefully taken into consideration by teachers when devising curricula, recognising the potential offered by the teaching of geography, especially its examination of the vital link between culture and environment (Earl, Montalvo, Ross, Hefty, 2008). The *Guidelines* draw attention to the defence of the natural world, and assign to geography a crucial role in the teaching of environmental studies. Relationships with others (teaching inter-cultural issues) are certainly among the major concerns that schools have an important responsibility to teach to their pupils. "Training students to observe reality from different points of view", and accordingly to rise above a self-centred sense of space, to find relations in particular interpretative observations and increase the number of perspectives with which to comprehend the world; this should be the primary objective of geography teaching. Geography in fact studies cultures, above all from the point of view of their ability to make an impression on a territory by means of a specific series of signs, with the territory subsequently exemplifying the values of that culture. The objective is plainly stated in the aims of skills development at the end of the first stage of junior high school: *Students are able to open their minds to relations with others, through knowledge of different environmental, social and cultural contexts, and by overcoming stereotypes and prejudices* (Ministero della Pubblica Istruzione, 2007, p. 89).

Inter-disciplinary studies

The grouping of disciplines into areas, as set out in the *Guidelines*, already points in the correct direction. Linking geography in the same sector with history opens the way to a major interaction between disciplines. One must remember that time is an essential factor in geography, which is a chrono-spatial discipline; any consideration of space would be incomplete if it meant interpreting it as a static physical surface, a mere background for the activities of a society. The time dimension introduces into geographical space the idea of evolution and change, and understanding time helps the student to better interpret his environment, which is subject to ever-increasing rapid transformations, by coordinating both dimensions at different scales – from changes in his own life to changes in his local community, in his country and in the world at large. Exploring space through time involves the past history of mankind, and also its future – short or long term – and above all allows a student to acquire a sense of responsibility, in that the effects of choices made in the present impinge upon events in the future.

There should be inter-disciplinary contact between all academic subjects; geography in this regard can be seen as a driving force which in association with other disciplines can give rise to a large number of didactic initiatives. A special feature of geography is its capacity to identify and interpret processes, signs and phenomena that arise from the human management of our planet, to develop lines of reasoning that incorporate sets of topics and contents, and to bring together various themes belonging to both the human domain and the natural environment.

The inter-disciplinary nature of geography comes to the fore in its treatment of the theme of landscape, which has a long and estimable history in teaching and research and which has been subject to many different interpretations. In the *Guidelines* the topic of "landscape" is given due significance, both in the primary and junior high school syllabus, and the inter-disciplinary aspect of the topic is highlighted, when it affirms that the student "*recognises in landscape the important physical elements and also the historical, artistic and architectural developments that make up a natural and cultural heritage that should be enhanced and safeguarded"* (Ministero della Pubblica Istruzione, 2007, p. 89).

Senior high school

The primary and junior high school system (pupils from 6 to 13 years) has undergone many changes since the Second World War, while secondary education, on the other hand, has remained forcibly unchanged after decades of delays and postponements. During this considerable length of time hundreds of experiments have been proposed to attempt to narrow the gap between school and society, but their fragmentary nature made them inadequate as ways of delivering a satisfactory and coherent educational structure for children in this age-group.

We have obviously now arrived at a watershed moment where long-awaited and often-adjourned reforms are being implemented. For economic reasons, sizeable cuts were made in the hours of lessons taught. Teachers of geography, which had already been considered as a second-class subject during the experimental period, hoped the reforms would improve its standing, but unfortunately their hopes were dashed and geography teaching suffered a further reduction in status. It has disappeared from the curriculum of all technology-oriented Technical and Professional Institutes, and has also been subject to a worrying retrenchment in grammar schools, where in the first two years it is taught alongside ancient history; both subjects together have been assigned a timetable of three hours a week, compared with the four (two hours each) they previously had. After the first two years, the picture is unchanged, but without any geography at all.

The complete absence of geography as a subject in the senior high school deprives students of indispensible areas of knowledge, including many of major importance, such as environmental, social, economic, political and cultural topics connected to

globalisation. Consequently, a great number of students are denied the basic tools for understanding what is happening in the world, or the tools are seen as peripheral and ineffectual because of the cuts in the hours dedicated to them. That is not all, however; since the study of Italian geography takes place only in primary school, students leave school with the geographical knowledge of 10 to 11-year-olds! In Technical Institutes geography is taught in the economic curriculum, but not at all in the technological curriculum, where it was in many cases a traditional subject. Only in the tourism curriculum can it be said to enjoy a high status.

The reduction in the first two years of grammar school has met with a strong reaction on the part of the Associazione Italiana Insegnanti di Geografia (AIIG) who issued an appeal for the retention of the subject, which was endorsed by all the other geographical associations. Here is the short text of the appeal, entitled *School without geography*:

> *Doing geography at school means producing citizens of Italy and the world who are aware, independent, responsible and critical, who know how to live within their environment and how to make creative and sustainable changes to it, with an eye to the future. In the new curricula envisaged for grammar schools and technical and professional institutes, geography will either entirely disappear or be drastically reduced. The undersigned believe that denying students the knowledge tools supplied by geography, in an increasingly globalised and complex social environment, means depriving them of knowledge that is absolutely indispensible for them to meet the challenges of the modern world* (www.aiig.it; De Vecchis, 2011, p. 14).

Within a month, the appeal, published online, had received thirty thousand signatures, including many university rectors and deans, teachers and cultural spokesmen, journalists and major associations. Yet the surprising result was the enormous interest the appeal aroused in the public at large, which indicated how much ordinary people were aware of the importance of geography in school. Even though the appeal failed to effect changes in the school timetables, it had nevertheless had conspicuous and unexpected effects on public opinion, the mass media and politics, judging by the quantity as well as the content of the response (De Vecchis, 2011).

There were positive effects also at a ministerial level. For example, in the *Guidelines for the transition to the new system* (for Technical and Professional Institutes), paragraph 2.2.3 (*Knowledge of the territory and the environment*) has as its first sentences:

> *Results of learning in the cultural, educational and professional fields contain explicit references to geographical knowledge. Geography, in fact, since it is a science which studies processes, signs and*

> *phenomena that derive from the human exploitation of the planet, develops skills which are useful in the field of general education as well as in their specific area of competence. The teaching of geography, treating as it does topics belonging to the human domain as well as to the natural world, can be considered to be, simultaneously or alternatively, 'humanistic' and 'scientific'. Geography can be seen as a bridge or a meeting-point between different areas of knowledge, and as a reference map for acquiring linguistic, historical, economic, social and technological skills* (Ministero dell'Istruzione, dell'Università e della Ricerca, 2010).

The above cannot be held to be a recognition that the presence of a teacher of geography as a distinct discipline might imply. Yet it is evidence of the educational role that the school system attributes to geography and one that teachers could extend by including geographical knowledge in their course programmes.

In grammar school, as we saw, the major novelty is in the fusion of history and geography. This is an innovation that could be of major interest, and which has a long history in other countries (e.g. France). The two disciplines, by developing approaches in both space and time, are effective ways of arranging knowledge to give order and significance to information that we receive from our perceptions and our experience. In Italy, an effective system of convergent disciplines is not without its problems; but an interesting precedent, directed towards a fruitful integration of disciplines, can be seen in the work carried out, following the proposals contained in the *Guidelines* for the primary education, by a commission of history and geography teachers who managed to collaborate effectively. Unfortunately, however, the coupling of history with geography has not got off to a good start; above all because the reduction in hours has seriously compromised the teaching of basics, but also because of the interruption after the first two years, which precludes any close linking of geography with modern and contemporary history or any examination of the mutual connections between them. Only among the aims of history teaching in the last year of grammar school do we read that "*certain topics of the contemporary world can be examined by taking into account their 'geographical' nature (for example, the distribution of natural and energy resources, the dynamics of migration, the demographic features of different areas of the world, or the relation between climate and economics"* (Ministero dell'Istruzione, dell'Università e della Ricerca, 2010).

This seems to be woefully insufficient, and in any cases displays a decided bias on the part of history; any marriage between the two academic subjects should start from a position of equality, without any risky subordination of one to the other. To avoid any misunderstanding, we should point out that it is not in any way a case of wanting to create a space for geography to the detriment of history, but of developing a common programme without any subservience of either discipline that could negatively affect its effectiveness.

What is written in the educational profile of the student, which serves as a preface to the *Guidelines*, cannot be regarded as satisfactory either, if the purpose is to establish a coherent programme. Among the educational aims common to all grammar school syllabuses we find the study of geography, which is held to belong to the historical-humanistic area. There are continual references to the discipline, of which two are as follows:

- Knowledge of the history of Italy within a European and international context, from ancient times to the present day, with reference to events, geographical contexts and major historical personages;
- The use of methods (spatial perspective, relations between man and the environment, regional studies), concepts (territory, region, location, scale, distribution in space, mobility, relationship, sense of place…) and tools (geographical maps, geographical information systems, images, statistic data, sources) of geography in order to interpret historical processes and analyse contemporary society. On the other hand, similar arguments are confirmed by international literature (Trites, 2008).

There has to be a single process followed in the training of teachers who are to deal with these two combined disciplines, perhaps also with the addition of philosophy (Kant was not only a great philosopher, but also a university teacher of geography!). This affects the training courses and open examinations for teachers, with a need for a sufficient number of assigned credits. This kind of teacher training lies still in the future; we hope that positive steps are taken in this field, not only for the sake of the future of geography and history, but also with a view to the future of the school and the next generation.

In the meantime, a renewed and attracting image of geography has to be widespread from primary to senior high school. In order to reach this aim, new methods and tools have to be tested and used. Thus, cross-curricular projects and geospatial technologies can represent key elements to be able to show the usefulness and originality of geographical studies in a coherent process which is finalised to underline the importance of geography for personal culture and for human life.

Geography in cross-curricular projects: the "Valorinvilla" project

The Associazione Italiana Insegnanti di Geografia has for many years now promoting a different kind of geography teaching, aimed at understanding the complexity of modern life; in schools, this geography carries on a productive dialogue with all the other disciplines and becomes the pivot of cross-curricular projects, which appeal to the students and help them obtain extremely important educational results.

During the International Year of Bio-diversity, the Rome branch of the Associazione Italiana Insegnanti di Geografia, in collaboration with the Department of documentary, linguistic, philological and geographical sciences of the Sapienza

University of Rome, created a cultural educational project formed around a real "bio-diversity laboratory" – the Villa Ada park in Rome. The park, in fact, is included among the list of sites drawn up by the Ministry of the Environment for the Bioitaly programme (Biotopes Inventory of Italy). The park is also important from an artistic and landscape viewpoint (its eighteenth century landscaped garden and nineteenth century Romantic garden) and from an archaeological standpoint (under the park there are extensive underground cemeteries such as the catacombs of Priscilla, which contains unique relics of early Christian worship).

The project aims to help children and teenagers get to know the Villa Ada park in many of its various aspects, and for them to draw up "environmental and territorial itineraries" for their classmates, with a view to enhancing their awareness of the priceless natural and cultural heritage preserved in the park. The *Valori-in-Villa* (Treasures of the Villa) are not only those that we can observe with our eyes, but above all those that the knowledge and study of geography can provide us with: respect for and protection of the natural environment and buildings, the ability to appreciate the significance of a communal asset, leaving it untouched and improved for future generations. The project was open to school pupils at all levels: nursery, primary, junior and senior high school. A series of seminars was organised at the Sapienza University for the teachers who would be guiding the children, in which various experts (botanists, archaeologists, geographers who were experts in GIS, virtual globes and world maps) gave out information and materials to use with the students in school.

The skills development aims and the method

The main educational objective is that of creating awareness in the pupils concerned, and in their schoolmates, of the conservation and development of a territory that is part of their lives, through knowledge of its bio-diversity and its geo-morphological, geological, botanical, archaeological, artistic and social aspects. During the project, the pupils have the opportunity to develop certain important skills, at levels appropriate to their age group: they have to identify, by direct observation, the natural and man-made phenomena that have influenced the form of this piece of urban landscape (Pasquinelli d'Allegra, 2006); they should learn how to use different types of sources (geographic and thematic maps, satellite images, virtual globes and world maps, historical, artistic and archaeological evidence, old photographs, documents, and so on) so that they can gain a knowledge of the territory in geographical, environmental, historical, artistic and social terms; they should also learn how to evaluate the resources present and pass this knowledge on to their schoolmates.

The project uses a research-action method (Barbier, 1977, 2007; Elliot, Giordan, Scurati, 1993), which enables the students to pass from the research stage proper (with the application of the scientific method) to the second stage, where the research results are applied to an activity; in this case, designing the sections of an itinerary inside the

park or in the neighbourhood to be followed by their classmates. The itinerary illustrates the aspects that have aroused most interest and captured their imagination during their guided visits to the park. In this way, the children and teenagers involved have to be able to awaken the same interest in their classmates, and the same behaviour based on respect for and conservation of the natural and cultural heritage of the park. Finally the pupils are invited to think about the project and assess the effectiveness of their work on it; this reflective stage is also gone through by the teachers themselves, who have an opportunity to judge the educational productiveness of the project and the teaching and learning activities adopted within it (Pasquinelli d'Allegra, 2009).

The results of the project will be made public in an exhibition held inside Villa Ada, showing the illustrative materials produced by the students, and the award of a prize to the most original itineraries. The project is significant also for its use of new technology (something of great importance for geography teaching in today's schools), especially for visualising aerial views in orthogonal perspective and using 3D to create original results in a learning environment that is dynamic and stimulating for the students.

Geography and geospatial technologies: some theoretical reflections

> *Geography is a fantastic subject, encouraging us to explore and understand the world around us. It gives students the opportunity to encounter places and environments locally and globally, to combine a range of skills in fieldwork and classroom study, and to identify links between aspects of the natural and human environment that other subjects often study in isolation* (Knight, 2007, p. 57).

Such considerations highlight how geography can arouse enthusiasm in students of different ages since it helps them to understand the processes and phenomena within their own living space and in places far away. Moreover, geography captivates the imagination and the desire to travel, to get to know new environments and cultures. Appropriate guidelines and teaching strategies, however, are required in order to pursue these aims. Particularly, "*Knowledge and understanding of the world* incorporates a number of aspects of geographical experience and learning" (Catling, 2006, p. 65). Geography should therefore have an important role in the students' education because of its specific topics and tools, and also because of its capacity to broach the problems in a interdisciplinary way, which gives input for link-ups with other disciplines.

For example, geography:

- *Uses enquiry at a range of scales to provoke and investigate questions about natural and social environments and their interactions;*
- *Develops skills in problem solving, fieldwork and mapping;*
- *Examines and considers ways to resolve issues about the environment and sustainable development;*

- *Engages children in thinking about their own place in the world and their personal values; and,*
- *Encourages children to consider their rights and responsibilities in relation to others and to the environment* (Catling, 2003, p. 167).

During the time, geography has become increasingly dynamic and relevant to current problems, and has developed different interesting methods to investigate and represent phenomena, elaborate data and analyse problems, thanks to a number strictly related tools, as for example, statistics, graphs, thematic cartography, Geographical Information Systems (GIS) and remote sensing, Unfortunately:

> *Extremely often, however, these aspects are unknown to both the public at large and to policy-makers, who perceive geography as a static, notional academic subject having limited social usefulness. The consequences are thus an obvious and more or less widespread geographical illiteracy, which is far removed from the real world of geographical researches. People's ideas are stuck in the past, in images of a subject based on memorisations and descriptions, which is no longer the case, and they continue to regard geography as a second-rate (or even maybe third-rate) subject, a mere collector of names, unnecessary facts and artificially connected concepts* (Pesaresi, 2011, p. 135).

Some kind of organic extensive project, therefore, needs to be created to awaken the Italian political world and to show everyone the effective and practical potential of geographical research. From a teaching point of view, geography can provide important values concerning human and sustainable development, ecological sustainability, the preservation of natural and historical resources, active civic responsibility, and respect for other cultures and for immigrants. As regards applicative skills, geography can, for example, provide methodologies and tools to examine the evolution of land use and urbanization, to evaluate the main risks to humans of geodynamical events, to analyse social-demographic and economic problems at various scales, and to simulate possible scenarios using local features in space and time.

Nowadays, geography can profitably avail itself of a quantity of tools as a practical support for theoretical competences, but at the same time, technical and the teaching skills must be developed which are necessary to maximize the potential benefits; these skills will then provide a basis for innovative researches and useful applications.

GIS can be said to be the tool of preference in senior high schools, in universities, at a post-graduate level, with which more advanced detailed research can be carried out, with concrete and socially useful results, whereas it appears that virtual globes (Google Earth) and world maps (Google Maps, Bing) are user-friendly and open source tools and are the most efficient geospatial technology that can be used with students in primary school and junior high school. In addition, especially if combined with classic

cartography and photos, they provide important input for observing and understanding phenomena and the changes that have occurred (Bodzin, Cirucci, 2009). Moreover, virtual globes and world maps open students' minds to a new way of looking at geographical features and they can be used to prepare them for the successive passage towards Geographical Information Systems, which can be seen as a tool serving the need for a general and more modern geographic literacy.

