

Article

A Study on Memory Sites Perception in Primary School for Promoting the Urban Sustainability Education: A Learning Module in Calabria (Southern Italy)

Marcello Bernardo ¹ and Francesco De Pascale ^{2,*}

¹ Department of Culture, Education and Society, University of Calabria, 87036 Rende, Italy; marcello.bernardo@unical.it

² Italian National Research Council, Research Institute for Geo-Hydrological Protection, Via Cavour, 4-6, 87036 Rende, Italy

* Correspondence: francesco.depascale@irpi.cnr.it; Tel.: +39-0984841447

Received: 22 August 2019; Accepted: 9 November 2019; Published: 13 November 2019



Abstract: This paper constitutes a study on representations of Risorgimento sites of memory in Calabria (southern Italy), analyzing the development of the perceptive skills of primary school children through a learning module. The initial hypothesis wants to demonstrate that some factors identified by the geographer Antoine Bailly influence the perception of children in relation to the single research topics that concern: The possibility to reach and to easily access memory sites and any barriers or difficulties encountered; the aesthetic and functional judgment and the most popular aspects of the sites of memory; the orientation skills during the journey from the school to the site of memory; the elaboration of a mental map. The learning module titled “The mental representation of the sites of memory of the Risorgimento” was carried out in the primary schools of three provincial capitals of Calabria (southern Italy): Catanzaro, Cosenza, and Croton. Children in the direct and indirect observation of the geo-historic pathway of the Risorgimento sites of memory in Calabria show that they fit well in the role of young geographers and investigators of the surrounding reality. Finally, this contribution aims to highlight the important relationship between the geography of perception and education for sustainability in schools starting from the sustainable development goals (SDGs).

Keywords: Calabria (Southern Italy); didactics of geography; geography of perception; geo-history; geospatial education; Risorgimento sites of memory; urban sustainability

1. Introduction

This contribution is the synthesis of research promoted within the Geography Laboratory of the Department of Culture, Education and Society of the University of Calabria, in collaboration with some Calabrian schools.

This work focuses on the study of sites of memory in Calabria and on the perception of them by a sample of schoolchildren. The historiographical concept of “site of memory,” elaborated by Pierre Nora in the mid-eighties of the twentieth century indicates a physical and mental space that is characterized by being made up of material or purely symbolic elements, where a group, a community, or an entire society recognizes itself and its history through a strong link with the collective memory [1]. The research fits into the field of studies of didactics of geography, using the methodologies of geography of perception [2–9]. Despite the theoretical arrest that the geography of perception seems to have undergone in recent years, the authors of this article believe that from a practical point of

view, it is still very valid in the teaching of geography in order to design paths of learning based on actual knowledge and the perceptions of pupils. Indeed, as Rocca [10] points out, emphasizing mental images and the organized and personal representations associated with them allows the teacher, on the one hand, to shed light on the individual characteristics of children, and on the other hand to approach their perceptions. These, whether they are right or wrong, still reflect the world as the person believes it to be. The didactic utility emerges precisely on this point: women and men act in the environment based on how they perceive it, but they also learn from the environment while they see it and what is learned will then influence what they see. This circular process, inserted in the context of didactics, offers teachers and children valid tools that can help foster the ability to adapt to circumstances and to exploit past experiences.

Geography of perception is a disciplinary matrix developed in North American geography since the 1960s, which studies the subjective processing of the environmental space. In fact, space is internalized through cognitive processes in mental images, which affect people's decisions, actions, and behaviors. Space cannot, therefore, be assumed as an absolute value, since it is frequented in different ways by people and perceived by different value systems. In 1975, Alexander W. Siegel and Sheldon H. White, referring to the construct of cognitive mapping by Downs and Stea, proposed an evolutionary model based on Jean Piaget's developmental stage theory [11]. In fact, Piaget and his collaborators were among the first in the forties to study the development of spatial notions (topological order, perspective, reference systems, orientation, map, and routes) and to place evolution within an organic theory of development of the mind.

Therefore, the Siegel and White model, explaining the process of environmental spatial knowledge formation, identifies five stages hierarchically ordered, since the first ones constitute the indispensable genetic base for the subsequent construction. Each one is characterized by a different form of knowledge of the environmental space in children. The Siegel and White model has the great advantage of providing a fundamental basis for the analysis and study of the process of cognitive mapping [11]. It, more than age, is more closely related to the development of orientation capacity and the type of reference system used. In this context, the expression of "lived space" is inserted that is the territory with which the subject has deep emotional and psychological ties, in which he/she recognizes him/herself, builds his/her own territorial identity and toward which he/she has a strong sense of belonging [12,13].

Research on living space, which started in France in the early seventies, is inspired by the complex Anglo-Saxon geography, which freed itself from a pure neopositivism to deal with geographies of the mind [14]. Armand Frémont (1933–2019) is the leader of that strand of French geographical thought and who, studying "the geographies of everyday life," referred to the "lived space". Among other things, thanks to several scholars such as Best [15], geographers have given considerable importance to the perception of space in children and adolescents, to their living space in the growing process and to the lessons that could be learned in relation to a pedagogy of geography [14].

The concept of lived space is intertwined with that of sense of place in humanistic geography and to which the geography of perception seems to have arrived.

The initial moment in which the humanist perspective of geography starts is commonly fixed with the publication in 1961 of the famous article by David Lowenthal, "Geography, experience and imagination: towards a geographical epistemology" [16]. In the article the scholar hoped that geographers would carefully consider "the relation between the world outside and the pictures in our heads" [16], adding that the geographical knowledge of the individual and of society has always been based on personal geographies made of different experiences, memories, present circumstances, and future projects. Relph [17], Tuan [18,19], and Buttimer [20] contributed to the systematic reference of humanistic geography to phenomenology. Pocock [21] pointed out that the scholar of humanistic geography must completely descend into the lived experience that he or she analyzes and only through the insider's empathy comes the understanding of the world. Some scholars like Wright [22] and then

Handley [23] coined the name Geosophy, or the study of geographical knowledge from any point of view.

Therefore, this school of thought has led towards the study of territorial knowledge/consciousness that must never ignore the original cultural nexus that mutually links people to places, the community to the territory and society to the landscape [24].