Educationally speaking, virtual globes and world maps can be defined "the most powerful and useful visualization tools ever created" (Schultz et al., 2008, p. 30). In fact, the use of these geographical education tools allows students to:

- *Become familiar with interpreting aerial, remotely sensed image data by answering questions included in the lesson plan, including considering special trends and patterns;*
- *Identify geographically significant features and consider their importance, as well as the impact of development on them as unique resources; and*
- *Consider how the earth has changed over time and how external threats and forces have contributed to such change* (Patterson, 2007, p. 151).

In short, these tools allow students to (Pesaresi, 2007):

- Simulate the lesson in the field, "bringing the places into the classroom";
- "Retrace", on returning to the class, the journey followed and fix some focal points;
- Enrich their mental maps of their living space and virtually explore far away and inaccessible places;
- Make general and detailed observations on physical, human and cultural aspects and elements, thanks to the possibilities of changing zoom, perspective and orientation;
- Overcome the problems of availability, high expenses and long time periods in obtaining these kinds of images;
- Back up quantitative data with images which show the features of the different places;
- Operate in an interdisciplinary way.

In order to facilitate the passage towards GIS, AIIG and ESRI Italia have recently produced an application programme open source named "*L'Italia attraverso le carte tematiche*" (http://www.aiig.it/; http://www.esriitalia.it), supported by many specific comments which can be useful as guidelines (Pesaresi, 2010). A synthesis of the teaching and educational potential of this application programme, designed above all for the students of junior high school, was presented during the "ESRI EMEA User Conference" (Rome, 26-28 October 2010) in the poster section, where the main aims can be summarised as follows:

(a) to point students towards new teaching methods;

(b) to promote a general geographical literacy, also on the basis of new information technology and digital cartography;
(c) to provide students with interesting tools and professional skills;
(d) to spread a new image of geography (Pesaresi, Marta, 2010).

The integrated use of virtual globes and world maps with GIS and intuitive application programmes, specifically created for educational purposes, can "facilitate learning through the five skills sets (asking geographic questions; acquiring geographic information; organizing geographic information; analyzing geographic information; and answering geographic questions)" typical of geography (Schultz et al., 2008, pp. 32-33). Also, the training courses financially supported and sponsored by the Italian Ministry of Education and Regional School Boards are indispensable for teachers, whose main task is to lead their students towards the geographical discovery of the world.

Geospatial technologies in the "*Valorinvilla*" project

After the productive educational experience (during the scholastic year 2007-2008) which we had with the project "*Segni e Sogni in Città*" (De Vecchis et al., 2008), created by the Rome and Lazio branches of AIIG and by the Geography Unit of Rome Sapienza University, in collaboration with the *Assessorato alle Politiche di Promozione della Famiglia e dell'Infanzia* of Rome City Council, we have re-proposed the use of virtual globes and world maps as the main geo-technologies that can achieve important geographic and applicative results with primary and junior high school students.

Thus, in the first phase of the project "*Valorinvilla*", we showed the benefits which may be obtained with Google Earth, Google Maps and Bing (Microsoft). During a couple of lessons and presentations with the teachers of the schools participating to the project, we demonstrated the different functions and main features of these tools, because it is important to use them simultaneously. At the same time, we focused attention on the educational aspects and on the teaching purposes which can be obtained. In fact, the technical aspects are important but they have to be a function of the teaching aspects.

After considering these aspects and showing several examples, we underlined the possible applications for study in the context of Villa Ada which has important historical features and which is an interesting biodiversity laboratory *in situ* and *ex situ*. These elements have to be analysed in the field and using virtual globes and world maps, given that these technological tools can show synthetic views, useful for general frameworks, and several details regarding trees and plants, lakes, routes, cultural resources, etc., by changing the zoom.

First of all, the use of Google Earth, Google Maps and Bing is useful for defining and observing the boundaries of Villa Ada, the principal roads which delimit it and

allow access (Fig. 1). Moreover, a general view lets us know the amount of urbanization and the density of housing, the main structures and infrastructures of the nearby area (e.g. the Acqua Acetosa Sports Centre) and the presence of relevant geomorphologic and geographic elements (e.g. the meandering course of the river Tiber in the north and west sectors). The possibility offered by Google Earth and Google Maps, which allow us to open windows with photos and historical information, provides further means to better understand the area under study. Another very important added value is the function "Street View" which simulates a real survey *de visu* and usually captures the attention of students.

Then, in order to have an idea of the modifications recorded over time, the use of the Google Earth's function which shows historical images is very important, also because in the case of Villa Ada we can ask the system to load one view taken in 1943. The comparison between the present image and the old one shows significant changes, as for example (Fig. 2-3):

- *In 1943 pasture and arable lands were more visible (some of these areas, today, are substituted by trees);*
- *In 1943 the Acqua Acetosa Sports Centre which now lies outside the north-west sector of Villa Ada was not present;*
- *In 1943 the north-east sector outside Villa Ada did not show the same amount of built-up areas.*

From a practical point of view, we can fully understand the importance of this function if we think that until some years ago it would be very difficult at school (if not impossible!) to have these kinds of images perfectly comparable with recent ones; a long time and/or high expenses would have been necessary. In addition, we should remember the importance of Bing; in fact, it is the tool which often allows us to have the most interesting images in 3D (Fig. 4-6). In this case we can observe images in very high resolution: we seem to fly over the study area aboard a hot-air balloon. The images are so clear that we can discern a lot of important details which could lead to interdisciplinary research alongside history and art history.

In the planning phase (Fig. 7), presently in progress, the virtual globes and world maps can provide fundamental operational input. In fact, in Google Earth, the button indicated with a ruler allows one to measure the distances between objects and the length of possible routes which students want to define. In this last case, students can work by fixing some focal points directly on the image. For example, by using the appropriate button, they can insert a symbol to point to a particular element or to underline what they would like to be there. In fact, different symbols can be used according to needs.

Google Earth also gives students the possibility to record films. This function can be useful, once back in school, for recording and remembering the route followed during the study in the field. Also, it can be useful to record the environmental and

territorial itineraries proposed by the students. Thanks to the combined use of the virtual globes and world maps, *"the children can experiment with the first steps towards actively participating as denizens of their city, feeling themselves as prospective geographers, as 'designers' who are keen to show off their own work, as critical inhabitants of the world surrounding them"* (De Vecchis, Pesaresi, 2011).

In particular, in a project such as "*Valorinvilla*" these tools can be used:

- Before the study in the field, in order to have a general idea provided by preliminary virtual excursions;
- After the study in the field, in order to make a new virtual excursion and to review aspects and elements directly observed, acquiring new information and details;
- During the phase of planning and operational work, since the various functions and the maintenance of geographic scale allows the students to propose valid and interesting hypotheses;
- During the phase of results presentation, by creating original and fascinating learning products which have been prepared by students with enthusiasm and high motivation.

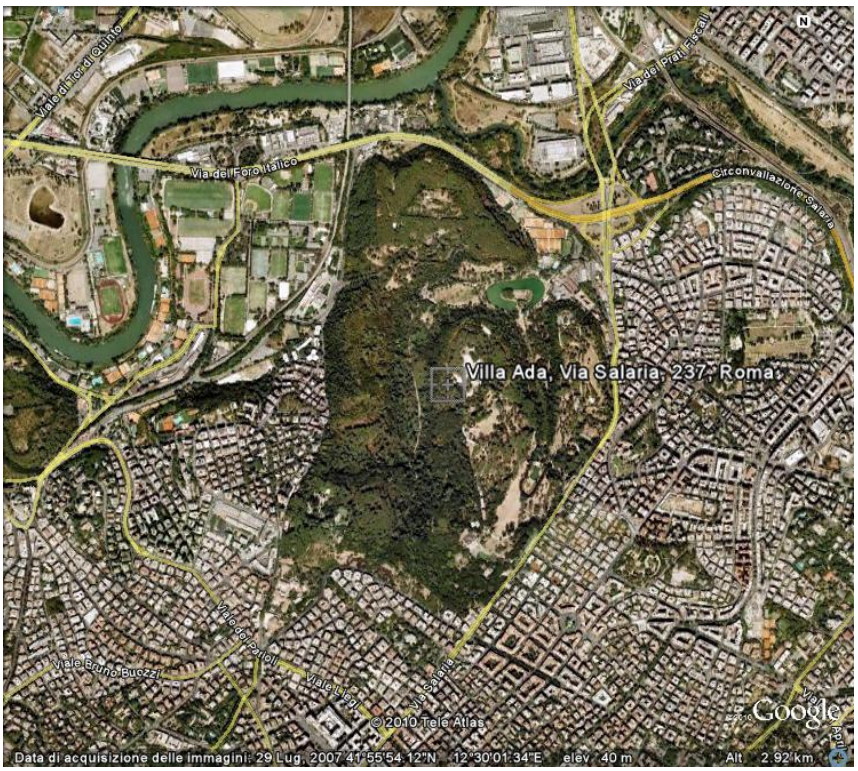

Figure 1. *The boundaries of Villa Ada (Source: Google Earth)*

Figure 2. *Villa Ada in a view taken in 1943 (Source: Google Earth)*

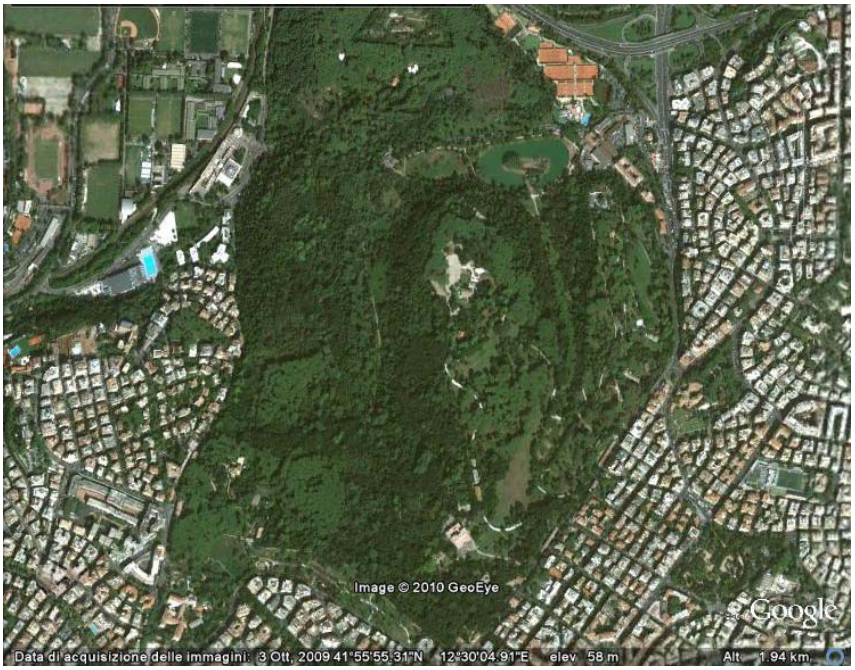

Figure 3. *Villa Ada in a recent view (*Source: Google Earth)

Figure 4. *A detail of Villa Ada: the lake (Source: Bing)*

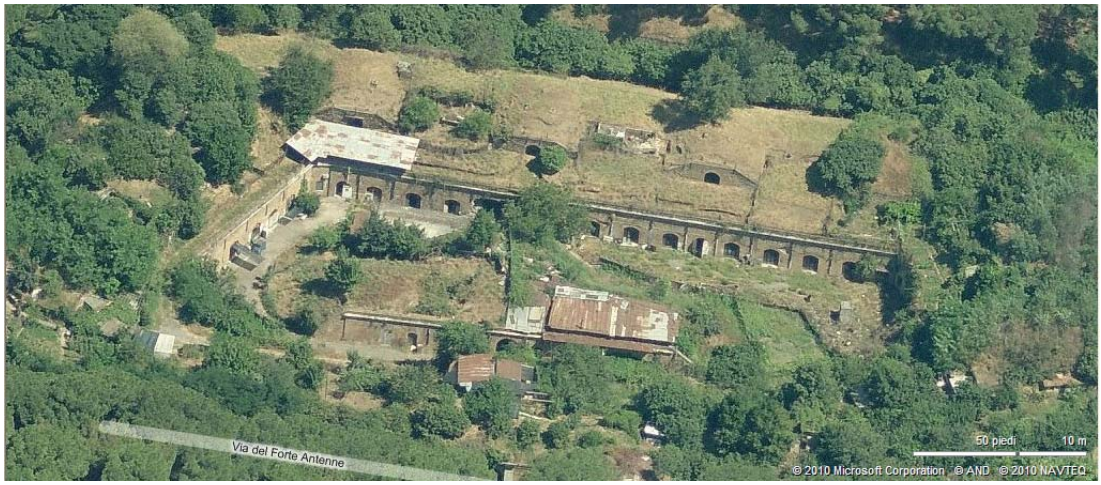

Figure 5. *A detail of Villa Ada: the Forte Antenne (*Source: Bing)

Figure 6. *A detail of Villa Ada: the vegetation (*Source: Bing)

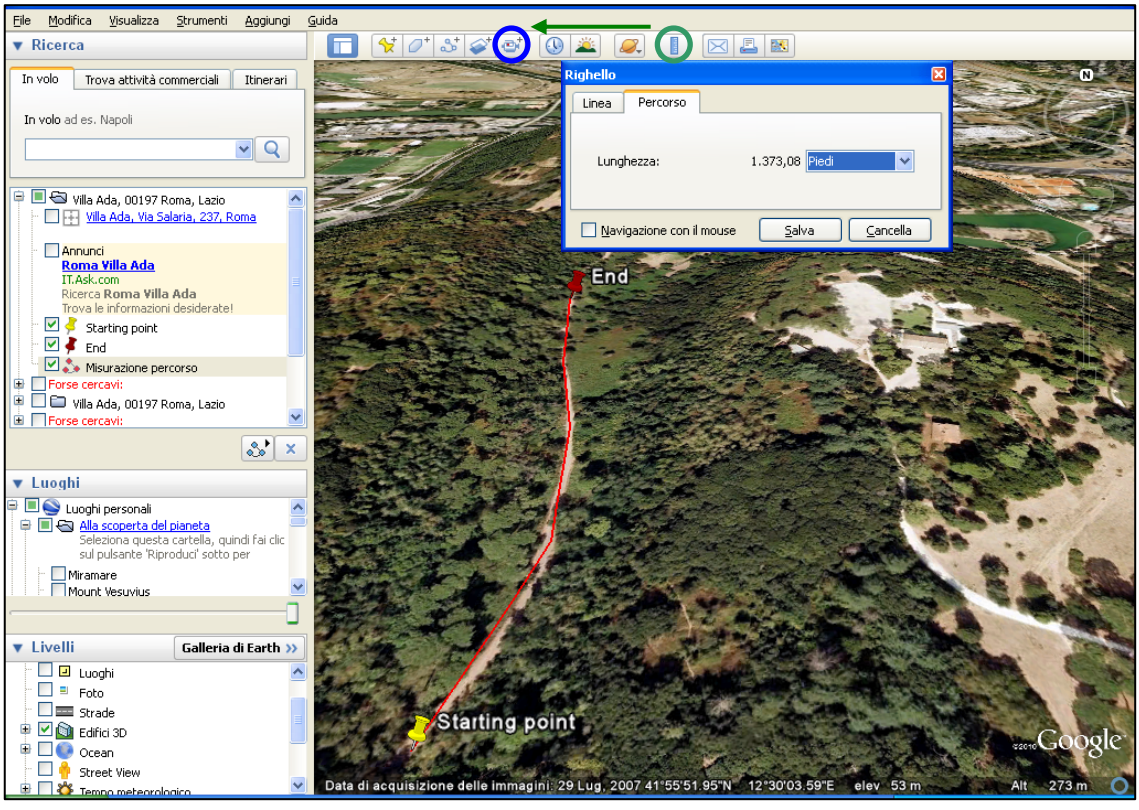

Figure 7. *Example of a possible route which can be designed measured and recorded (Source: Google Earth)*

Conclusion

A general geographic illiteracy and the inheritance of a geography that is mnemonic and based on merely factual knowledge have led to a continual reduction in the role of geography in Italian schools. Therefore, there is an important need for specific and organic projects designed to emphasise the educational values and the applicative implications of geography. In this perspective, the "*Valorinvilla*" project, created by the Rome and Lazio branches of AIIG and by the Geography Unit of Rome Sapienza University, can be seen as important for encouraging students of different age groups to study the territory and its features using new systems. The "*Valorinvilla*" project is also a significant example of how geography is able to involve and motivate students and how it can also encourage an interdisciplinary approach.

In fact, the project allows students to:

- Relate themselves to a part of their living (or known) space;
- Propose ideas of improving usability and come up with ideas on how to enhance local resources;
- Foster their critical thinking.

At the same time, the project is useful for:

- Working in groups and facilitating cooperative learning;
- Experimenting with new teaching and evaluating strategies;
- Carrying out a suitably coordinated and planned field study;
- Knowing the considerable benefits which can derive from an appropriate use of geospatial technologies.

Certainly, modern geography can provide remarkable inputs both in the educational field, and from the methodological and applicative point of view, and furnish also professionalizing tools. A very important role can be therefore played by GIS and virtual globes and world maps, which are able to produce a stimulating and entertaining way of teaching and learning geography and to encourage original and socially useful research.

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Biographical statement

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An Analysis of Competence Development in Portuguese Geography Textbooks *

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Abstract

The objective of this paper is to present certain results of my doctoral research, concerning the application of "Competence Pedagogy" in the teaching of geography in Portugal, particularly an analysis of Portuguese geography textbooks in order to improve our understanding of how they incorporate, or do not incorporate, this new pedagogical approach. It presents, therefore, a theoretical introduction to these issues, a description of the research methodology based on a typology of textbook analysis from a Portuguese research project – "Textbooks, E-textbooks and Students Activities". Databases constructed in *FileMaker* for textbook analysis are described and examined through content analysis and statistical analyses. Finally, some implications of the research results are presented. This article also seeks to stimulate the debate about pedagogic approaches in geography textbooks, to describe and evaluate the current situation in Portuguese geography textbooks, and specially to stimulate the international debate about curricula directed at competence development in geography teaching.

***Keywords*:** Geography Textbooks, Competence Pedagogy, Geography Curricula, Integrator Textbook, Geography Teaching in Portugal

Introduction

This paper presents some of the data and conclusions obtained through an analysis of Portuguese geography textbooks (in the 3rd cycle of Basic Education in Portugal, corresponding to pupils aged between 12 and 15 years old) in order to know the degree to which active-oriented teaching methods and the development of competencies are being implemented.

*This paper is based in the presentation, entitled in Portuguese "Serão os Manuais Escolares de Geografia suficientemente competentes para desenvolverem as competências geográficas nos nossos alunos? – um estudo centrado em manuais escolares de Geografia de 3.º ciclo do Ensino Básico" (Martinha, 2010d) in XII Iberian Colloquium of Geography that was held in Porto in 6th-9th Oct. 2010.

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As we have stated in other contexts, *"any educational researcher who begins with the challenge of "research in textbooks" faces with the problem of the enormous volume of publications related to this theme […] demonstrating the importance that the scientific community has in it. Internationally, projects and research institutions about textbooks research such as Project MANES* (http://www.uned.es/manesvirtual /portalmanes.html available in 05.01.11), *Institut Georg Eckert (*http://www.gei.de /index.php?id=794&L=0&id=abbilder available in 05.01.11) *or IARTEM – International Association for Research on Textbooks and Educational Media* (http://www.iartem.no/ available in 05.01.11) *amongst others"* are instructive. (Martinha, 2010b – author's translation and actualization). In this context, important studies have also been made by UNESCO (UNESCO, 2005a, 2005b).

According to recent research studies (Roegiers and De Ketele, 2004 and Peyser, Gérard and Roegiers, 2006) textbooks, apart from what is often considered, may be an element of effective application of *the development of competencies,* that is, an integration of acquired skills and not an "obstacle" to its application, as they are sometimes considered, because as reported by Peyser, Gérard, Roegiers (2006) *"the traditional textbook image is just about the opposite of the integration concept".*

So, in research on textbooks, there are several approaches that we can follow in this field. One approach, which currently receives considerable attention from researchers, is related to the dimension of "teaching methodology" in analyses about the degree of correlation between the pedagogical guidelines, which influence the development of textbooks, and the reality that these textbooks provide.

It is important here to highlight the words of Roegiers and De Ketele (2004) who said that the *"problem of the introduction of a pedagogy of integration in textbooks is presented in a different way as to the way it was put in the curriculum for class practices or practices acquisitions assessment* (in Roegiers and De Ketele, 2004 [author's translation]). Whilst indicating the steps for setting up an *integrator textbook,* which according to these authors are: definition of some contents, insertion of some integration activities, elimination of redundant contents and inclusion of specific activities for competencies development and restructuring of textbooks.

Research that follows this line is currently being developed by the project "Textbooks, e-Textbooks and Students Activities" for various school subjects in Portugal, including, Geography, in which we collaborate. Indeed, the existence of organized research in this area clearly shows the importance that the scientific community, teachers, and society give to this issue.

Strongly related to this issue of promoting the use of "more active" methodologies in textbooks, there are some studies that are aimed at understanding how textbooks can develop PBL - Problem Based Learning - that from the point of view of theory relates largely to Competence Pedagogy.

An important and interesting historical review on the research of textbooks was conducted by Norman Graves and Brendan Murphy, who argued that *"despite the recent growth of access to multimedia and the Internet, the textbook remains the principal teaching resource used in the geography classroom"* (Graves and Murphy, 2000).

Indeed, François Gérard recently made a presentation about the issue of the development of competencies in textbooks (Gérard, 2010) and in this context, textbooks portray themselves as being "mediators" of the curriculum as it is reported by John Hopkin who says that *"authors and publishers are very influential in mediating National Curriculum policy"*(Hopkin, 2001).

Thus, with the implementation of a curriculum geared towards the development of competencies in Portugal, embodied in the *National Curriculum for Basic Education* of 2001 and in the *Guidelines of the Geography Curriculum – 3rd Cycle* of 2001, there is now, a need for a reflective analysis of the repercussions in geography textbooks.

Therefore, with the aim of understanding this aspect in geography textbooks, a set of 18 Portuguese geography textbooks was selected for analysis, to consider those that were published as a complete collection for the course of studies being used in the academic year 2009/2010. These textbooks were analyzed using a database constructed specifically for this purpose (in *FileMaker)* using the same categories of analysis applied in Duarte et al. (2008, pp. 10-11).

After registering the analysis of the activities from the textbooks in the database, a statistical and content analysis was conducted.

Amongst the various conclusions made by this analysis, the following, in particular can be highlighted:

- The number of activities varies greatly from textbook to textbook, with situations in which the values in one textbook are about double that of another, also there are demonstrations of different approaches, which the authors should question the usage of activities in geography textbooks;
- In general terms, what dominates Portuguese geography textbooks are very straightforward, less cognitively demanding, and less "challenging" activities for pupils to do. The most demanding activities, those which appeal to problem solving, such as project work, discussion and research, have a very low weight, ranging between 1% and 8%, depending on the textbook.

As a corollary to this research, we present a reflection on the adequacy of geography textbooks in terms of the principles of "Competence Pedagogy" based on the results and information that were collected throughout the analysis process of the textbooks selected for this investigation (for example, the fact that almost all of these

textbooks have received scientific-technical review, but only few have been pedagogically reviewed).

We intend that this research will invigorate the scientific community's discussion of geography teaching around the practical implementation of "Competence Pedagogy" and around the design and use of geography textbooks following a teaching-learning oriented method that incorporates towards the development of competencies.

Method

This research used a mixed method that employed both quantitative and qualitative methods. In quantitative terms, we calculated the proportions of each activity type in every analyzed textbook. Our qualitative approach was a content analysis of all activities in the textbooks, in the way that was developed by Laurence Bardin, through a process of categorization (Bardin, 1979). The information from the content analysis was recorded, at an early stage of the research, in a *FileMaker* database.

In this database, we recorded the values (in absolute values) for each descriptor analysis, grouped together with each type of activity and inserted examples of each. With these values, we calculated their respective proportions for every textbook and compared the various textbooks amongst themselves. The examples were included to better illustrate and characterize each type of activity. In our database, we disaggregated the values that were in the textbooks from those belonging to projects of the activities books.

FileMaker was chosen to support this analysis because it is an easy program to use; it is a program that works on both Windows and Macintosh; it allows the insertion of images (which are very useful in textbook analysis) and allows data to be exported to other programs.

The analytical categories we decided to use were those defined in "Textbooks, E-textbooks and Students Activities" because we determined they had a good fit with our research objectives. The content of the project and some of its results are presented by Claudino (2009 and 2010) and Duarte et al. (2008 and 2009). In this field of research, we have also published some papers (Martinha 2009, 2010a, 2010b and 2010c).

We choose the textbooks that have a "collection" (those whose title is currently available for all years of the course) because this is representative of the successful adoption by schools and also because the textbooks collections provide access to a considerable editorial/authorial diversity.

The analytical categories, of the project "Textbooks, E-textbooks and Students Activities", which were adopted, are listed in Table 1.

Table 1.
Textbook analysis categories of the project "Textbooks, E-textbooks and Students Activities" and its descriptors (in Duarte et al., 2008, p. 10-11 [Author's translation])

Textbooks Analysis Categories	Descriptors
Activities of type 1 – Memorization and/or Transposition Activities	• *Indicate* • *Enumerate* • *Copy* • *Distinguish* • *List* • *Find* • *Underline* • *Transcribe*
Activities of type 2 – Exploration and Production of Documents Activities	• *Describe* • *Characterize* • *Identify* • *Exemplify* • *Compare* • *Sort* • *Interpret tables, diagrams, pictures*
Activities of type 3 – Recast Activities	• *Count* • *Report* • *Comment* • *Explain* • *Explicit* • *Correct* • *Extend* • *Summarize* • *Reconstitute* • *Synthesize* • *Transform*
Activities of type 4 – Problematic Situations/Experimental Activities/Projects/Knowledge Production	• *Discuss* • *Assess* • *Boost/participate in projects* • *Search*

The acquisition, organization and handling of the data were originally registered in a database constructed for the purpose of this study in *FileMaker* (Figure 1), where it was defined to identify the textbooks, and then an analysis was made of all descriptors cited and percentages of each type of activity were calculated. The database also included a brief commentary and provided some examples of the activities in the textbooks.

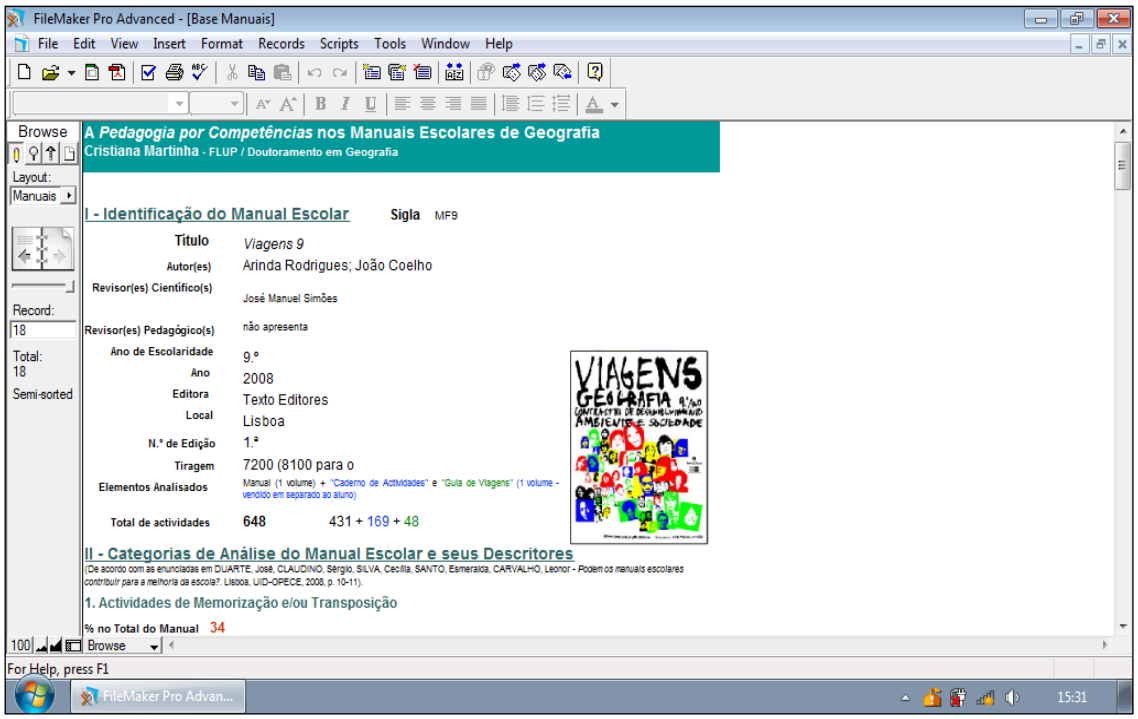

Figure 1. *A Print screen of the database for textbook analysis in FileMaker. The database is in Portuguese and this image contains only one part of it, to illustrate that it is a very useful tool for textbook analysis*

Findings

Table 2.
Distribution of Activity Types In Analysed Textbooks, by Percentage

Textbooks	% of activities of type 1	% of activities of type 2	% of activities of type 3	% of activities of type 4	Total
MA7	36	46	17	1	100
MA8	40	38	21	1	100
MA9	28	34	35	3	100
MB7	42	29	21	8	100
MB8	37	13	45	5	100
MB9	46	23	24	7	100
MC7	39	36	21	4	100
MC8	31	43	24	2	100
MC9	33	37	24	6	100
MD7	42	34	21	3	100

MD8	30	39	27	4	100
MD9	35	34	26	5	100
ME7	46	25	24	5	100
ME8	43	28	25	4	100
ME9	41	26	29	4	100
MF7	34	39	21	6	100
MF8	23	47	24	6	100
MF9	34	35	25	6	100

Analysis of the textbooks, the distribution of the activities in the textbooks by type of activity is as follows (Table 2 and Chart 1).

From this table it can be concludes that in general terms, the types of activities most frequently presented in textbooks are classified by types 1 and 2 (the simplest activity in terms of cognition). The more complex activities that contribute more to developing competencies in pupils (activities of type 4) have very low values, ranging from 1% in MA7 and MA8 and 8% in MB7.

Looking at the collection (Chart 1) we can conclude that the collections that have a more balanced distribution of activities are the collections MB and MF because they have a higher proportion of activity of type 3 and 4. The collection that has the lowest balance is MA, where the activities of types 1 and 2 (the simplest) have a large proportion and the ones of type 3 and 4 have very low values.

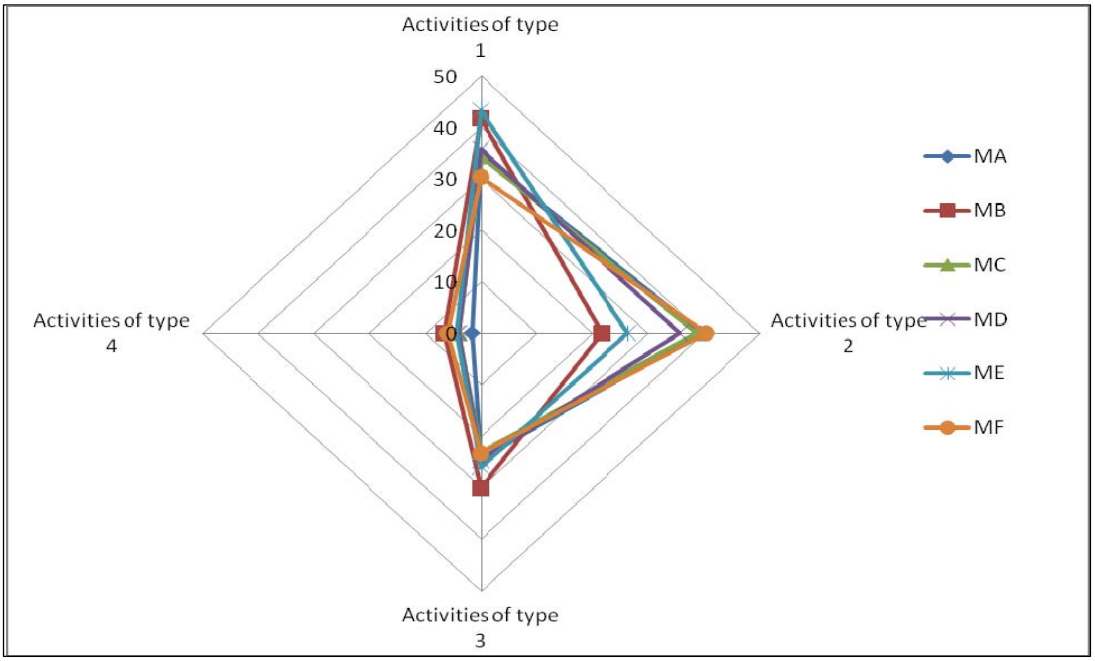

Chart 1. *Distribution of the types of activities in the collections of analyzed textbooks; in percentage (each collection includes the volume of 7th, 8th and 9th grades)*

However, it is important to mention that MA is the collection of geography textbooks which is most used by Portuguese teachers and schools. Therefore, are our schools/teachers leaning toward too much "dumping down" in the teaching of Geography? Are they really concerned about the development of competencies in pupils by opting for geography textbooks that are more basic and simple, and therefore less demanding on pupils, from a cognitive point of view? Viewing the situation of school grades, it is as follows (Chart 2, Chart 3 and Chart 4):

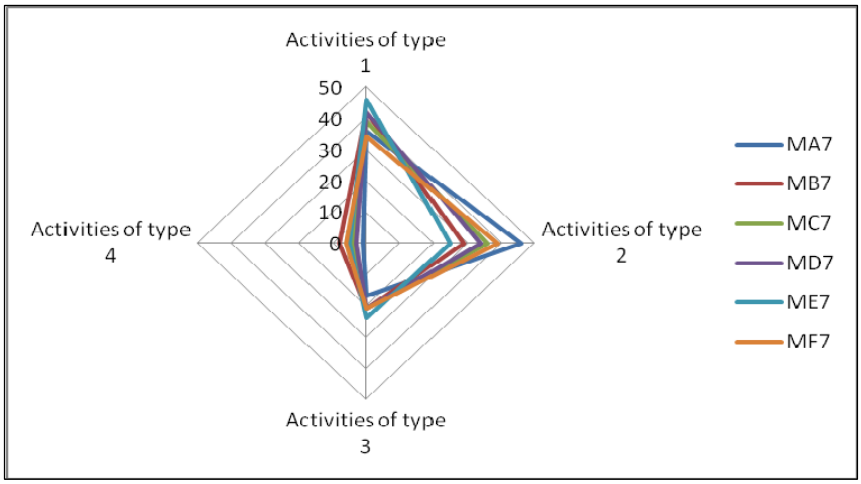

Chart 2. *Distribution, in percentage, of the types of activities in the analyzed textbooks for the 7th grade*