In the last decades, therefore, literature and geography have found a common ground of action in the attention toward introspective reality, the tangible spatial, the emotional and affective experience of people and therefore their subjectivity expressed by cultural, psychological, and even analogical values [25]. Brosseau [26] highlighted the need for a recognition of the intricate and complex signifying practice called text and a more dialogical relationship between literary and geographical writing. According to Maggioli and Morri [27], the relationship between geography and literature seems to move around three lines of study: a didactic approach where the essential lines of the spatial and narrative categories useful to the new generations are traced, such as the theme of literary parks [28,29]; a second approach based on the study of the cultural landscape or on individual authors, writers, and scholars [12,30,31]; a third type of approach, more widespread and consolidated in geography, on the wide range of case histories of travel literature [32–35]. Lando [12] identifies five additional possible interpretations in the relationships between the two disciplines: the role of geography in literature, the sense of place, roots and cultural roots, the inner landscape, culture and ethnic-territorial awareness.

As part of this study, cultural goods are an example of a concrete expression of the sense of place, essential points of reference of the history and local culture of which they constitute material testimony. In fact, the defense and the affirmation of the territorial identity in the various Italian regions coincides precisely with the rediscovery of the artistic-monumental assets and local identity [36,37]. Within the materiality of the places there are the conditions through which children perceive their usability, accessibility, or function.

In this reference framework, the case study in question intends to analyze the mental representations of places and characters of the Risorgimento, built by primary school children, within the context of a learning module that entails both direct and indirect observation of a geo-historic pathway of the Risorgimento sites of memory in Calabria. The Risorgimento is a historiographical term used to indicate that complex spiritual and political process, that series of economic and social transformations, of literary and cultural attitudes, of diplomatic and military events, which between the late eighteenth and nineteenth centuries intertwined and contrasted, and brought Italy from the secular political division to unity, from foreign domination to national independence, from monarchic absolutism to the liberal and constitutional state under the Savoy dynasty [38].

The analysis of the mental representations of children is based on the deeper understanding of some research topics/questions, which are objects of study of the geography of perception. The initial hypothesis foresees the influence of some factors/variables that make the perception of memory locations different from subject to subject.

The authors of this paper selected a geo-historical pathway for this learning module because history and geography share the use, though with different nuances, of the two key concepts of time and space to such a degree that they can be studied in a single subject termed Historical Geography. In fact, historical research cannot be done without sorting events into space and without considering the importance of places, distance, and physical elements. Similarly, geographic research cannot be done without investigating the events in their temporal evolution, without taking into account the effect of time in space flows and spatial relationships and without considering the role of some historical matrices in contemporary territorial reality [39]. The French geographer Élisée Reclus (1830–1905) summarized this by saying that “Geography is nothing more than History in Space, as History is Geography in Time” [40].

A summary of the didactic experiments carried out has already been published in a fragmented way, considering only the perception of the memory sites in Crotone [41] (Figure 1) and in Cosenza and Catanzaro [42], in two different works [41,42]. However, this article contains the complete research, the

integral analysis, and the comparison of the collected data. Moreover, the paper describes all the phases of the didactic experiments carried out in Crotona, Cosenza, and Catanzaro, characterized in a single learning module, showing in the Appendix B some materials used. Furthermore, the implications of the relationship between perception geography and sustainability education are also explained.

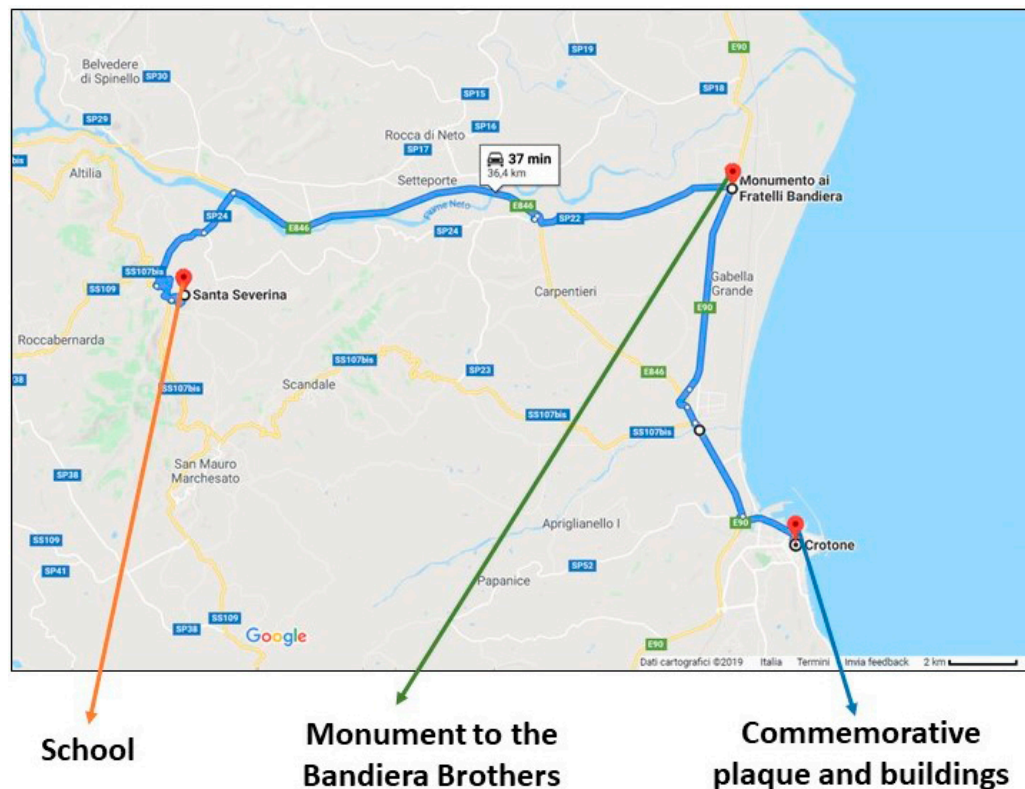


Figure 1. Path on Google Maps from the school, located in the town of Santa Severina (Crotona, Calabria region, southern Italy) to the memory sites, performed by the children of Crotona, accompanied by teachers. From [43].

2. Materials and Methods: A Primary School Learning Module on the Mental Representation of Sites of Memory

2.1. Sites of Memory Subject to Geo-Historical Exploration in the Learning Module

The learning module entitled “The Mental Representation in Primary School Children in Calabria of Sites of Memory of the Risorgimento” (Appendix A, Table A1) was carried out in the context of the primary schools of three provincial capitals of Calabria: Catanzaro, Cosenza, and Crotona. This used the new assumptions of the geography of perception [2–9]. The students, together with the group of teachers and researchers, travelled from the school of origin, visiting the sites of memory of the Risorgimento in the region. The direct observation on the perception of the “sites of memory” was carried out in the urban environments of Catanzaro, Cosenza, and Crotona. It was conducted by the researchers, by some post-grad dissertation writers in the degree course of Primary Education Sciences of University of Calabria and by a group of teachers, with the participation of the children.