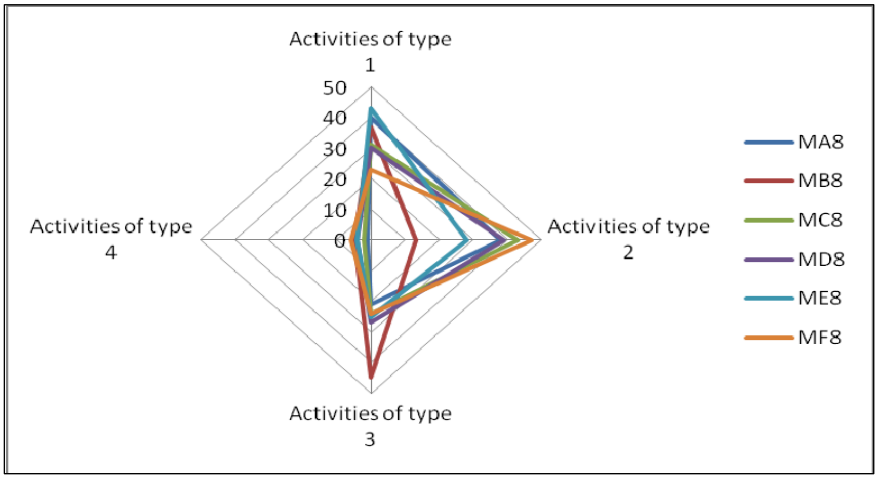

Chart 3. *Distribution, in percentage, of the types of activities in the analyzed textbooks for the 8th grade*

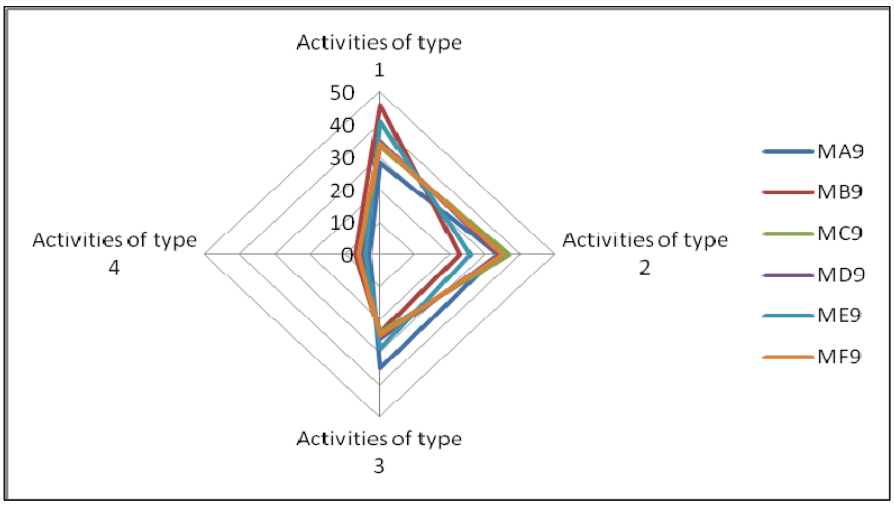

Chart 4. *Distribution, in percentage, of the types of activities in the analyzed textbooks for the 9th grade*

These charts show that in general terms, there is little evolution in terms of the types of activities over the progression of grades in school. There is only a slight increase in the activities of type 3, but not in type 4. This indicates that throughout the grades, the dominant activities in the textbooks examined are of types 1 and 2. Although it would be expected that with the advancing of the grades in school, that there should be an increase in the complexity of activities to promote the development of competencies in these textbooks, the situation changes very little over these three years in the cycle of studies.

Results and Discussion

This analysis of Portuguese geography textbooks concludes that they use a variety of approaches to present different types of activities. However, generally speaking, it should be noted that all of the textbooks analyzed promote few challenging or active activities for pupils to undertake. Therefore, the textbooks in current use contribute very little toward the development of geographical competencies, as specified by the curriculum.

This analysis complements a previous study in "Textbooks, E-textbooks and Students Activities" by employing its analytical instruments and including new descriptors for analysis, and presents new results based on geography textbooks that are currently in use in the Portuguese schools. Therefore, as Widdowson and Lambert commented, *"some books have better cause to be called 'activity books' or 'work books', given the balance of material within them"* (Widdowson and Lambert, 2005).

Moreover, this research on Portuguese textbooks confirms findings made by Zuzana Sikorova that, "*some experts found that textbooks control significantly only the content, particularly the selection and sequencing of topics (Gustafsson, in Johnsen 1993), others affirm that they control also the methodology of lessons (Sigurgeirsson 1992)"* (Sikorova, 2007) and also identified four types of activities which may exist in textbooks (such as the ones we used) that were: knowledge, orientation, comprehension and application (Sikorova, 2007).

At the IARTEM conference in 2007, two interesting articles were presented that dealt with textbooks content and use: one by Petr Knecht (2007) about the evaluation of geography textbooks made by pupils and another by Mike Horsley (2007) which states that, "*the term textbook pedagogy was initially used by Lambert* (2000) *in his discussion of research on the classroom use of textbooks and teaching and learning materials. The term refers (Lambert 2000; Horsley & Walker, 2006) to the ways that teachers use texts in the classroom, how they access and adapt texts, and how they create a context for their use"* (Horsley, 2007). So, we can conclude, as Shoko Kimura has done that:

> *"there are textbooks preferred by Geography teachers* [that] *link the activities to be undertaken by pupils. Moreover, these books rush the teaching strategies to develop the topic under discussion. Often there are comments that are textbooks very active and there are those who consider them guided by constructivism"* (Kimura, 2008).

It goes to say that, these types of textbooks can be inserted in the category of "open-ended" textbooks reported by David Waugh who contends that they: *"have a limited structure; are less formal; encourage a variety of approaches; give greater flexibility for the teacher/pupils* [and are] *likely to be more time-consuming to implement"* (Waugh, 2000) in an article that is complemented by one by David Lambert's in the same volume (Lambert, 2000) and also in other studies (Lambert, 1999). Results along the same line were concluded by Injeong Jo and Sarah Bednarz who stated that "*the results indicate that textbook questions focus on low-level spatial concepts more frequently than high-level spatial concepts; few questions require students to create various kinds of spatial representations; and textbook questions only rarely encourage higher-order cognitive skills"* (Jo and Bednarz, 2009).

From this perspective, we reiterate the reflections about methods in textbooks (continuity and changes in pedagogical processes) made by William Marsden (2001) and those made by Eyüp Artvinli who concluded with his research, about Turkish geography textbooks, that "*when it is considered that the aim of curriculum is to reach "geographic skills", this textbook should be renewed according to geographic skills"* (Artvinli, 2009). Therefore, there are several important points for reflection and discussion:

- The analyzed textbooks mainly have very straightforward and less challenging activities for students, an educational approach that does not promote the development of competencies;
- Textbook authors and editors seek to publish a great number of activities for students, but the activities are not very challenging;
- The procedures for certification of textbooks should consider and evaluate the types of activities that appear in geography textbooks;
- Curriculum changes and educational paradigms should not merely occur in programs but they should also be directly integrated into the content of textbooks.

Conclusion

The general conclusion of this project is that Portuguese textbooks in Geography are very "basic" and rather poorly targeted towards the development of competencies in pupils. However, this research showed that individual textbooks differ substantially and that despite a general trend toward a basic approach, there are textbooks that provide students with a range of activities that are more diversified and more cognitively challenging than others. So, it is very important for teachers to have access to this type of information about the various textbooks' content and approach to Geographical education. In this context, M.ª Helena Esteves says that:

> *Considering the curricular reorganization of Geography in primary education, textbook publishers felt the need to rethink the textbooks in order to support the subject. And, as it happened in the National Curriculum, textbooks "lost weight" in terms of content and tried to invest in activities, to make the subject more closely linked to active methodologies*" (Esteves, 2006 [Author's translation]).

However, it was demonstrated through this research that the "investment" in activities presented in textbooks was toward including many activities, rather than addressing the current and increasing need for challenging and active activities for pupils in geography textbooks in Portugal.

It is precisely this "watering down" of the activities in geography textbooks that make us believe that they are not very effective in helping to develop geographical competencies in our pupils in Portugal. In this context more international research regarding is needed. Thus, there several lines of research that should be developed further:

- It would be interesting to conduct a comparative study of textbooks, regarding the types of activities that they contain, in several countries for the same levels

of education. It would be very useful to know the differences or similarities between countries;

- It would be quite informative to conduct this kind of research in other countries;
- It would be important to "cross check" the data from this research with reports from teachers of Geography in Portugal in order to know the reasons that lead them to adopt the more basic Geography school textbooks, because in Portugal there are teachers who choose the textbooks that a school adopts;
- It would also be instructive to assess pupils' opinions to determine what kind of "use" they give these textbooks.

Considering these studies, we must emphasize that it would be beneficial for researchers to alert and advise editors and authors of textbooks that their texts should contain more activities aimed at developing competencies in pupils, and offer concrete examples of this approach to Geographic education. Moreover, (in countries where available) governments that have commissions for textbook certification should also consider the recommendations from these kinds of textbook research. Finally, teachers should be trained and/or reminded of why it is important to choose and actively use textbooks that promote the development of competencies in their pupils.

Biographical statement

Cristiana MARTINHA is currently a PhD student in Geography in University of Porto, developing a doctoral thesis related to the integration of the "Competence Pedagogy" in Geography Teaching in Portugal. She is also a researcher of CEGOT (Center of Studies in Geography and Spatial Planning) of Portugal. Her focus areas are: Competence Pedagogy in Geographical Education; Geography Textbooks analysis (in content and in a pedagogical view); Geography Teacher Training; Geography Curriculum; History of Geographical Education.

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Future Prospects for Geographical Education in Slovenia

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Abstract

This paper deals with future prospects for geographical education in Slovenia, with special emphasis on the development and aims of the didactics of geography. The author discusses the past development of geographical curricula and of competencies of geography teachers, and the education of future teachers of the subject in Slovenia. Her ideas are based on the nature, purpose and context of geographical education, with an emphasis on lifelong learning, internationally comparable education and work-based learning, due to their relevance for a rapidly changing world of new opportunities.

Keywords: Didactics of geography, geographical education in Slovenia, competencies, curriculum, geography teacher

"Believe those who are seeking the truth. Doubt those who find it."

A. Gide

Introduction: Geography as a school subject

Geography as a school subject is interdisciplinary and educates through a mix of natural and social sciences content. In children and adolescents, geography tends to develop their understanding of the space in which they live, and educates them about the various connections between humans and that space, their social and physical environments, and the causes and consequences of the changes that we see every day, both locally and at a global level (Kolenc Kolnik, Resnik Planinc, 2006). Geographical knowledge can provide valuable assistance to young people in managing and guiding future developments at a local, national or global level and in transferring knowledge from the educational and theoretical into the practical fields of life. Modern geography is not just a science that examines natural and

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socio-economic elements and phenomena and their interaction in a specific geographical area, it is also closely linked with information from everyday life. Regardless of the mechanisms of different school systems, geography should retain a key role in the overall education of children and youth. In Slovenia, it seems that geographers must constantly convince the lay and professional public of the importance of geographical education, despite the evidence that geography develops and matures young minds. The complex and interdisciplinary nature of the subject is enriching. We can only hope that its importance will continue to be recognized by those in charge of designing education for the future. We firmly believe that geography is a subject for the 21st century.

As Haubrich (2005) says, the future is without doubt open, but it has its roots in the past and the present, so learning for the future includes content from the cultural heritage, modern trends and current needs of students and society. A student-centred approach is an important component of learning for the future. The needs of people can be identified through the local needs of students as well as from global trends. Some concerns can be seen locally, while others need to be examined through scientific research on the environmental limits and carrying capacity of the Earth, the globalization of transport, communications, trading and services, the integration of everyday life, science and education, polarization between North and South, between religions, between countries, the countries of origin and destination of migrants, acceleration of innovation, production cycles and the increasing amount of information and total destruction of social values at the expense of individual interests (Bechmann, 1998, 15).

A few years before Bechmann, Klafki (1985) developed a qualification into which he introduced solidarity, the ability to work in teams, empathy, involvement, creativity, flexibility and shared responsibility. In accordance with Klafki, we agree with Habrich (2005) that each individual school subject should contribute to social competence and the ability to use learned knowledge well, although our fundamental task remains to teach students something about the subject itself. Knowledge about the subject, knowing how to use this knowledge, and social skills are not mutually exclusive, but interrelated.

Didactics of geography in the past and present in Slovenia

In talking about school geography, we cannot ignore the didactics of geography. Through its development and importance, we would like to discuss future prospects for geographical education in Slovenia.

As in every science, the didactics of geography has its own basic scientific components: the subject of research, research resources and methods, system potentiality and scientific terminology. As an educational discipline, the didactics of geography has two meanings. Based on empirical knowledge and experience and on its own theoretical starting points, it gives meaning to, and resolves, didactic phenomena, thereby perfecting its theoretical system. On the other hand, the didactics of geography is also a highly applied science and as such, a

fundamental guideline for practical learning activities. In the past it was limited mainly to the questions of 'what', 'how' and 'who' teaches. Later on, the questions have gradually spread to the WHO, WHEN, WHERE, WHY ... do we teach and learn geography? The conceptual background and differences of how to respond to practical teaching issues have multiplied. Moreover, teachers have differing views on the learning process and different experiences, reflected both in an understanding of the fundamental tasks of teaching geography as well as in the theoretical bases for solving these tasks.

According to many, the didactics of geography in Slovenia developed in concert with changes in the educational sciences and psychology, as well as with the needs of society and the development of modern geographical science, transforming it into an independent scientific discipline. In parallel with this, the name has been changing from "the methodology of teaching geography" through "theories of teaching geography" into the "didactics of geography" (Zgonik, 1995). However, in Slovenia the didactics of geography is not yet completely formed. As a young science, it is still developing. The didactics of geography builds its own identity in accordance with the development of modern, complex geography and general didactics. Therefore today, the didactics of geography in Slovenia (as in many other countries around the world) tends to research processes and the development, transmission and acquisition of knowledge of practical, theoretical and scientific knowledge. The few people who are scientifically involved in the didactics of geography in Slovenia are not able to cover all the needs connected with the modernization of teaching geography. Therefore it is not surprising that the well-known Slovenian psychologist and educator Marentič Požarnik (2005) suggests that in-depth research on the permanent effects of geography teaching be done by geographers (rather than by psychologists or educators), which would lead to developing strategies for improving the situation. Accordingly, she mentions the research on the sustainability of knowledge (Marentič Požarnik, 2001) in which students' answers to questions about some of the basic phenomena in nature and society are rather surprising. For example, to the "basic" question "why is it colder in the winter than in the summer?", only 15-20 % of students from different generations are able to answer correctly, while the vast majority do not show even a basic understanding of the phenomenon of the seasons. We agree with her that one of the prerequisites is to decrease the huge amount of content - both in the primary and secondary school geography syllabi and in university programmes for teacher education – in favour of greater depth and more active methods of teaching and learning.

Teaching geography - a part of geographical science

What links the didactics of geography and geographical science? According to Zgonik (1995), both have a common need to present the essential issues of modern geographical science, in short, geographical complexity and integrity.

In this regard, a critical evaluation of general didactic principles and their relevance in the classroom, especially in the selection, arrangement and evaluation of geographical teaching

materials, is very important for special didactics theory and practice. It is imperative that we develop a specific geo-teaching system and special "geographical" teaching principles (e.g. the principles of complexity, integrity and development) deriving from the specific nature of geographical science. At the same time, learning materials of inadequate content and quality should be replaced by something far more flexible and productive. These should correspond to the modern map of the world, to new developments, new qualities, modern thinking and technological trends and their implications, and to the relevant requirements, particularly in specific geographical settings (Zgonik, 1995). This can be successfully done only by employing professional didactics as an empirical-analytical, normative constructive science, with the contemporary concept of geography embedded in teaching practices so that it shows the essence of geography and the changing contemporary reality.

If we want to change the view that still persists here and there, that "school geography is mainly a pedagogical issue", then the didactics of geography must be further developed at the theoretical level. In Slovenia, the prevailing image of geography as a school subject may be partially enhanced by a solid construction and perception of the modern didactics of geography in terms of pedagogical and didactic transfer. Geography is the only school subject in which social and natural knowledge are equally intertwined, and has therefore a strategic position in successfully equipping young people for life in a complex and interconnected world. This is a great challenge and responsibility that demands a fundamental change in long-established and deep-seated views by both experts and teachers, for which neither changes in the normative documents nor recommendations for practice or new textbooks are sufficient (Marentič Požarnik, 2005).

Geography Curriculum

Over the decades, the development of geographical disciplines has also been reflected in the concurrent development of geographical curricula for different levels of education. It cannot be overlooked that schools were always a few steps behind in the development and knowledge of geographic and other disciplines. Although the preparation of the curriculum might look at first glance to be a fairly easy process, this is far from the case.

The development of school curricula provides a background for further discussions on the status of geography within the curriculum and appropriate strategies to ensure successful and effective teaching and learning of geography in the classroom (Chalmers, 2007, 3). Understanding the development of the geographical curriculum is subject to a particular model of curricular process.

The curricular process is not a simple rotational system, moving from objectives through evaluation to new objectives, but an interactive system in which each part affects the other. Graves (1996) also argues that perhaps there is no single starting point, such as 'learning objectives', and the teacher can begin the process at any point in the system. The question is

whether we have actually made a profound shift in the complex process of understanding the curriculum.

It is true that we are much more aware of the importance of the curriculum process in the context of individual school subjects and that within them we recognize the ideas and skills that could be included in education at some stage of schooling. At the same time, we know that curriculum development is not possible without teacher development. No such development can succeed without a significant contribution to the professional education of teachers. However, our expectations for teachers are sometimes unrealistic and therefore unconstructive. It is therefore vital to provide feedback to curriculum developers. We do not have in mind just consultation with teachers, but thoughtful curriculum evaluation, which will also include a student's vision of curriculum development (Resnik Planinc, Kosten Zabret, 2006).

According to Chalmers (2007) educational institutions tend to believe that the curriculum records or dictates the sequence of operations and their content in a rational way. The main purpose of curricula is to systematize learning in order to ensure a balanced and cohesive curriculum, which should be based on expected learning outcomes. At the same time, curricula lead to the coordinated development of teaching and learning materials together with the development of educational programs for prospective teachers (Chalmers 2007, 4). It is entirely understandable why there is an ongoing debate on school curricula among the public, in the media, and in the scientific literature on education. Since the development, implementation, and adoption of curricula are associated with a number of people, it is reasonable to expect both the professional and non-professional public to be involved. To geography teachers, the curriculum by itself is just a guide, a signpost and a catalyst for their work in the classroom, until such time that a teacher in interaction with students gives it meaning, based on their own perceptions. Until then, it is just a "geographical skeleton". It is therefore difficult to argue that the curriculum is a starting point for the formulation of teacher competencies, which are clear from their own skill sets.

However, the curriculum is of fundamental importance, because the written set of learning objectives and suggestions for cross-curricular correlations forms the basis for further work by the teacher. If the curriculum is not well-prepared, if it allows mistakes or weaknesses, if it does not open up new possibilities, then it makes, from the very beginning, a teacher's job harder. In particular, such a situation is difficult for the beginner, because we can assume that a practitioner with years of experience will be able to solve such problems and obstacles in a more confident, determined and successful way. With increasing demands and expectations enshrined in the curriculum, we can, on the other hand, notice shifts in the quality and selection of methods and strategies in the teaching of geography.

Geography Curriculum in Slovenia

Table 1
Simplified version of the school system in Slovenia

Type of school	Age group	Classes/grades
Primary school	6 – 15	1 – 9
Secondary vocational schools	15 – 17 (18)	1 – 2 (3)
Secondary technical schools	15 – 19	1 – 4
Gymnasium	15 – 19	1 - 4

The concept of traditional geography with its division into general and regional geography is the basic characteristic of the geography syllabus and the entire geography curriculum in Slovenia. Slovenia's independence in 1991 also brought changes to the educational system, starting with a reform of the 8-year primary school system. As a candidate for the European Union, Slovenia was required to carry out several reforms that brought its school system closer in line with the school systems in other European countries. Slovenia introduced nine grades in primary school, starting in 1999. Content related to geography is incorporated into syllabi from the first grade on, while geography as an independent and compulsory subject begins in the sixth grade. Table 2 shows the contents of geography lessons from sixth to ninth grade.

Table 2.
Geography contents and the number of academic hours of geography lessons in the 9-year primary school program in Slovenia (Geography Syllabus, 1998)

Grade	Geography Contents	Academic Hours
6th	The planet Earth	35
7th	Regional geography of Europe and Asia	70
8th	Regional geography of America, Africa, Australia and polar regions	52
9th	Slovenia – our homeland	70
Total		227

In secondary vocational schools and secondary technical schools geography is taught for one or two years either as a compulsory subject or integrated into social studies together with history and sociology. In these schools, general geography with selected case studies from Slovenia and other countries is taught.

In Slovenia the syllabus for gymnasiums was reformed in 1998. Geography became a subject aimed at helping young people acquire the knowledge and skills needed for an understanding of the global world (Table 3).

Table 3.
Geography contents and the number of academic hours of geography lessons per year in gymnasiums in Slovenia (Geography Syllabus, 1998)

Year	Geography Contents	Academic Hours
1st	General geography	70
2nd	Regional geography of the world	50
3rd	Regional geography of Europe and Slovenia	50
4th / elective	Slovenia + final exam preparation	40 + 35 (general examination)
Total		170 or 245

General geography, which includes both physical and human geography, is taught in the first year of gymnasium. Its structure is comparable to the scientific approach adopted at the university level, in which it is divided into specific branches, such as geomorphology, water, climate, soils, biogeography, population, settlement, economy, etc.

In accordance with the national curriculum, regional geography is taught in the 7th, 8th and 9th grades of primary schools and in the 2nd, 3rd and 4th years of gymnasium. At the primary level, regional geography systematically deals with the world, Europe and Slovenia. The whole system of general geography is reflected in the approach to all continents, Europe and Slovenia. In gymnasiums, regional geography of the world, Europe and Slovenia becomes more thematically oriented (a problem-solving approach, case studies, practical examples, etc). To a certain extent it is also part of the geographical syllabi for vocational and technical schools.

The basic framework of regional geography in schools is to know the Earth, its continents and their smaller units – regions. This concept of regional geography was established by Hettner in the 1930s. Although the description of individual parts of the Earth was suitable for those times, it does not meet today's needs.

Our understanding of the landscape with all its elements, interrelationships, and processes is becoming increasingly complex; hence a description of its characteristics means an accumulation of facts of varying importance. The result is that textbooks have become increasingly encyclopaedic in nature and they promote *ex cathedra* teaching, because otherwise teachers cannot meet the requirements of the syllabus. Consequently, any syllabus changes always raise difficult questions and comments relating to unnecessary content. What should be reduced, and how, is a growing dilemma not only in primary and secondary education, but also in university courses. This is the situation that Slovenian school geography currently faces and needs to address.

In 2007, a revision of the national curriculum for primary and secondary schools once again commenced in Slovenia. Much effort has been invested in the revision of curricula

across all subjects at both primary and secondary level. In 2006-2007, a number of discussions on the situation of geography in the educational curriculum, especially in light of the projected high school reform programme and revision of all syllabi, were held. The desire to find an "appropriate orientation" of geography teaching with clearly defined developmental factors and educational challenges led to the publishing of various analyses of reform goals on the one hand and of the educational objectives of geography teaching on the other (Kolenc Kolnik, Resnik Planinc, 2006a, 2006b; Resnik Planinc, Kosten Zabret, 2007).

It was found that school geography should "... strive to move away from a teaching-oriented curriculum (the teacher's work-oriented curriculum) and focus on student's learning results (into a learning or learner-centred process), moving towards the individualization and personalization of the curriculum and the intensive development of complex cross-curricular skills such as problem-solving, verbal and non-verbal communication, critical thinking, creativity and the application of information communication technologies" (Kolenc Kolnik, Resnik Planinc, 2006b, 9).

The new curricula was approved in late spring of 2008, at first in secondary schools, and for primary schools beginning on 1 September 2011. We cannot really state that many major changes were incorporated into the revised geography syllabi, although competencies and the upgrading of skills were added, and some geographical errors were removed. At the primary level the same order of content from 6^{th} to 9^{th} grade remains (see Table 2). The same thing happened at secondary level, with the exception of gymnasiums, where the content follows the same order as before but is not split in accordance to the year (see Table 3). Notions were also removed.

It should also be mentioned that in Slovenia, geography can only be taught by a geography teacher graduate. Over the last decade they have been and still are under such pressure that it appears as though they are no longer able to make professional judgements about the content and approach. On the contrary, a lot of personal and professional energy is lost during different "battles" to preserve the status geography has achieved during the last 50 years in the former Yugoslavia and in present-day Slovenia. Thus instead of working on its development and quality, geographers tend to be preoccupied with the "preservation" of geography in primary and secondary schools. Nevertheless, due to some dedicated professionals, we can assert that Slovenian school geography manages to follow the European guidelines. Even a brief glimpse at Table 4 shows a close connection between all-European educational aims and some selected objectives of geography teaching written into Slovenian syllabi.

Table 4.
A comparison of general educational aims and selected objectives in Slovenian geography syllabi

Educational Aims	Geography And Its Objectives
Functional literacy	Independent usage of different geographical sources and

	literature and development of pupils' and students' capability to express geographical knowledge in verbal, graphic and quantity forms by using modern technology.
Learning about space to develop action competencies of students	Pupils and students should gain a spatial concept of today's world and their home region, the ability to connect geographical theory with practice, and capabilities and skills for field research work.
Competencies for gathering and using knowledge	Pupils and students are encouraged to develop abilities and skills connected with the transfer of theoretical knowledge into practice (functional knowledge and skills). They learn to accept responsibilities, take risks, and seize new opportunities.
Critical personality	To understand how society functions (with a certain critical detachment) pupils and students need to be acquainted with chronological evaluation of geographical data, factors, phenomena and processes in different periods of time. They should learn about the location of natural and human geographical phenomena and processes and their impact on the development of selected countries and their socio–economic differences.
Sustainable development	Pupils and students develop the capabilities for the evaluation of differences in the modern world and become aware of the importance of sustainable development and our responsibility to preserve physical and biological conditions for future generations.
Civic competencies and citizens' culture	Developing skills for social and political participation on different levels through basic research of the home region.
Development of national consciousness and readiness to act in inter- and trans-national surroundings	Developing positive feelings towards the homeland, nation, state and its natural and cultural heritage. One's own cultural identity is the condition for understanding and acceptance of other cultural identities.
Capability to sustain identity and intercultural communication	Knowledge and awareness of differences in population, culture and economy on the local, regional and global level develop respect and tolerance towards the others. Learning about national, religious and racial themes, about migrations etc. doubtless develops the capability of cultural and tolerant communication.

Towards a new professionalism and the new roles of teachers

In accordance with the changing perceptions of science and knowledge, an understanding of the professional competence of experts in various fields of activity is also changing. The term

"reflective practitioner" was defined by Schön (Schön, 1983, as cited by Razdevšek Pučko, 2004, 56) who thus legitimized teaching as an intellectual activity, in which teachers analyze their own experience and on that basis construct new knowledge.

The ways in which teachers work in developing individual competencies include the following: enabling an approach 'from the inside', as well as escaping the limits of the four walls of the classroom; facilitating reflection; professional dialogue with their peer group; creating a support group or pairing; and creating a 'professional culture' and allowing the creation of an intellectual environment for teachers that enables them to share their experiences. At the same time we still expect teachers to perform good teaching, with excellent methodological and organizational skills and knowledge of psychology, and to develop learning strategies (Resnik Planinc, Kosten Zabret, 2006).

As a consequence of the changes in society, teachers need to adopt some new roles and modify or abandon older ones. A readiness to change and adapt traditional roles into new ones (mentoring, the organization of teaching and learning, integrating students) and the adoption of certain new roles and the integration of new technologies into teaching are all of crucial importance. At the same time, teachers are faced with a growing number of learning difficulties and difficult student behaviours, which require different teaching methods, as well as having to adapt to an increasing number of forms of external assessment. The fact is that the qualifications teachers have obtained during their studies are no longer sufficient. Teachers must be able to cooperate with other teachers, practitioners and parents, and be capable of reflection, exploration and evaluation of their own work. To successfully take on these new roles, a teacher must be open to change and motivated for lifelong learning and continuing professional development (Resnik Planinc, Kosten Zabret, 2006).

Geography teacher competencies and geography study – teacher-to-be programme

Perhaps more than ever before, geographical education these days faces significant changes. In addition to professional geographic content, the prospective teacher, in the context of professionally-oriented studies that will effectively combine theory and practice and allow access to the teaching profession, must become familiar with the sociological, psychological, political and cultural aspects of the learning and teaching of geography.

Practical experience can only develop from close cooperation with schools, while not necessarily excluding preschool education. Studies should therefore follow the needs of future teachers of geography and offer a stimulating academic programme of study mixed with practical vocational experience. Students must be able to develop their own knowledge, skills and confidence, especially in terms of employment in occupations related to geographic education. The nature, purpose and content of geographical education, with emphasis on equity, lifelong learning, internationally comparable education and work-based learning are of utmost importance, as they must respond to a rapidly changing world of new opportunities, and learn throughout their lives and careers. Training future teachers of geography is therefore a complex process.

At our faculty (Faculty of Arts, University of Ljubljana), students familiarize themselves with the content of geographical education, such as teaching and learning and the geographic curriculum. They develop communication and critical thinking skills, the ability to deal with information, and familiarity with the various aspects and segments of instruction. During the teaching practicum or internship the work should be practical, in accordance with the school environment, and focused on learning so that students acquire the skills and knowledge needed for employment, personal growth and career planning. We should facilitate the acquisition of knowledge, skills and values that promote a self-reflective approach to professional activities and lay the foundations for continuing professional development (Resnik Planinc, Kosten Zabret, 2006).

At the Department of Geography, Faculty of Arts, University of Ljubljana we conducted research among prospective geography teachers. We wanted to establish whether the students were aware of the importance of a teacher's core competencies, and discover their opinions about them. The survey was conducted in a sample of 38 students between the ages of 22 and 27 who had either just completed their fourth year of study or were already graduates. Data were collected through the administration of questionnaires.

Results showed that 4th-year students are aware of the competencies and their importance. They were asked to evaluate different groups of competencies in two ways. Firstly, they evaluated the importance of each competency and, secondly, their own achievement in each one. The results were of great help in preparing the future academic programme for the didactics of geography.

In Table 5, groups of the key competencies were formed on the basis of research among headmasters of Slovenian schools in combination with the competencies formed by the expert group of the European Commission. According to the results of the survey, students achieved the highest level in the usage of modern ICT either in formal teaching or in other professional spheres. 55 % of students acquired this competency to an adequate extent, while 21 % acquired it entirely. They consider psychological knowledge most important, since it equips them with the know-how for their work with pupils and students, their characteristics and specific features, teacher's choice of methods, approaches, attitude, etc. 87 % of students evaluated it as the most important one. Students do not feel qualified enough for teamwork and cooperation with other teachers and professional co-workers: 58% gained only a partial competence in this area. At the same time, 71 % of them consider it very important (Resnik Planinc, Kosten Zabret, 2006).

Table 5.
Geography students' evaluation of the groups of competencies (Resnik Planinc, Kosten Zabret, 2006, 65)

Competency	Achieved (1 – 4)*	Importance (1 – 3)*
Quality knowledge of didactics and methods which enables the teacher to plan and organize an optimal and stimulating	2.71	2.79

learning environment with the aim to stimulate and facilitate the pupils' and students' learning process		
Being qualified for teamwork (teaching) and cooperation with other teachers and professional co-workers in the educational process	2.03	2.71
Different roles of a teacher in the classroom (teacher as a mentor who organizes individual and cooperation work of pupils and students), which demand more communicational and organizational knowledge	2.24	2.71
Psychological knowledge which equips them with the know-how regarding their work with pupils and students, their characteristics and specific features, teacher's choice of methods, approaches, attitude etc.	2.34	2.87
To prepare pupils and students for lifelong learning in a knowledge society (teach them how to learn)	2.21	2.84
Development of teacher's own professionalism; responsible guidance of personal professional development in the process of lifelong learning	2.39	2.84
The usage of modern ICT either in formal teaching in classroom or in other professional spheres	2.92	2.71

*acquired (1 (nothing was acquired) – 4 (acquired entirely))
Importance (1 (not important) – 3 (very important))

Changes through the Bologna reform in the education of future teachers of geography in Slovenia

The Bologna reform of university curricula brings many changes, but at this point we wish to focus primarily on the changes related to the education of future teachers of geography. Within the Faculty of Arts, University of Ljubljana, we managed to achieve an understanding and to a large extent, mutually harmonize, our programmes within the pedagogical module (60 ECTS), which was adopted at the faculty level, and is included in the new teacher training Bologna programmes of individual studies. It should be mentioned that before the Bologna reform, there was no common pedagogical module for different pedagogical studies (e.g. geography, history, sociology, biology, foreign languages etc.). It was up to each discipline to organize the study for their students in the teacher training programmes and, consequently, there were huge differences.

Pedagogical module

In the compulsory pedagogical module, a two-disciplinary pedagogical programme student has to acquire a total of 60 credits, which means that within each discipline they have to obtain 30 credits. A pedagogical module comprises two parts.