Three schools were selected, one for each provincial capital. At Catanzaro, instead, from the “Galluppi” school, Villa Trieste and the monument to Francesco Stocco (Figure 2) in Piazza Stocco (Stocco Square) were visited (Table 1). In Villa Trieste there are nine marble statues of illustrious nineteenth-century Catanzaro figures, philosophers, politicians, writers, mathematicians, who distinguished themselves for their lively cultural activity, especially in the second half of the century, all united by a common thread, their precious tribute to the formation of a United Italy, the Christian faith, and the desire for “an Italy united, without rhetoric” [44]. These are Francesco De Seta,

Giuseppe Rossi, Bernardino Grimaldi, Antonio Greco, Eugenio De Riso, Diodato Borrelli, Andrea Cefaly, Luigi Grimaldi, and Francesco Fiorentino. The monument to Francesco Stocco, instead, is dedicated to an Italian patriot and general who played a decisive role in some battles of the Risorgimento in Calabria (e.g., the battle of Soveria Mannelli of 30 August 1860). The work sculpted in white Carrara marble uses a language strongly influenced by the Risorgimento rhetoric that marks the numerous commemorative monuments created in Calabria in the aftermath of the Unity, testifying to the non-secondary role played by the region in the process of the unification of Italy [45]. The monument is located in the square of the same name in the center of a road roundabout, therefore strongly subject to accessibility problems, as we will see in the next paragraphs, and also to the pollution of exhaust gases coming from road traffic.



Figure 2. The monument to Francesco Stocco (Catanzaro, Calabria region, southern Italy) situated at the center of a road roundabout. Accessibility problems for children. Source: Authors.

Table 1. Information relating to schools and classes involved and places of memory visited for each provincial capital in Calabria, for the purpose of the Learning Module.

Provincial Capitals (Calabria, Southern Italy)	School	Class	Sites of Memory
Catanzaro	Convitto Nazionale “Pasquale Galluppi,” located in Catanzaro (Italy);	Fourth-year primary school class; age: 9 years old	Villa Trieste; Monument to Francesco Stocco
Cosenza	Istituto Comprensivo “Rende Centro,” located in Rende (Cosenza, Italy)	Fifth-year primary school class; age: 10 years old	Statua della Liberta (Statue of Liberty); Palazzo del Governo (Government’s Building); Palazzo Arnone (Arnone Building); Ara dei Fratelli Bandiera (Altar of the Bandiera Brothers); Catena Spezzata (Broken Chain)
Crotone	Istituto omnicomprensivo “Diodato Borrelli” of Santa Severina (Crotone, Italy)	Fifth-year primary school class; age: 10 years old	Plaque for the Bandiera Brothers; Palazzo Berlingieri; Palazzo Barracco; Monument to the Bandiera Brothers

At Cosenza, starting from the primary school of S. Agostino of Rende, we went to visit the Statua della Liberta (Statue of Liberty) and the Palazzo del Governo (Government’s Building) located in Piazza XV Marzo; the Palazzo Arnone (Arnone Building) on the Triglio Hill and finally the Ara dei

Fratelli Bandiera (Altar of the Bandiera Brothers) (Figure 3); and the Catena Spezzata (Broken Chain) in the Vallone di Rovito (Table 1). The Statue of Liberty, located in Piazza XV Marzo is the work of sculptor Giuseppe Pacchioni from Bologna, captured and sentenced to life imprisonment after the failure of the Bandiera Brothers' expedition; subsequently the Bourbons, at the head of the Kingdom of the Two Sicilies, condoned the penalty. In 1878, Pacchioni sculpted the white marble statue depicting a free Italy [46].



Figure 3. The Vallone di Rovito (Cosenza, Calabria region, southern Italy): a significant “site of memory” of the Risorgimento, where the Bandiera Brothers had been shot. From [46].

The Palazzo del Governo was built between 1844 and 1847; on 15 March 1844, insurgents from Cosenza (Cosentinos) were killed in an attempt to knock down the gate, and in 1860, on August 31, General Giuseppe Garibaldi, a key figure of the Italian Risorgimento, stayed there after having spoken to the Cosentinos from the central balcony. At Palazzo Arnone, on the Triglio hill, the upper floor was the seat of the court and the lower one housed the district prison in which several Risorgimento patriots were held prisoners. The Bandiera Brothers' altar is the place where the Bandiera Brothers were shot, important figures of the Risorgimento because they organized an expedition against the Bourbon kingdom in Calabria, but were captured by the Bourbon police and sentenced to death. The “Broken Chain” monument, located on the hill overlooking the Vallone di Rovito shrine, was built in 1960 by the Hungarian artist Amerigo Tot; it represents a huge broken chain resting on a wide base and symbolizes the broken link between North and South of Italy and the end of the dream of the Unity of Italy, wrecked with the dramatic conclusion of the Bandiera Brothers' expedition in 1844 [46].

At Crotone, we went to visit the plaque for the Bandiera Brothers, the Palazzo Berlingieri, and the Palazzo Barracco, the Monument to the Bandiera Brothers (Figure 4, Table 1).

The commemorative plaque to the Bandiera Brothers is located in Corso Vittorio Emanuele, above the former town hall, now the site of the historical archive. This plaque was strongly desired by the Nicola Sculco, from Crotone, so that a concrete recognition was conceived for the two martyrs who paid with their blood for that desire for freedom which then led to those celebrated pages of a united and independent Italy [47]. The Berlingieri palace is located in Piazza Santa Veneranda. The Berlingieri family was involved in the financing of the Garibaldi's enterprise; according to some scholars, the family donated 7000 ducats [47]. This palace also hosted, on 25 April 1806, King Giuseppe Bonaparte. Palazzo Barracco is located in Piazza Castello and passed into history for having hosted King Ferdinand II of Bourbon in 1833, who went to Crotone to visit the provinces of the kingdom. The palace is also remembered for the lively involvement of Baron Alfonso Barracco in the unitary cause; he donated, in fact, a sum of 10,000 ducats in favor of the Garibaldi's enterprise [47]. The monument to the Bandiera brothers is located in Bucchi (Crotone) near the mouth of the River Neto. The construction of the

monument was entrusted to the architect Giorgio Volpato of Rome and the place where it is located is precisely the one in which Emilio and Attilio Bandiera landed on 16 June 1844 [41].



Figure 4. The monument to the Bandiera Brothers situated at Crotone (Calabria, southern Italy). A moment of the outing on the territory. From [43].

These memorial sites, monuments, tombstones, commemorative plaques, palaces, etc., have been selected as considered by the authors and by various scholars [44,47–54] as among the most significant and representative of the heroic actions of characters and symbolic events that have characterized the process of national unification in Calabria.