Table 6. *Common part of the pedagogical module at the Faculty of Arts, University of Ljubljana*
Subjects
Psychology for Teachers
General Didactics
Pedagogy - educational theory and andragogy
Observational practice in general didactics*
Observational practice in psychology for teachers*
Observational practice in pedagogy and andragogy *
Compulsory optional subject: • Humanities and Social Sciences • Slovenian language for teachers • Exploration of the learning process

*Observational practice[1]: A student can choose from any of the common pedagogical subjects, i.e. general didactics, psychology for teachers or pedagogy and andragogy.

Table 7. *Specialized part, planned by individual departments at the Faculty of Arts, University of Ljubljana*
Subjects
Special didactics
Teaching practice as part of special didactics

Table 8. *Evaluation of individual learning units with credits*	
Learning Unit	**Credits**
Psychology for Teachers	7
General Didactics	5
Pedagogy - educational theory and andragogy	6
Observational practice in general didactics*	1
Observational practice in psychology for teachers*	1
Observational practice in pedagogy and andragogy *	1
Exploration of the learning process **	5
Slovenian language for teachers **	5
Humanities and Social Sciences **	5

Special didactics 1***	18
Special didactics 2***	18
Total	**60**

* Students choose one subject.
** Students choose one subject.
*** To any special didactics in two-disciplinary study comes 18 ECTS.

Each special didactics module is individually tailored, depending upon the number of class observation and evaluation performances. Given the current situation, it is difficult to predict whether uniformity among all the faculties will be possible. We believe that it is necessary to provide students with at least the minimum standards: a week of observation practice in the frame of the common part of the pedagogical module, and two or three weeks of teaching practice in the context of individual special didactics.

The importance of teaching practice

The requirements of modern times and renewed schools, different educational paths, the difference in training teachers for these requirements and the fact that there are no selection procedures on entry to pedagogical studies which could be used to select potential candidates for the most demanding tasks, all clearly indicate the expectations that today's society has towards teachers. On the one hand, we must provide students with a quality education that corresponds with an equivalent education for prospective teachers. On the other hand, both teacher trainers and teachers themselves should regard the target list of competencies as being the level of skills they need to work in the classroom, school and wider community.

In the area of teaching and teacher education, a shift in the theoretical or conceptual level regarding educational practice has occurred over the past two decades. The traditional scientific approach is giving way to a more reflective approach, in which an important role is given to experiential learning, and research work in an environment where teaching and learning are ongoing. In contemporary teacher training programmes, teaching practice should have an essential role as a link between the theoretical and practical parts of the curriculum (Čagran, Cvetek, Otič, 2006). Teaching practice enables students to enter pedagogical work gradually, and in a controlled environment, and therefore learn how to teach one, two or more subjects. In doing so, the student develops a general intellectual ability that enables them to adapt to changing work environments (Cvetek, 2006).

With the Bologna process, teaching practice will become a mandatory and integrative element of the education programme for future teachers. Through educational practices, students learn how to design, implement and evaluate the teaching of selected subjects and other pedagogical work in the classroom, school and beyond. They also learn basic skills in communication and mastering a classroom situation, they learn to use various teaching forms and methods, and they are introduced to the preparation and implementation of knowledge assessment and to all the tools that are available to teachers in their work.

An experienced and trained mentor should be responsible for the student during their teaching practice. In Slovenia, unfortunately, neither an official network of mentoring schools nor comprehensive training for future mentors exists. So far, mentoring is the responsibility of each discipline and individuals. We hope that we will soon be able to overcome this extremely inappropriate situation and move towards the quality training of future teachers and their mentors.

Professional training means a gradual transformation of secular models of understanding, and responding to events in a professional manner: professional reflection makes for a professional performance. We must learn to name intuitively experienced events, then connect and, if necessary, coordinate personal beliefs with scientific theories. Individual professional management offers a personal perspective – and so a young teacher starts to believe that the knowledge they have acquired makes sense (Bizjak, 2004, 56). This process begins during undergraduate education, especially during teaching practice, and continues into the period of traineeship.

A student's personality and that of the student's mentor have a significant influence on the quality of teaching practice. Students obviously differ in personalities, and in their professional, psychological and technical-didactic knowledge, learning styles, management and social skills and also in their rate of professional development. Therefore, a mentor is obliged to consciously establish a relationship of support that is tailored to the student's individual needs.

At the Department of Geography, Faculty of Arts, University of Ljubljana a system of classroom visits, performance evaluations and teaching practice for students has developed continuously over more than two decades. We must realize that in the given (unregulated) conditions, without the exceptional and selfless teachers of geography at elementary and secondary schools across Slovenia, who have during those years accepted a number of students, this would not be possible. Although teacher trainers and students are very grateful, in a state whose attitude towards mentor work is dismissive or lacking, even the most enthusiastic mentors can eventually lose their motivation. We hope that with confirmed Bologna programmes we will be able to convince both the Ministry of Education and Sport and the Ministry of Higher Education, Science and Technology to finally institutionalize the system of teaching practice.

Future prospects

Teacher competency is subject to participation and working together with others, whilst the education of prospective teachers should see these goals in the lists of core competencies. Disciplines should aim towards such objectives in their teacher education programmes, where many of these desired and required competencies are included. It is necessary to ensure that students in all subject areas enter the teaching profession with the requisite knowledge, skills and values that will arise from their current academic experience. If we are to meet the professional and individual needs of students and introduce these features into their practice

and continuing development, it is necessary to promote active and participatory learning styles in students, and involve them in active forms of training and education.

The three main groups of competencies of a good practitioner have to be kept constantly in mind: transversal skills (generic skills), personal competencies and social or interpersonal competencies.

We cannot ignore the symbiotic relationship between curriculum and teacher competencies. A study conducted within the RAVE Space project (Resnik Planinc, 2008) has confirmed our hypothesis that teachers, despite the awareness of the need to change (either in content or their strategies, methods, forms, etc.) only rarely realize this spontaneously. Most are waiting for a "higher authority" - in our case, for a curriculum or syllabus that demands changes the teacher is obliged to embrace.

The fact is, the sets of competencies in themselves are "dead notes" which, to some extent, can affect the consciousness of the individual, but this does not mean that it will automatically result in any changes in their work. It is essential that the curricula are interwoven with the desired competencies of a teacher or, in other words, that the need for their symbiosis is clear and transparent. Therefore, in the field of education, coordinated cooperation among theorists and practitioners, curriculum planners and writers, and those that define the competencies and those to whom they are addressed, is of crucial importance.

From the perspective of future teachers of geography, as in other disciplines that want high quality and highly qualified educators, we face a challenging but not impossible task. But successfully meeting the challenge requires horizontal and vertical integration and the participation of all educational institutions and bodies responsible for the future of the teaching profession.

Following the last revision of curricula in Slovenia, the educational objectives of teaching geography still required a teacher to master and use different approaches, methods and techniques. Many of the objectives guide students towards independent and cooperative learning; towards a broader range of activities in the search for solutions; the development of argument and both group and individual work. But although the learning content and educational objectives are clearly defined, they do not by themselves tell us how to achieve them. Geography teachers should be trained not only to understand the knowledge, concepts and skills required by the subject of geography, but also to know the position of this subject in school curricula. Today it is not sufficient to just know the information that we collect from different sources. We must be able to understand the situations we are experiencing, and formulate our own opinions. Also, good or even perfect geographical knowledge itself does not by itself guarantee a good geography teacher.

We are aware that to update and recast geography teaching in Slovenia in accordance with social needs and objectives and following the principles of curriculum reform, knowledge of standards and skills is not in itself sufficient. The real reform begins in school, among colleagues and at the individual professional level of each teacher.

The revision that took place in the 1990s aimed at transforming the vertical geographic education from kindergarten to the end of secondary school, as some of the objectives and content were unnecessarily repeated at different levels, while others were not correlated with other subjects (Resnik Planinc, 2001; Lipovšek, 2001). However, due to lack of time and research funds the task remained only partially completed. The debate and, consequently, the final result of the fundamental concepts and the basic inventory also remained in a sort of limbo. The same story was repeated a few years ago, although the experts before the 2007-2008 revision of the curricula warned that it was necessary to evaluate the curricula, which had been in use for so long that their rational and empirical evaluation was possible. An in-depth study has never been made, however, because the state has not been able to provide funding.

Given the concurrent revisions (e.g. of school geography and also of the university geography - teaching courses) and the reasonable fear that neither managed to meet (all) professional expectations, it would make sense to explore in the immediate future whether they are at least going in the right direction. It is a fact that the system of teacher training, the educational policies in individual departments and disciplines, and how non-pedagogical geographers perceive the pedagogical mission of geography, the system of life-long learning and how school geography is organized, all immensely influence the professional development of school geography (Kunaver, 1996, 8). Considering the results of the survey (Resnik Planinc, 2001; Resnik Planinc, Kosten Zabret 2007; Kolenc Kolnik, 2008) it would be reasonable to continue research into school geography in Slovenia, in the following areas:

- Selection and coordination of the degree of complexity of the learning content in keeping with the requirements of the profession and the mental and physical development and abilities of children and adolescents,
- Optimal selection of a number of notions and learning content within geographical education,
- At least a partial vertical unification of the amount and complexity of the learning content in geographical education,
- Development of interdisciplinary cooperation at all levels of schooling (for teachers, suggestions by themselves are not sufficient – they need background and relevant professional materials).

We should also tend towards setting thresholds of complexity in the vertical organization of geographical education, and train (future) teachers to be able to select and use appropriate learning forms and methods and encourage the use of different teaching and learning tools and, especially, become better equipped for monitoring and using innovations in education.

Only through continuous research work, aspirations to improve the existing situation, finding new ways and forms of work, and constant scrutiny and evaluation of school geography will we be able to achieve the goals set and give meaning to our desire for high quality geographical education.

Biographical statement

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The Representation of Europe in Maps with reference to Catling's Theory of Children's Worlds: Issues for Geographical Education

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Abstract

This paper discusses some of the complex issues involved in how Europe is represented in a range of map formats. The reader is encouraged to consider these issues by accessing recommended websites in order to analyse how Europe is represented through their published contents. Simon Catling's theoretical work on children's worlds is then used to discuss the implications of European maps and how they may influence children's geographical knowledge and understanding of their world. By bringing these two ideas together it may be possible to further inform how the concepts of Europe and children's' sense of place may improve geographical education.

***Keywords*:** Maps, Europe, pupil understanding, spatial representation

Introduction

> *I have always loved the moments of travel when, brought to a halt by a striped barrier, approached by unfamiliar uniforms, you feel yourself on the brink of somewhere unknown and possibly perilous* (Morris, 2002)

Exploring Europe today we find ourselves overwhelmed with media and personal stories of migration, conflict and change. To a large extent the scale of these activities may be enhanced by our access to vast amounts of information from various forms of media: television, internet, e-mails, satellite television etc. Perhaps we also notice it more as we have much greater access to personal travel, whether for private pleasure or in our daily work. It is therefore quite hard to clearly identify the true extent of the

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ways in which Europe is evolving. With access to a vast array of information, we are also exposed to various definitions of Europe as created by different interest groups and communicators. Parker suggests:

> *Where there's a map, there's often a border. Often, it's the boundaries - political, topographical, cultural, linguistic, and historical – that are a map's raison d'etre: a show of muscle, a graphic illustration of change or simply a bold, bright statement of territorial integrity* (2009, p. 131).

This paper will begin with an analysis of readily available maps of Europe found on the internet which can be accessed by pupils and teachers for geographical education. They all have slightly different content and methods of representation. As such, they all give different messages as to what and precisely where, Europe is. Following the analysis, Catling's (2006) theoretical perspectives on how children may perceive the world will be analysed within the context of the analysis conducted on the various sources of European maps, in order to see if insights arising from these may better inform how map resources of Europe interact with children's own understandings of their worlds.

Sources of European maps

Bridge (2010) begins his chapter on map work skills in the Geographical Association's revised *Primary Geography Handbook* by stating:

> *The need to record, revisit and pass on information to others is of fundamental importance to all our lives, and one of the most effective ways of achieving all these is by making and using maps* (2010, p. 105).

One of the most common and accessible ways of visualising Europe is how it is represented on maps. However, it is very easy to distort space and information when making maps and we perhaps have to look a little more beneath the surface in order to gain a deeper understanding than Bridge's more simplistic view of the purpose and function of maps. Maps are very selective and created by people who may have an agenda about what they wish to include, exclude or distort through the design and content of their map. You may find it helpful to have access to the internet in order to see how this works in practice. The following references to web pages have been carefully selected in order to raise a number of different issues which you may wish to consider from your own role in geography and geography education. If you are a teacher, it may help you question the type and range of maps to which you expose your pupils. It may help you ask what concepts and mis-conceptions they develop when using a range of maps. Do they have opportunities to critically compare and challenge? Finally, do you know the types of maps to which they are exposed beyond school and

how these might affect their geographical understanding? If you are a writer and publisher of geographical materials, how do the maps you include impact on your readers? These might be school pupils, undergraduates or the general public.

We are used to seeing Europe near the centre of world maps such as those based on the Mercator projection. However, there is a projection called the Fuller Projection. Go to http://www.grunch.net/synergetics/mapdymax.html in order to see how all the world's land masses are shown without interruption and not cut into by the structure of the map. Consider how Europe might be perceived by people if this was the most commonly available form of world map projection. How might this projection be used in school to raise and challenge pupils' views of the world? Fuller is also an interesting map because its production only came about when we had developed sufficiently powerful computers to generate such images, while taking into account the various parameters its designers were interested in including.

Traditional world map projections frequently place Europe near the centre: this is often referred to as a 'Eurocentric' type of map projection. If you open http://flourish .org/upsidedownmap/ you will see how the position and status of Europe is presented in a radically different way. The first 'upside-down' or 'south-up' map of the world was published by Stuart McArthur in Australia in 1979. In his accompanying text he states "No longer will the South wallow in a pit of insignificance, carrying the North on its shoulders for little or no recognition of her efforts". Such maps are useful in helping pupil's and the wider public's understand the world from other people's points of view. The author uses it on undergraduate geography education courses with trainee teachers: Almost every year, when shown this map, a few students respond by saying that it is 'weird' and indeed 'wrong'. These are specialist geographers who have come though the majority of their education being exposed only to Mercator and similar projections which offer a Eurocentric view of the world. Its introduction always sparks interesting debates on what map projection is 'right', often a question they had not previously thought about. Fisher (2003) offers fascinating insights into how such debates can aid the development of philosophical thought of young children.

Maps are produced by a wide range of organisations. The CIA provides this map of Europe on its website: https://www.cia.gov/library/publications/the-world-factbook/ referencemaps/europe.html . Geographers might consider this to be a rather naïve map of Europe where much important information is missed off. How carefully have the designers considered where the border of Europe actually lays? Is it up-to-date? Why has part of northern Africa been included? How might this map of Europe be interpreted by the casual internet user wanting access to a map of Europe? What messages does it offer? It is interesting that such a map and its selected contents have been published by the CIA. Does this represent a genuine lack of understanding of the complex issues involved in choosing the contents for a map and the effect it may have on potential users? Or, does the CIA have a clear agenda for what has been included

and published for worldwide access? It raises interesting debates about the extent to which maps may be a form of political control over how their users view the world.

The following website offers many maps of Europe and sells itself as a useful site for children to learn about the world: http://www.yourchildlearns.com/europemap.html. Read the ten lines of explanatory text at the bottom of the screen and consider the many assumptions it makes. They have made an effort to show complete countries of Europe but notice how Cyprus is represented. What messages might this map give to the casual user, especially children who it says it is specifically aimed at? Learners of all ages in our internet dominated world are often asked to access the web for maps for a variety of reasons. As educators, how often do we take the opportunity to encourage them to question the contents and design of the maps they choose to include in their work? This would not be saying to them that they have chosen a 'wrong' map, rather getting them to question the nature and purpose of maps and the extent to which they achieve their aims in actually using them. As the web provides an ever growing number of opportunities for people to access and use maps, it becomes increasingly important that users have the critical and analytical understanding to know how to read and interpret maps, with also an awareness of the way in which they can only ever be a partial representation of the world.

Texts are often linked with maps and can manipulate their meaning. See http:// www.europeemaps.com/western-europe-map.htm . This site is based in the USA. Study this map of Western Europe: do you agree with the content? Read the text associated with the map. Do you agree with the statement in the final sentence? It is interesting to note that the majority of US citizens do not own a passport and therefore have never travelled beyond the borders of their nation. Some of these people are designing websites such as this and deciding the content. While the web does open up many new sources of information to us, it also exposes its users to an increasingly large amount of data and representations of the world which require careful scrutiny in terms of their designer's intention or indeed lack of it. A further issue is that, unlike paper published maps and atlases, we often do not know the names of the authors of web-based maps so it becomes very hard to discuss their maps with them or set them within a context of their track record and credibility in the world of map publication.

Newspapers influence much of our understanding of the world. The New York Times provides this map of Europe on its website: http://www.nytimes.com/imagepages /2006/07/25realestate/ghmap-europe.htlm. The designer seems either unconcerned or unaware that many European countries are not shown in full. There is no obvious key to aid the reader. The Eastern boundary is unclear. This website is included because it is run by what many would consider to be one of the press worlds slightly more trustworthy of newspapers. Yet to an experienced geographical eye, they raise many questions about their accuracy and the ways in which they have been edited and presented. How helpful would this map be for developing children's understanding of

Europe, especially children in the US who may not access maps generated from other sources?

Europe also needs to be explored historically. The site below provides a series of maps showing how Europe evolved over a long period of time: http://www.allposters.co.uk. This site contains some fascinating maps representing how Europe has changed and evolved in the last few hundred years. They raise important questions about the type and nature of skills we need to be developing within geographical education to ensure that school pupils and university students can interpret these within an historical context and also relate them to the data shown on present maps of Europe. However, they also provide many opportunities to analyse how cartographic methods have developed over time. For example the way in which height and landscape shapes have been represented in the past and the messages they convey to the user. For example, early 19th century Ordnance Survey maps of the south of England use a specially designed method of showing slope and landscape shape as they were specifically designed for military use to help commanders and leaders interpret the landscape from a strategic perspective.

All maps distort some pieces of information included in them. The maps on the 'Worldmapper' website deliberately distort the shape and area of nations in order to make powerful statements. Go to: http://www.worldmapper.org/. You now have hundreds of maps to choose from. Take time to read the brief explanation of how the site works and what it attempts to present. To see how Europe may be represented, open the world maps showing 'Aircraft Flights' and 'Books Published'. One almost gets a sense of Europe as a successful club appearing large and powerful. But how are Africa and India presented? Now open 'HIV Prevalence' and 'Child Labour'. Compare the ways in which Europe, Africa and India now appear at a global scale. It's also worth considering these maps in the context of India rapidly establishing itself as a global superpower. Think about your school or university curriculum and consider the possibilities for using 'Worldmapper' to support learning and understanding at a range of scales: local, European and global. The 'Worldmapper' site is regularly updated so you can be sure that the information shown is as up-to-date as may reasonably be expected with a project on such a large scale as this.

Hopefully, this brief review of just a small selection of maps of Europe available on the web will help you to reflect on the power of maps and how they are only partial representations of the world. They are externally created versions of the world and perhaps one we need to spend much longer on whether working with school children or students at university. Indeed, the author believes that professional geographers could do much more in promoting the understanding, use and enjoyment of maps to the wider public at large. Jackson (1989) develops these ideas in his analysis of an increasing recognition of the importance of 'space' in the ways in which we understand contemporary society. Massey (2008) places this debate within a very up-to-date

perspective at a global level where Europe is seen in new and rapidly developing spatial contexts.

We will now move on to theoretically consider how the map sources discussed above may be integrated with Catling's (2006) ideas of how children understand the world and in turn how this may inform pedagogy in geographical education.

Children's Geographical Worlds

How do children build up their knowledge and understanding of the world? Professor Simon Catling at Oxford Brookes University suggests that children have perhaps ten geographical worlds in which they operate. These will now be considered within the context of pupils' identities and Europe and ways in which they contextualise themselves within it via the use of map.

Children's Action World

This would include the day to day experiences children have of Europe, for example eating cheese or watching a TV programme made in another European country. These are also controlled worlds in which adults influence the freedom and extent to which children can travel. Catling suggests that children need many first- hand experiences in their own locality in order to begin to compare these other places in Europe. For example, by building up knowledge of different types of building, they can then begin to compare them with similar buildings in other European countries. However, this action world may in-fact give children conflicting information about how the world looks. For example a map of Europe they see on the TV weather forecast may be quite different to the one in their school textbook. Which is 'right' and perhaps even more important, why is one more 'right' than the other. So, in pedagogical terms, there is not necessarily a problem in children being exposed to different representations of Europe. What it may need is a perceptive teacher who encourages pupils to ask such enquiry questions in order for them to develop life skills in being able to challenge published information, in this case spatial information about Europe.

Children's Peopled Worlds

Catling bases this world on the notion that people and places around Europe are closely connected. Effective peopled worlds are those where children are exposed to a wide range of information and points of view gained from other people. It is the world that affects and increases their perceptions and attitudes. This in turn may affect how young people choose to live their lives. The people to whom they are exposed are real but of course many of the people may be experienced through stories, the media, computer

games etc. The Fuller projection discussed above is a case in point in that it attempts to represent the world's land masses without interruption. If children have opportunities to use such a projection it may raise questions about how connected our modern world actually is. A practical example of this is where the Mercator projection shows North America and Russian as being very distant; when in-fact they are very closely connected at c180 degrees.

Children's Perceived Worlds

This world perhaps helps us to consider how Europe is seen by our pupils. A rich perceived world experience would enable pupils to de-centre and see issues, facts and ideas from other people's points of view. It also enables then to challenge the perceived world as they know it. It encourages them to carefully draw conclusions based on their experiences which need to be as wide as possible. A fundamental concept linked with perceived worlds is a pupils growing ability to realise that our understanding of the world is always partial and requires constant up-dating. The 'yourchildlearns' website discussed above provides text for pupils to read to help them understand and use the maps available on their website. A close reading of this shows very limited encouragement for children to de-centre, rather more that they accept things as presented. Therefore to what extent might the use of these maps at home or school influence their ability to de-centre and view the world from a range of perspectives?

Children's Valued Worlds

Children's spatial experiences give them the opportunity to decide how much they value places. Catling argues that we can encourage pupils to consider their values during the learning process. How important is a particular place to them? Do they enjoy mixing with a certain group of people? Have they considered how new geographical experiences may further expand their range of valued worlds? Equally, does the process of education actually value their own worlds? Catling suggests that values are often triggered by association, for example hearing the name of a country on TV news. To what extent do they form opinions just on values? For example is their perception of a country based solely on how they value the national football team? This is based on the concept of topophilia which analyses how place attachment is important to living things. Finally, children's valued worlds may help us to explore how such values are built up based on their understanding of Europe and their place within it. Szczesna and Wojtanowicz (2005) argue that in a world with fewer borders, it becomes more important for young people to have a sense in which they develop values for and an appreciation of, their own regional identity.

> *Building and developing one's own regional identity does not aim to form conservative or xenophobic attitudes towards all that is strange*

> *or unfamiliar. Being conscious of one's own "roots" favours waking the sense of responsibility for one's own region in the future, it also gives motivation for work in support of its development* (2005, p. 277)

Children's Information World

This focuses in on how children actually build up their spatial knowledge and how education may enhance this process. It is also about the actual extent to which children are aware of what they know and understand, in this context, about people, places and ideas around Europe. Catling suggests that education may also help to develop their awareness of what they still need to know: we are constantly revising our picture of their world in the light of new experience. This is especially important when thinking about Europe because it is such a fluid and constantly changing concept and construct. Although we would not use the term reliability and validity with children, they may help us as teachers think about ways in which an active educational experience might help children question the accuracy of various sources. However, this information can be distorted. Wiegand (2006) discusses how the representation of Europe in school atlases is often controlled by design and financial controls which leads to British students sketch maps of Europe frequently distorting European land masses, with Scandinavian countries often being drawn much smaller than they actually are (Axia *et al.*, 1998).

Children's Competence World

In the context of this paper, this world is the set of skills and competences pupils actually need in order to define and understand Europe. It is based on Storm's (1989) notion of geographical enquiry. When studying places, geographers ask key enquiry questions: Where is this place? What is it like? How did it get like this? What impact does it have on other places? What is it like to be here (values)? How does it compare with other places? Such questions are the main tools for finding out about the world. They are then used in a variety of contexts such as reading printed sources, watching different types of media, fieldwork, accessing the web, working with visitors to school, interpreting maps and satellite images etc. The competences can also include the ability to analyse and present their findings in appropriate ways: this helps them to both communicate their ideas and reflect on future possible enquiries to further deepen their understanding. In practice, one example of this may be seem in pupils' home or school use of the New York Times website discussed above. The newspaper may be cited as one of the more 'reliable' sources of information yet its map representation of Europe excludes many nations that are often seen as being part of what many definitions of Europe include. If teachers can find ways in which such active competences can be built into lessons, it may provide life skills that help our future adults question and understand their worlds in more informed ways.

Children's Imaginary World

Children observe and experience the world in many different ways. In order to better understand it, they often engage in types of play where they copy and try to work out what is going on in the world. For example, they go on a coach trip and back at home copy the various roles they have seen people carry out: ticket seller, driver, passenger, courier, holidaymakers. Such activities help them begin to understand how the world is seen by various people in it within a range of spatial settings. It also allows them to use their imaginations to create new versions of the world that do not necessarily model what they have experienced. This may in turn help them not to take the current world for granted and to feel that they have the power to make a difference, a skill that may become even more important in the 21st century where centralisation of power and globalisation may increasingly dis-empower people. Imaginary worlds also take us into the ways in which realism and imagination are closely linked and on from that into creativity. One way in which this may be summed up is a quotation from Einstein "Imagination is more important than information". Some of the map sources discussed above may have useful pedagogical applications in encouraging pupils to develop a more imaginative approach to the world. For example, use of 'worldmapper' resources may encourage pedagogical activities to promote new ways of thinking about how they might represent their world or the world they are studying in geography lessons.

Children's Source World

A central question in a European context is from where do children gain their perceptions, information and understanding of Europe? There are two related questions: to what extent are children and adults suffering from information overload in a digital world and secondly, how selective is the information to which they have access and how does it become selective? Children learn facts and opinions about Europe from popular culture. This can include popular music, TV soap and features, for example the English TV motoring series *TopGear* is very popular in Poland.

Families, peers and friends also play an important role is selecting and promoting children's sources about Europe. This may be blatant racist comments made by a parent or jokes about other races shared by peers in the playground. Friends can also be a source of information and may be interpreted in particular ways simply because they have been communicated by friends. In addition, sources from school can have a significant influence on children's understanding of the world. Some examples might include the pressure from publishers to use certain textbooks, content of national curricula, viewpoints of government, the age of printed and other sources in school, levels of teachers subject expertise and understanding, the design of resources, the balance of sources available for comparison etc. It can also include the values and backgrounds of the teachers and their own awareness of how these might be influencing how they create learning environments through their provision of a wide range of

sources. In many ways, the section on how maps represent Europe illustrates some of these points.

Children's Future World

Hicks (2002) has conducted much research in schools on how children may develop their ideas about the future. He suggests that time-lines do not finish at the present, but rather that teachers can help children project into the future by thinking about their own future, their family, community, nation and at a global level. These may include possible futures, probable futures and aim to empower future citizens to think they can have an influence at a range of scales. Such teaching approaches also serve to minimise a deterministic approach to learning and thinking. They would encourage children to ask about their own future within and beyond Europe. Such activity would be closely linked with the valued worlds as well as requiring access to the sources and information worlds. Educational approaches that valued their ideas about future worlds might also need to draw on what is important to them. Such learning environments also need to respect the views and ideas of children while encouraging them to be reflective and aware that any knowledge and understanding are always partial.

Children's Commitment World

Catling suggests that children can draw on these various worlds in order to act in ways that may lead to a better personal world, Europe or at a more global scale. Educational experiences and indeed society in general would enable them to put their values into action and test them out. Not everything will work but that too is a learning experience. It is at the opposite end of learning where the status quo is accepted without enquiry and analysis. In many ways, geography as a subject is ideally suited to help children learn about the world as constantly evolving phenomena in which much of the enjoyment of living is the on-going challenge of understanding our complex and amazing world. Hicks and Holden (2007) provide some fascinating ideas about how this may be developed with school pupils.

Conclusion

This paper has attempted to merge an analysis of many sources of European maps with Catling's (2006) theoretical perspectives on how children may perceive the world in order to broaden pedagogical thinking on how teachers and pupils might use this rich variety of spatial data to extend and deepen geographical thought and enquiry. Rather than seeing map sources as right or, up-to-date or inaccurate, rather they may be viewed as having extensive potential to help children understand both the complexity of the modern world as well as enabling them to become more critical and analytical uses of a

range of map sources. This may require teachers to review the range and sources of maps they use in geography lesson. It may also ask them to consider how they present maps to pupils: for example, rather than saying one map is 'wrong' instead to ask pupils to consider what it is that makes a map 'right' in whatever sense they perceive that to be. A browse through the following website will encourage the reader to re-consider how 'right' or 'wrong' maps may be in representing nations. www.gapminder.org/ worldmap. It may also require teachers to reflect on how they project their own views on how they value one map in comparison to another. All of these are complex pedagogical processes which we now need to re-assess as they range of maps available for learning and teaching becomes ever wider and more varied.

Perhaps the following poem helps to explain how important our views of Europe depend on the scale and source from which we view it:

"Geography Lesson" by Zulfikar Ghose

When the jet sprang into the sky,
It was clear why the city
Had developed the way it had,
Seeing it scaled six inches to the mile.
There seemed an inevitability
About what on the ground had looked
Haphazard,
Unplanned and without style
When the jet sprang into the sky.

When the jet reached ten thousand feet
It was clear why the country
Had cities where rivers ran
And why the valleys were populated.
The logic of geography –
That land and water attracted man –
Was clearly delineated
When the jet reached ten thousand feet.

When the jet rose six miles high
It was clear that the earth was round and that
It has more sea than land.
But it was difficult to understand
That the men on Earth found
Causes to hate each other, to build
Walls across cities and to kill.
From that height, it was not clear why.

Zulfikar Ghose

Biographical statement

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Geography and Citizenship Education: Migrations and Pathways of Educational Research

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Abstract

In this paper some pathways of geographical analysis will be illustrated and discussed, seen from a didactic point of view. The geographical theme chosen is that of migration. Migratory phenomena and the problems associated with it have always been a classic theme of geography; today however, they are of a particular interest and will allow us to promote a shared ethic. In this way there is education for citizenship. Geography, as a form of knowledge which helps us in interpreting the world, is able to educate us in an understanding of the social-economic processes that occur as well as in the construction of a sense of 'multi-belonging.'

These issues must be dealt with and developed according to method of research and discovery in such a way that both emigration and immigration are focused on through an educational itinerary based upon theoretical reflection and on the spot experience. In fact, it illustrates the path of educational research carried out training courses for teachers who have been the laboratory to develop educational activities described. In this way the process of analysis will have both a valid formative educational and scientific value.

Keywords: Migration, geography and citizenship, educational research

Introduction: Geography and citizenship education

Citizenship education should be understood both as a growth of a sense of belonging and as a respect for 'otherness'. The sense of belonging indicates an ability to build a sense of unity, while 'otherness' is the discovery of the diversity of another ecological, historical, political and cultural system. In this way man develops in the environment in which he lives, in the knowledge this environment is trans-scalar and that he belongs

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to it as a citizen of the world. A sense of belonging is such if it is sustained by a clear analysis of one's own experience as well as an accurate knowledge of the experience of others: this kind of formation is a constructive opening-out towards others and towards different kinds of cultures. Being open and knowledgeable is something which can only be developed in educational environments, where both education and formation make use of instruments suitable for an adequate reading and interpretation of reality. Future citizens should find themselves at home when moving between the different levels of geographical and cultural reality: as local, European or even world citizens. Thus, it is important to read the documents on this site http://www.cittadinanzaeuropea.net. They help to educate students to be citizens of the EU and understand the economic and political dynamics of this large geographical area.

This necessity is today seen as an ethical urgency, as stated by Horatio Capel (2008): "There remains the ethical dimension, a fundamental question indeed. We should be able to establish social consensus about ethical principles in a secular society. And these ethical principles should relate to the social contract that allows us to live in society and to address the threats that exist[2]".

Geography, as a form of knowledge which helps us in interpreting the world, is able to educate us in an understanding of the socioeconomic processes that occur as well as in the construction of a sense of 'multi-belonging'. Furthermore, it supplies us with the instruments and methods of analysis of documents and experience, events and phenomena, and opens up new horizons of expectation and construction of reality. We will therefore illustrate and discuss some pathways of geographical analysis, seen from a didactic point of view, with particular reference to students of middle and secondary level education. The geographical theme chosen is that of migration, this is because whilst political borders are becoming evermore fluid, other kinds of social-cultural barriers are being formed within communities and these are potentially more dangerous given that they have negative effects on the organization of the territory itself (De Vecchis, 2010). Migratory phenomena and the problems associated with it have always been a classic theme of geography; today however, they are of a particular interest and will allow us to promote a shared ethic.

In this article, after discussing the literature through the geographical importance of migration flows, we show how this subject has been discussed in training courses for teachers. In these courses were developed teaching strategies necessary to deal with the migration issue in high schools and educate the culture of citizenship. The second part of the article in fact describes the teaching methods developed for their realization and educational paths identified.

[2]The original thought of Capel is: "Queda todavía la dimensión ética, una cuestión sin duda fundamental. Deberíamos ser capaces de establecer unos principios éticos socialmente consensuados, en una sociedad laica. Y deberíamos relacionar esos principios éticos con el contrato social que nos permite vivir en sociedad y hacer frente a las amenazas que existen".

Migration as the geographic theme

The study of migration in a geographical key allows us to obtain an overall reading of both the territory of departure as well as the territory of origin of the migrants in terms of settlement, in distribution and transformation of economic activities, about problems related to cultural integration.

If migration is considered as a dynamic form of demographic change of both a region and a nation, it points to vulnerability in any specific social-environmental reality; this vulnerability is to be considered a reality also for the host nations as they will themselves inevitably undergo transformation and adaption. A geographical perspective on this issue will enable us to analyze a number of different indicators and will not be limited to simply quantifying the number of emigrants and immigrants. The territorial area needs to be considered as a whole, and should not be limited to a classical/traditional method of understanding emigration as a response to lack of resources. The dynamics of migration is not to be considered as an immediate action, a sort of expulsion, neither is it to be defined solely numerically as does the push/pull factors theory, which considers an increase in population as the decisive factor in migratory movements and the necessity of manpower as the element which draws people to the host country.