2.2. The Phases of the Learning Module (LM)

The learning module (LM) was taught in two different phases:

- In the first phase we administered an entry questionnaire in the classroom (Appendix A, Table A2); at a later time, we submitted the children to an initial interview for the purpose of detecting Bailly's influential factors.
- In the second phase, we analyzed the four research themes of the geography of perception, introduced in the LM, through direct observation and a final questionnaire (Appendix A, Tables A1 and A2).

The detection methods used are qualitative and “direct and aware” [55], that is, those detection systems and techniques specially designed to detect data on environmental perception; in this case, we have used single choice and open-question questionnaires, mental mapping, and verbal descriptions.

The subjects of the analysis are pupils of the fifth year of primary school (Cosenza and Crotone) and of the fourth year of primary school (Catanzaro).

The sample consisting of 83 subjects is “non-probabilistic,” “reasoned-choice.” In fact, it was necessary to have diversified sampling units: subjects of the fourth and fifth year of primary school (in terms of age), males and females (as regards sex), citizens of three different provincial capitals (as regards the area of residence). There were 39 males in all and 44 females; the girls and the boys of the fourth-year primary (Catanzaro) were 9 years old at the time; the girls and the boys of the fifth-year (Crotone and Cosenza) were 10. For this learning module the children of the primary school, fourth and fifth classes were chosen, first of all to let them know this historical period and about the Unification of Italy (1861–2011) which was celebrating its 150th anniversary at about that time; the Risorgimento is studied starting from the lower secondary school in Italy and has been excluded from the primary school curriculum; another reason is related to our interest in studying the spatial perception of children of this age and their approach to the urban environment.

Examining the perception that some groups of primary school children have concerning monuments, sites, and symbolic places of the Risorgimento is the fundamental goal of the research.

Therefore, the “micro perception” [55], i.e., the “elementary” reference of the environmental subjective elaboration, as a laboratory analysis, in this case in the classroom, on the knowledge that children construct, observing the routes on Google Maps (Figure 1). The “macro perception” [55], however, concerns the impression that they have gained having experienced the real routes in the region, in the urban environment of three provincial capitals of Calabria: Cosenza, Catanzaro, and Crotona.

The didactic experimentation, at the initial stage, involves a questionnaire to be administered to primary school children in order to evaluate the pupils’ knowledge of the historical process, places, and characters that affect the period of the Unification of Italy. Subsequently, the experimentation continues with some classroom lessons on the subject, including the use of didactic materials: a sheet summarizing the historical period of the Risorgimento and some geographic maps to help children understand the geographical division and politics of pre-unitary Italy, by identifying the different states within the Italian geographical region, through use of different colors (Appendix B, Figure A1). At this stage, direct and indirect sources are used: An interview with children, the aim of which is to detect the Bailly factors that render the perceived territory different from subject to subject; field research. The field research consists of documents such as maps drawn by the children, but also the compilation of single-choice and open response questionnaires [56,57]. The answers to the open questions were then elaborated, executing a thematic analysis [58] to get a complete picture of the perceptions and knowledge of the children, reporting, then, a summary of the various positions in the context of every research topic. A similar line of research was adopted by Silvia Lovigi, a primary school teacher, who conducted a study on 64 primary school children. This was designed to analyze the perception of their neighborhood and the city of Padua in light of some of the features hypothesized as influential [13,59].

2.3. The Research Questions and the Hypothesis

The following research questions in the context of the geography of perception were analyzed:

- (1) The possibility to reach and easily access memory sites and any barriers-difficulties encountered; this research question refers to the possibility of subjects being able to freely use the sites of memory and any barriers found that may preclude this or make access to them more difficult.
- (2) The aesthetic and functional judgment and the most popular aspects of the sites of memory; this research question refers to the aesthetic and functional judgment that each child has built in his or her own mind using the sites of memory. In addition to influencing the behavior of the child, it could be particularly useful in the area of participatory planning of the territory in order to plan a more sustainable urban environment for its inhabitants.
- (3) The orientation skills during the journey from the school to the site of memory [39–42], defined by Giovanna Axia as “a cognitive process in which the mind constructs and uses more or less complex reference systems to link the points in space” [60]; this research question, therefore, refers to the ability to orientate oneself in the environmental space, a skill strictly dependent on the detected mental image. Furthermore, in the context of this research question the emotional-affective link with the places travelled across during the journey was also investigated (Appendix A, Table A2).
- (4) The elaboration of a mental map [61] of the pathway from school to site of memory. This research question coincides with the technique that allows us to derive the way in which children codify and organize visual-spatial environmental information; it eliminates the problem of the linguistic ability of the subjects, but introduces the one constituted by their graphic capacity. The final products, in fact, are the synthesis between the ability to master the representative medium more or less well and the actual visual-spatial knowledge of the considered environment.

The first two research topics were investigated through a questionnaire with some open-ended questions administered immediately after the school outing. For the third research topic the way finding technique was used through the drawing of mental maps; this technique is particularly used in the analysis of the orientation behavior and varies according to age and conditions (familiarity with the environment, modality of experiencing it, etc.) of the subjects analyzed. The emotional-affective

link with the places of the path was investigated with the identification of psychological landmarks in mental maps and with an open-ended question in the final questionnaire administered in the classroom. For the last research topic, as we have just written, the mental maps technique was used, drawing the route from the school to the sites of memory visited during the school outing (Appendix A, Table A1).

The hypothesis that led the analysis of the results obtained in the various research themes was the influence of the factors identified by the French geographer Antoine Bailly [4], which make the perceived territory different from subject to subject. These factors are sensory factors, biological factors, environmental factors, cultural factors, psychological factors, and socio-economic factors [41,42].

3. Results

3.1. *The Mental Representation of the Sites of Memory of Catanzaro, Cosenza and Crotona (Southern Italy): Direct and Indirect Observation and Qualitative Research on the First Three Research Topics*

By analyzing from the outset the various phases of the LM, starting from the administration of the starting questionnaire, most children showed little knowledge of the concept of “site of memory,” while they seemed to know something more about the Risorgimento period. However, this is a somewhat superficial knowledge.

During the trip, the pupils were repeatedly requested to pay attention to the path taken in order to memorize it and to set in their minds some landmarks, for the subsequent drawing of mental maps. Before leaving for these sites, the pupils looked at some maps of the route on Google Maps. During the outing, pupils were involved in tracking the coordinates of each visited site via a GPS device (Appendix B, Figure A2). After returning to the classroom, the open answer questionnaire was administered to the pupils with some specific questions about the places visited to review the abovementioned research topics. Each of these themes was influenced by the Bailly factors. Each pupil then located the places visited on the map of the route, writing the names and coordinates detected using the GPS device.