A critical appraisal of the push/pull factors theory is made by Boyd, 1989, and Sivini, 2000, both of whom have highlighted the importance of the individual migrant in the decision-making process as well as the social influence and of the group to which the migrants belong rather than motivation based on population density.

Geographical analysis must, in fact, not only determine migration flow again but also reconstruct the causes of the migration or resettling, the systematic nature of the problem, in order to supply a dynamic picture of the areas of study. The study of the dynamics of migration requires an "integrated approach" (Cristaldi, 2008), in order to understand the diverse and complex reasons behind it.

Furthermore, a comparison should be made where possible between those areas subject to emigration and those subject to immigration, in relation both to movements outside a country and to internal migration. Giuliana Andreotti states that "when we speak of emigration from a country it is necessary to imagine immigration into another" (Andreotti, 2006, p. 66).

The literature on emigration however, only partially deals with the problems linked to the analysis of behavior within a community or of an individual behavior. The immigrant has to re-evaluate his identity in relation to the host country in which he has settled, he has to try to fit in and accept his new position. "At a basic level, migration is a human link exists between places–the place of departure and the place of arrival and settlement" (Massey, 2001, p. 29).

The migrant does not so much have a tendency to return to the land of his origin as to maintain a strong tie with it whilst living in another country; he seeks to maintain his roots, while at the same time he is trying to fit into a new context. This multi-belonging is the complex solution of those that have to live simultaneously in different realities, trying to overcome the fact of losing a part of his sense of self. The problem has been debated in a session of the X *Coloquio Internacional de Geocrítica in Barcellona 2008*, where behavioral models of emigrants were discussed. "Immigrants reinvent new ways to reinterpret the everyday outside the national context and constructs a hybrid world[3]" (De Almeida, 2008, p. 1).

Furthermore, it would be valuable to take into account the thought processes involved in any decision to emigrate: cultural motivations have their say in the decision-making process and they are to be taken into consideration together with economic reasons. By paying attention, for example, to each individual's motives, will allow a reconstruction not only of the conditions which migrants found themselves in but also of the cultural difficulties found when trying to adapt to their new social context.

Migration flows, such as analysis and discussion of different aspects, are an important topic for research and teaching. Particularly important is the study of economic, human and social reasons that drive people to move and their behavior in adapting to different realities. These arguments are useful from the educational point of view because they allow students to understand the problematic inherent in integration. If students understand everything they are taught to respect the citizenship of all. For these reasons, it is necessary to consider how to start a process of educational research to address the issue of migration with the aim of educating for citizenship.

Action Research for a didactics of migration flows

The themes which have been here dealt with theoretically have been discussed in the formation courses for teachers of secondary schools. Since 2009 in Italy the Ministry for Higher Education and Research has established biennial courses for the formation of future teachers of different disciplines including Italian, History and Geography. In each Italian region at least one university had the responsibility of organizing the courses. As a professor of geography teaching (at University of Molise) I had the opportunity of forming future geography teachers. As such I was able to discuss the topics raised in this article and to also evaluate its didactic effect in courses held in the years 2006-2009.The sample of future teachers participating in the courses is significant because generally about 60-80 attended. They had diverse cultural experiences and many of them, whilst attending, also taught as supply teachers in

[3] The original thought of De Almeida is: "Los inmigrantes reinventan nuevas formas de reinterpretar el cotidiano fuera del contexto nacional y construyen una visión híbrida del mundo".

middle and secondary schools. With those teachers I applied the action-research method so as to put into relation the theoretical with the practical levels. We considered fundamental views on action research according to the thought of Henry and Kemmis (1985) or of Ebbutt (1985).

According to the first "Action research is a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out. These participants can be teachers, students or principals and the process is most empowering when undertaken collaboratively, though sometimes it can be undertaken by individuals and sometimes in cooperation with outsiders."

Ebbutt (1985) explains that "action research is the systematic study of attempts to change and improve educational practice by groups of participants by means of their own practical actions and by means of their own reflections upon the effects of those actions." Following this methodology, we discussed the topics and the didactic methods summarized in paragraph 4, then we established the two pathways presented in paragraphs 5 and 6. They were then put into practice in school two pathways and any difficulties or good results were talked about from time to time.

The fundamental objectives we established to guarantee coherence between different experiences were:

1) Migration flow creates citizenship education
2) The learning itinerary has to be structured as a research-discovery approach for the students
3) They had to analyze the relationship between a territory and migration flows (migration here included both immigration and emigration)
4) The results were to be summarized in reports and posters produced by the students.

During the discussions both positive and critical aspects emerged. The following were considered to be positive results:

1) Discuss the educational use of migration flows
2) Guide students to think about why groups of people leave their homeland
3) Guide students to think about how migrants settle and fit in in the host country
4) Find and analyze any necessary documents
5) Suggest ways in which to check and summarize the results.

Some difficulties also emerged:

1) Organize the timing of the research-discovery to be done with the students
2) Some students have difficulty in analyzing the documents
3) Coordinate the experience of different schools.

Over a period of three years I have been able to put together the results of various experiences; many of those taking part in the formation courses put into effect the pathways and the results obtained have shown their validity. Through tests and reports, I could gather their perceptions and outcomes of teaching activities. In particular, they have kept a diary in which he described the critical and positive data. The entire experience was seen as a form of research for the teachers and, as we shall see, as a discovery for the students.

The didactic methods for the theme of migration flows

The most suitable didactic approach, in the high schools, for these discussed topics must be to research discovery through the study of a specific territory and consequently a specific community. It is important to choose a geographic area that was subject to or emigration or immigration and encourage students to analyze what happened.

Students will move from an analysis of the problem, which requires a process involving perception and observation, to a survey where data and information is collected through a study of source materials, documents and maps. The validity of the hypothesis on which the study is based is evaluated and any aspects which do not fit the facts of the information obtained are cast aside. There are three main factors to be taken into account:

1) Credible sources of information
2) Instruments such as questionnaires to obtain the information
3) The tabulation of data.

As far as the sources are concerned, it would be useful to make use of statistics and research reports, but also of any sources not published such as photographic material, private epistolary sources, and any informal means of communication used.

It is necessary to have specific times planned for the research and collection of information, and, subsequently, for the tabulation of data, obtaining many and useful sources of information from a number of different areas, such as town councils, archives, and libraries.

Source materials are not sufficient to illustrate a present-day context which has not yet been fully analyzed; it is therefore important to enrich the information obtained from the sources with data collected directly by the students through questionnaires aimed at preselected social groups who belong to their community. It might also be useful to collect information from further afield by making use of digital technology. This type of survey takes into account the people directly involved in migration and it establishes a direct relationship with their testimony and their experience.

Data must not only be collected but it needs to be recorded, tabulated and correlated so as to be able to compare different territories with the aim of discovering

the continual migrations or the presence of a settled group of immigrants. Together with graphs, cartograms should also be used as these will allow us to rapidly find the object of the study, the movements and the settlements in the host territory, the aim being to work making use of both a quantitative and qualitative approach. An organic planning which takes into account these three approaches makes didactically easier an integration of the factors discovered, the global observation of migration in its evolution, the synthesis of the characteristics of the movement and behavior of the different groups.

By following these guide-lines the reconstruction of a territory can be made, which then becomes a learning environment. Given that migration produces not only social and demographic changes but also modifies behavior within a particular context, it becomes a living and vital reality, and this type of study makes the student-observers effective participants in a research project which is not just made up of numbers and documents, but of living people and experiences. This methodology must be applied in the following two paths.

Below are summarized the guide-lines for a geo-didactic approach which aims at analyzing the behavior of migrants in Figure1.

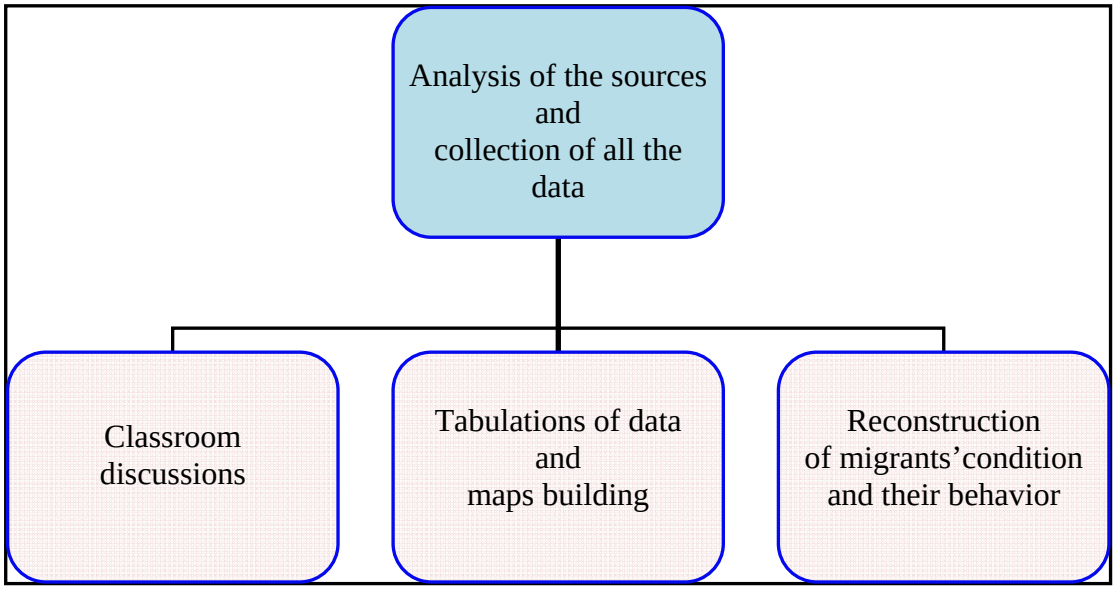

Figure 1. *The Guide-Lines for a Geo-Didactic Approach to Migration*

The first pathway: Emigration as a discovery of a community

The first case that presents itself is a path to address the immigration issue. Students must begin to ask questions about why in the population of a specific area has decided to leave the own country. Following this line of thought, the immediate perception

following observation and an initial survey of the phenomena (through information collected in an informal way) leads to a consideration of emigration as a 'problem'.

An analysis of the problem will lead to a research survey: it becomes relevant to ask questions on human mobility, on the motives for moving and transferring; on this basis data and information is collected through a study of the sources, of documents and thematic maps. In this way an evaluation of the validity of the initial hypothesis is made and any aspects that are not confirmed by the information are set aside.

The route planning that has been experienced is the following:

1. Direct experience in the community through an observation of the students;
2. Analysis of the problem;
3. Formulation of the hypothesis to understand the reasons for the phenomena;
4. Collection of statistical data to quantify the phenomena;
5. Careful examination of the source material and the documents;
6. Observation of the territory and an analysis of the social-environmental signs following emigration;
7. A survey of the host community of existing relationships; analysis of the social and economic conditions;
8. Emphasis on 'micro-histories' by making use of photographic and epistolary material and through direct interviews;
9. Making use of graphs and maps both of which are an indispensible didactic support and which can also be developed and elaborated by the students;
10. Individual or group elaboration of summaries of the entire work.

The data, collected through source material and formal and informal documents can be recorded, tabulated and correlated to give rise to opportune reflection on the reasons leading people to migrate. The use of cartograms will allow a rapid discovery of the object of study, of the movements and of the settlements in the territory of destination. The aim being of working at both a quantitative and qualitative level: the tabulation of the data and the introduction of indices specific to demographic study are an objective point of departure; a comparison of the results, the contextualization of the data and their analysis will, however, open up a pathway to reflection and interpretation. Detailed analysis of the motivations of migrants not only enriches students' knowledge but will make them participate of their behaviors and problems.

The second pathway: Immigration, experiences and comparisons

The second case to deal with students is the analysis of immigration. It is necessary to understand the phenomena of immigration and its impact on a realty which is primarily urban, and by deeper studies of its impact at a local level. In this case the problem is not to aim at the reconstruction of a phenomenon which has stabilized, but studies should adapt themselves to an emerging situation which is to be discovered and which should educate towards a sense of multiculturalism. The issue requires studies to be

made in perspective: the research-discovery approach must be promoted with immediacy in mind and with attention being paid to the future, albeit only the near future. Furthermore, the issue should lead to a desire to understand the problems of integration and educate towards comparison and living together. The following is to be the itinerary of study that has been experienced:

1) The perception of people coming from other nationalities;
2) The role of immigrants and their working conditions;
3) Specific indicators to understand ways of living;
4) A discovery of their territorial areas and the reasons for migration;
5) Cultural, religious and behavioral differences.

Two fundamental aspects should be kept in mind for such a plan of study: the utilization of indicators to analyze, in an objective way, the conditions of life and the discovery through different sources, of the global way of life of the immigrants and so do away with prejudice.

The most important indicators are: legal immigration, an evaluation of the illegal immigrants, work experience, way of life, and the possibilities of integration. The use of interviews, in these situations, is the most suitable instrument to obtain information and data, besides that which is supplied by the ISTAT (Italian Institute of collecting statistics) and by the local authorities. Even in these cases the data collected can be tabulated or expressed in map or graph form.

Another aspect which should be privileged is the discovery of the culture of the countries from which immigrants come mainly by direct comparison but also through the reading of articles or texts, or viewing films or television documentaries. It is in this way that a close association between the study of human mobility and education towards multi-cultural reality can be established. No empty planning should be promoted, but the issue of migration as a way of educating towards social and cultural plurality should be dealt with.

Discussion of the results

The entire learning experience has demonstrated its vitality; in three years about 60 participants of the formation courses took part and put into effect the didactic methods presented in paragraph 4. They produced reports which described how they had achieved the aims of the pathways and their perceptions were gathered in questionnaires. By synthesizing the information in this way it became clear that they were didactically valid. Figure 2 summarizes the perceptions of 60 teachers who have fully experienced the two routes and stated that 70% of students have gained a different opinion with respect to migrants and have acquired a culture of citizenship. Knowledge of diversity could be addressed through geography which indicates the particular relationship between every social group and the territory. A close association between

the study of human mobility and citizenship education can be established, because the issue of migration as a way of educating towards social and cultural plurality should be dealt with.

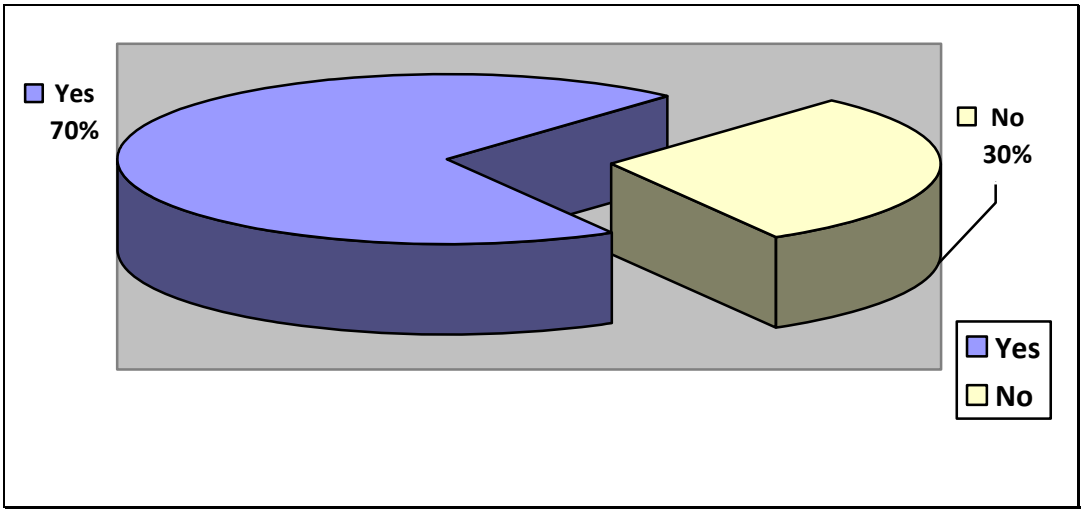

Figure 2. *The results according to teachers*

The teachers guided the students to think about emigration, and how an environment can be transformed both by the absence as well as the arrival of migrants. The pupils learnt to analyze the causes which lead people to move to another country and the looked into the behavior of immigrants in the new country such as their tendency to form associations.

The approach applied was a whole new experience for them as they studied not only the sources and the documents but also had to observe their environment (city or village) in order to understand the changes that had occurred. They learned about new topics and also developed new attitudes towards emigration and immigrants.

The teachers also experienced something new in the didactic research; they were able to reflect on the importance of emigration and on its educational use. They carefully studied the literature dealing with this issue, came to understand the limits of the push/pull factors theory and saw the necessity of looking at the social and cultural aspects which lead people to emigrate. Furthermore, through studying migration flows, they were able to put into practice citizenship education.

The entire study was put into practice following the research-action method which has demonstrated its scientific validity. The initial hypothesis -migration flows for citizenship -was developed in didactically tested pathways. At the same time didactic methods involving students directly were surveyed, methods which required field-work as well as studying documents. Together with the students the young teachers who took part in the formation courses also experienced both research work and direct action.

Biographical statement

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