As for the first question about the possibility of freely investigating the sites or if there are any “barriers,” for the students of Cosenza the answer was unanimous. The opinion was unambiguous in stating that the places visited are easily accessible both on foot and by a means of transport and that there are no “barriers” that prevent them from visiting these sites freely.

The children of the “Galluppi” school of Catanzaro, however, found a significant difference in accessibility between the first route, from school to the monument to Francesco Stocco and the second, from school to Villa Trieste. The pupils were agreed in stating that walking up to Piazza Stocco is not easy because of the lack of pedestrian areas. In fact, many children claimed that there are cars that hinder the walk. On the other hand, even by car it is difficult to admire the monument to Stocco as it is situated at the center of a road roundabout, where traffic jams are always created [42] (Figure 2).

At Crotona, everyone agreed that these sites of memory are easily accessible, as there are no “barriers-difficulties,” also showing the desire to specify that some are more easily accessible on foot (given the narrow lanes) and others need, instead, a means of transport (e.g., the Monument to the Bandiera Brothers). Therefore, environmental factors have influenced the perception of the children in relation to the first research topic (Table 2).

Table 2. Factors that influence the perception of children in relation to the first three research themes identified in the context of the geography of perception.

Research Questions	Cosenza	Catanzaro	Crotone
(1) The possibility to reach and easily access memory sites and any barriers-difficulties encountered	The places visited are easily accessible both on foot and by a means of transport; there are no “barriers” that prevent them from visiting these sites freely	Difference in accessibility between the first route, from school to the monument to Francesco Stocco and the second, from school to Villa Trieste	The sites of memory are easily accessible, as there are no “barriers-difficulties;” some are more easily accessible on foot (given the narrow lanes) and others need, instead, a means of transport
Factors that influence the children’s perception of connection to this research theme	Environmental factors	Environmental factors	Environmental factors
(2) The aesthetic and functional judgment and the most popular aspects of the sites of memory	Positive opinion of the “sites of memory,” emphasizing that, despite the passing of time, they are still well preserved; childhood memories, experiences with parents, grandparents, as well as references to films seen on television.	Satisfaction and perception of wonder in the visit of Villa Trieste, previously experienced with family members; Children did not like Piazza Stocco because of the accessibility problems of the monument located in the center of a roundabout	A positive aesthetic judgment to the various places visited, which, despite the wear and tear, the children said are still in good condition and are “well cared for.” The children had never before visited these places.
Factors that influence the children’s perception of connection to this research theme	Psychological factors	Psychological and environmental factors	Environmental factors
(3) The orientation skills during the journey from the school to the site of memory	Presence of numerous psychological landmarks in mental maps; previous use of the places in a controlled way with the presence of adults/family members; appreciable way finding thanks to the familiarity of the places due to the residence of the students in the city.	Presence of numerous psychological landmarks in mental maps; previous use of the places in a controlled way with the presence of adults/family members; appreciable way finding thanks to the familiarity of the places due to the residence of the students in the city.	Presence of numerous psychological landmarks in mental maps; not enough way finding because of the residence of the students in neighboring areas and the absence of previous visits.
Factors that influence the children’s perception of connection to this research theme	Psychological and environmental factors	Psychological and environmental factors	Psychological and environmental factors

As for the second question concerning the aesthetic and functional judgment of the visited sites, an analysis of the results of the Cosenza school revealed a positive opinion of the “sites of memory,” emphasizing that despite the passing of time, they are still well preserved. In particular, the Vallone di Rovito (Valley of Rovito) (Figure 3) is described as a pleasant place because of the presence of a playground for children. In this regard, a child was questioning why, in a place where the Bandiera Brothers had been shot, and therefore connected to a sad memory, there was a playground, which is a place synonymous with cheerfulness and carefree times. The influence of psychological factors is evident; in fact, visiting the cells of the old prison in Palazzo Arnone, pupils refer to childhood memories, experiences with parents, grandparents, as well as references to films seen on television. And then, there is a curious reference to a cartoon, “Beauty and the Beast” (Walt Disney, 1991), associated with the landscape of the Vallone di Rovito. The students from Cosenza were impressed by the “cleanliness” of the monuments and in particular the white marble with which the Statue of Liberty is built at Piazza XV Marzo. Therefore, psychological factors have influenced the perception of children in relation to the second research topic (Table 2).

From the analysis of the results from Catanzaro, there is an expression of satisfaction in most of the responses regarding Villa Trieste, while the excursion to the monument to Francesco Stocco

(Figure 2) was not considered very pleasant. In fact, the Villa is described as wonderful for the presence of the busts of the illustrious people of the city of Catanzaro, but also for the presence of a playground for children and a pond with ducks, goslings, and small birds. On the contrary, Piazza Stocco is judged as “not very nice” by the children because of the lack of opportunity to roam around the place freely because of the lack of pedestrian areas. In Catanzaro, when they entered Villa Trieste, the children began to say that they had already visited the Villa with their families. Indeed, Gianluca writes: “When I went to the Villa, I remembered when I went with my cousin and played with remote controlled cars” [42]. The psychological and environmental factors, therefore, have influenced the perception of the children of Catanzaro in relation to the second research topic (Table 2).

At Crotone, almost everyone also agreed to give a positive aesthetic judgment to the various places visited, which, despite the wear and tear, the children said are still in good condition and are “well cared for.” As far as the aspects that they enjoyed the most, in particular, it is worth noting the response of a child who said: “I liked the whole route to reach these places, characterized by narrow alleys and curves with the stone pavements.” Since most children had never visited these places or simply had passed by them while “going to the sea” or “going to the church,” there is little influence on the psychological factors, unlike their Cosenza and Catanzaro peers who had already visited the sites of memory of their own city, with the presence of at least one adult. For this reason, environmental factors, in this case the place of residence have influenced the mental representation of the Crotone children (Table 2).

Considering the usability and ease of orientation, during the trip the children of Cosenza and Catanzaro used places near and dear to them as reference points, such as the office where their parents work. So, these are their psychological landmarks that refer to direct experience and personal interests because of the cognitive egocentrism that leads them to the inability to use different perspectives from their own [13,62]. On the other hand, some environmental factors are considered influential in the orientation (Table 2), such as the way the route is used (controlled use, whether used with adults, and free), assuming a continuum that ranges from a minimum to a maximum of freedom, and the type of environment in which it is located, that is, the residential area, finding a different spatial perception among those who lived in the center and who lived in the neighborhoods outside the city center [13]. During the outings on the territory, both in Cosenza and in Catanzaro, it was clear that those who lived in the city center already knew the way to the “sites of memory.” Therefore, an appreciable way finding [63] was revealed. In other words, this means to have in mind the representation, the image of space, or even more simply the “ability to find the right path to reach a goal” [64]. In addition, from the answers to the questionnaires, it is clear that the use of such sites was undertaken in a controlled way, that is, with the presence of an adult, who in most cases was a family member.

At Crotone, during the course of the journey, we notice, especially in the drawing of mental maps that children have taken as reference points landmarks which are familiar to them, such as the church, supermarket, tobacconist, petrol station; these are the psychological landmarks [63], which refer to the direct experience and personal interests of the subjects, because of cognitive self-centeredness [62]. In addition, from the answers to the questionnaires, it is clear that the use of such places, for a few children, was undertaken in a controlled way, that is, with the presence of an adult, who in most cases was a family member given the distance from the home or the school to the location of sites of memory in the city. Most of the children had never visited these sites of memory before going to school, living in neighboring places, and not in the city like, instead, the children of Cosenza and Catanzaro. This has certainly influenced the children’s way finding (Table 2). Therefore, even for this research topic, environmental factors are considered to be influential, along with psychological ones (Table 2). Age is also thought to be influential because of it is closely related to an orientation capacity that should lead the subject to the transition from an egocentric reference to an allocentric one [60].

3.2. The Mental Maps and Reference Systems

Finally, we wanted to analyze the development of spatial perception considering the mental maps drawn by the children. There are several classes of mental maps identified on the basis of different levels of cognitive mapping [59,60,65]. Thus, five classes have been identified, each different from the others in terms of elements shown (layout, number, and type), because of the vastness of the represented environment and the perspective used. The “first class” maps (Figure 5) are characterized by a low level of spatial environmental knowledge (first stage of the cognitive mapping process). The lack of a reference system and a mastery of only the topological space, or rather of the geometric relationships within the same configuration or element, makes them poor in content. The few elements present are scattered according to personal logic and along the “whichever way serpentine”, a weak signal of progression toward the second stage. The most widely used perspective is the “frontal” one. The most depicted urban object is their own school, the first point of reference in the representation of the path [13,59]. The maps of the second class (Figure 6) are representative of the egocentric reference system used, based on the position of one’s body and on the memory of actions performed in the environment [60]. These drawings thus demonstrate a knowledge of the path linked to the possibility of being able to move in it; the inserted elements are aligned along correct paths from the point of view of the projective space (according to a specific point of view), but inaccurate from the Euclidean point of view. In these maps there are numerous turning points, or so-called functional landmarks (bridges, roundabouts, etc.), salient from a motor point of view because they are mandatory for stopping or changes in speed and direction. Moreover, numerous psychological landmarks remain because of cognitive self-centeredness that leads to the inability to know how to consider different perspectives from one’s own. For this class too the most used perspective is the “frontal” one [13,59]. The third class (Figure 7) is indicative of a mixed reference system, because of the passage from the egocentric system to the allocentric one, based on the relations of the Euclidean space, i.e., on the actual reciprocal position of the objects. The transition from frontal to vertical perspective and, therefore, the need to coordinate the different points of view together leads the child to the use of curious compromises of perspective. The fourth class (Figure 8) is characterized by the consolidation of the allocentric reference system limited to the most known areas. The landmarks, functional but also perceptive, that is sensorially salient so that they can be easily memorized, are thus grouped in areas connected by paths, the last legacies of the egocentric system. These well-known and element-rich “islands” stand out in an unknown environment, so quantitatively empty [66]. The perspective from the above stabilizes and the size of the representation is medium-large. The fifth class (Figure 9) groups objectively correct maps from the Euclidean point of view, product of a fifth stage cognitive mapping ability that makes the same graphic traits more geometric. The consolidation of the allocentric reference system is visible in the inserted perceptive landmarks, objectively useful for guidance purposes. The children thus manage to decentralize themselves, showing not only what they consider important, but also what they believe may be of interest to their interlocutor [13].

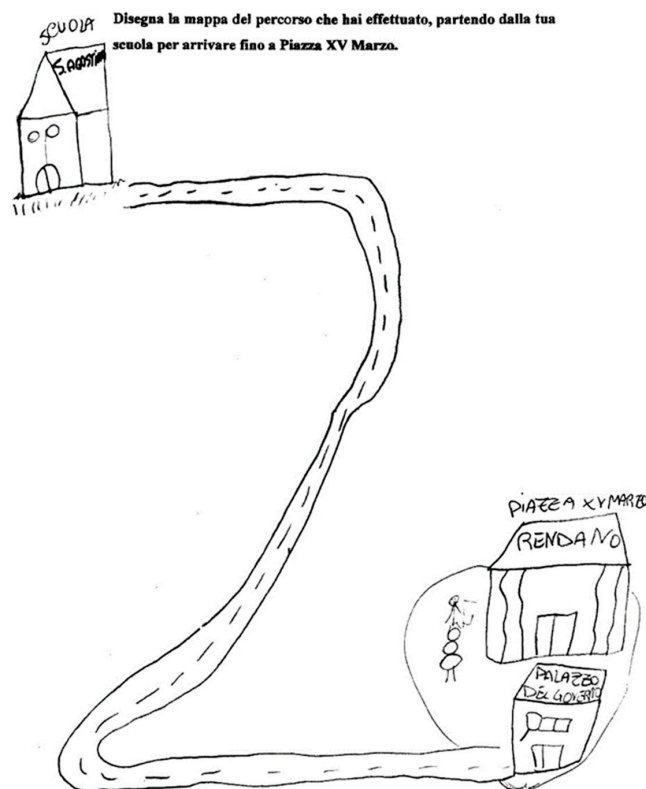


Figure 5. Mental map of first class designed by the pupils from Cosenza. First class: no reference system. Arrangement of the elements: scattered without a logic or disordered. Number of items: low. Range of representation: anything. Perspective: anything. The map shows the path from the school to Piazza XV Marzo; among the places encountered, the pupils have detected the “Rendano” theater and the Government’s Building. Source: Authors.

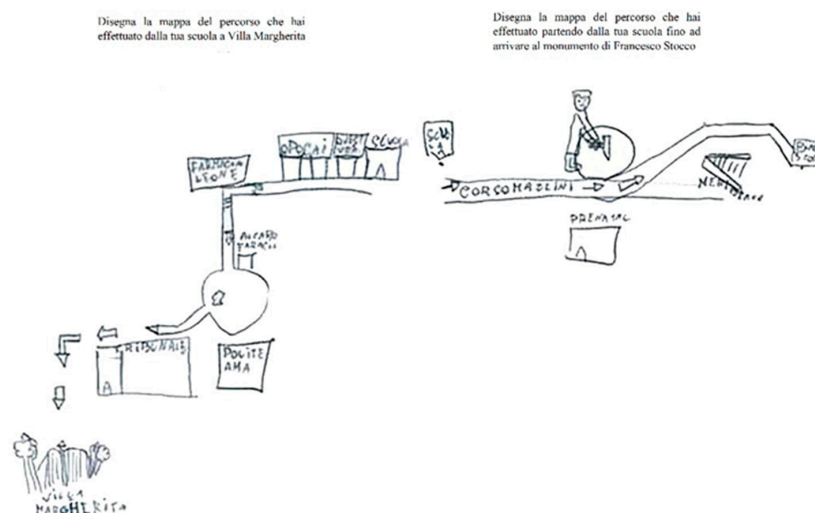


Figure 6. Mental map of second class designed by the pupils from Catanzaro. Second class: egocentric reference system. Arrangement of the elements: sorted according to a route knowledge. Number of elements: medium to high. Range of Representation: medium-wide. Perspective: mixed (front – “photographic” or top). The map shows the routes from the school to Villa Margherita and from the school to the monument to Francesco Stocco; among the places encountered, the pupils have detected the court, the “Politeama” theater, two pharmacies (Alcaro and Leone), the police headquarters, Prénatal (a store of children’s clothing), the Meridiana (a work of art) and the streets crossed, Piazza Stocco and Corso Giuseppe Mazzini. Source: Authors.

Disegna la mappa del percorso che hai effettuato, partendo dalla tua scuola per arrivare a Via Vittorio Emanuele (targa ai Fratelli Bandiera).

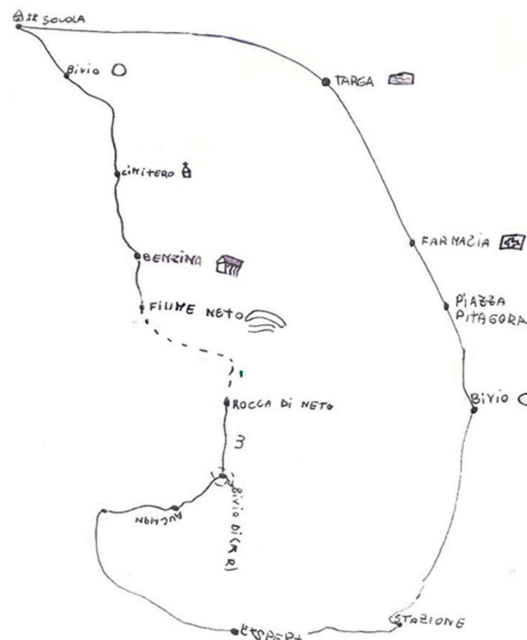


Figure 7. Mental map of third class designed by the pupils from Crotona. Third class: egocentric reference system. Elements inserted: grouped into a single restricted area (house and surroundings). Number of elements: medium-low. Range of representation: average. Perspective: mixed (frontal-“photographic” or top-“mini-map”). The map shows the path from the school to the street “Vittorio Emanuele”, where the Plaque for the Bandiera Brothers is located. Among the places encountered, the pupils have detected three crossroads, the cemetery, a petrol station, the Neto river, the Rocca di Neto Municipality, a station, a pharmacy, some shops (Expert and Auchan) and Piazza Pitagora. Source: Authors.

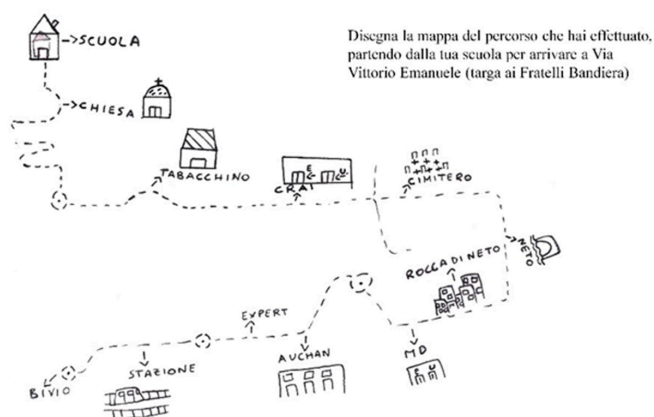


Figure 8. Mental map of fourth class designed by pupils from Crotona. Fourth class: mixed reference system. Elements inserted: grouped into multiple zones or sorted by different routes. Number of elements: medium to high. Range of representation: medium-wide. Perspective: From the top-“Island map” with vides. The map shows the path from the school to the street “Vittorio Emanuele”, where the Plaque for the Bandiera Brothers is located. Among the places encountered, the pupils have detected a church, a tobacconist, a supermarket (CRAI), the cemetery, the Neto river, the Rocca Di Neto Municipality, various commercial activities (MD, Auchan, Expert), the station and a crossroad. Source: Authors.

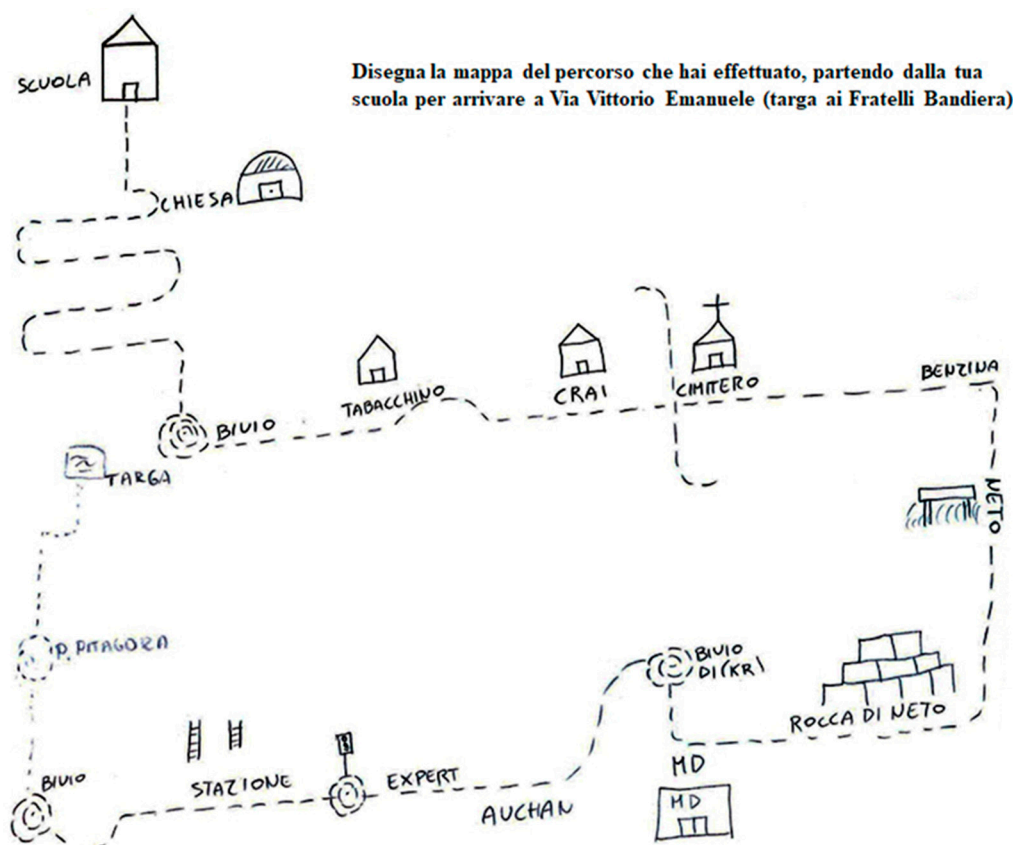


Figure 9. Mental map of fifth class designed by pupils from Crotona. Fifth class: allocentric reference system. Elements inserted: grouped into a single large area based on their reciprocal relationships. Number of items: high. Range of representation: medium-wide. Perspective: from the top—map. The map shows the path from the school to the street “Vittorio Emanuele”, where the Plaque for the Bandiera Brothers is located. Among the places encountered, the pupils have detected two crossroads, a tobacconist, a supermarket (CRAI), the cemetery, a petrol station, the Neto river, the Rocca di Neto Municipality, various commercial activities (MD, Auchan, Expert), the station, Piazza Pitagora. Source: Authors.

The most advanced maps were drawn by the children of Cosenza and Crotona. In fact, the maps designed by the children of Cosenza and Crotona range from the first to the fifth class (Figures 5 and 7–9), while those developed by the children of Catanzaro go from the first to the third (Figure 6).

The collected data confirm the inability of pupils from Catanzaro to draw maps of the fourth and fifth class, while a high percentage drew first and second-class maps (65% and 26% respectively) (Figures 5 and 10). Few, however, have drawn maps of the third class (9%). Pupils from Crotona were the ones who drew the largest number of maps of the fifth class (27%) (Figures 9 and 10), while the pupils from Cosenza drew more fourth-class maps than their Crotona peers. Nonetheless, both in Cosenza and Crotona, a good percentage of students also drew maps of the first and second classes (Figure 5) (Cosenza, respectively, 50% and 19%, while Crotona 33% and 20% respectively) (Figure 10). Third-class maps were mostly designed by pupils from Crotona (Figure 7), while those of Cosenza and Catanzaro were more or less equivalent (8% and 9% respectively) (Figure 10).

Age, despite the fact that there was only one year of difference with those of Catanzaro, certainly influenced the development of the mental map. This adheres to the Siegel and White model [11], which shows how the development of environmental knowledge follows a progressive evolution over the years.

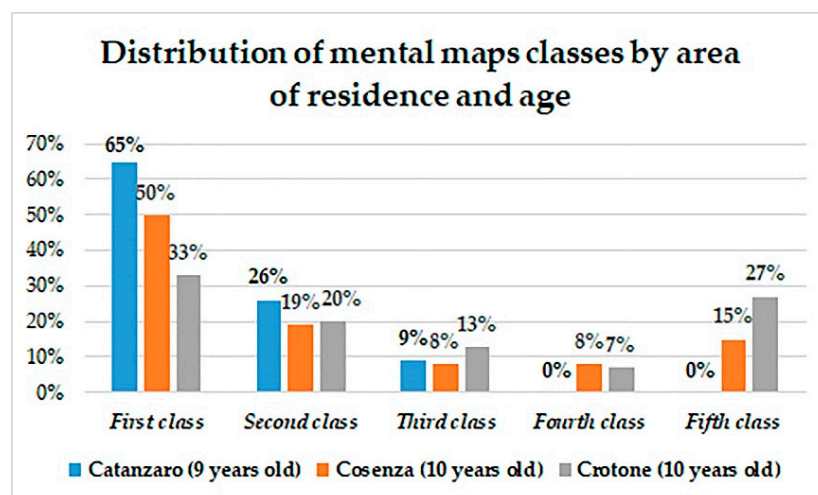


Figure 10. Distribution of mental maps classes divided by area of residence and age. From [41].

4. Discussion

4.1. Results Analysis

By analyzing the results, starting from the entry questionnaire, the little knowledge of the concept of “site of memory” and the superficial knowledge of Risorgimento period is due to the fact that this historical period is not part of the ministerial programme for primary school. Furthermore, families and parents did not pass on to children, at least in the case studies analyzed in this paper, specific knowledge on the subject and, therefore, the children’s knowledge is the result of a personal cultural baggage transmitted by classroom teachers only at the occasion of the centenary of the Unification of Italy. Therefore, we realized, together with the research team and the teachers, that these concepts had to be reasserted and understood, and above all, to make children aware of the importance of the artistic and monumental heritage of Calabria and the true meaning of “site of memory” in the Risorgimento context.

Through the viewing of slides, the concepts were made more “accessible,” offering a detailed summary of the Risorgimento period and the importance of the role played by Calabria and the Calabrian patriots in the process of Italian unification. Straightaway, there was positive feedback from the pupils who showed themselves to be enthusiastic in tackling this issue, ready to work and excited at the idea of going to look directly at the sites of memory that had been spoken of during the lesson.

The school outing came about in a spontaneous manner, we had only to remind the pupils the importance of memorizing reference points for the processing of mental maps. The feedback was very positive: The children were enthusiastic about observing all those places and at the same time amazed to think that the same places had been, some years ago, a theatre of important historical events. They were passionately involved in their “work;” marking the coordinates (Appendix B, Figure A2), observing the sites, memorizing the details, taking on the role of accurate observers.

The enthusiasm as a result of the outing was effectively seen in the responses to the starting questionnaire which was administered once again, showing that the previous gaps had been filled, as well as in the final questionnaire, characterized by open response questions that allowed the children to express themselves with greater freedom and to give their personal opinions.

Analyzing the mental maps (Figures 5–9) it can be seen that the children have drawn some simple and rough maps and other more complete and correct maps. In working on these maps, we were amazed at the meticulousness and precision the pupils used to make the drawing as close to reality as possible.

It is therefore confirmed that the age variable influences the mental representation of children and that cognitive mapping is a staged process that evolves over the years, following the Siegel and White model [11].

Analyzing the results of all the research topics, the initial hypothesis inherent to the influence of Baily factors has been demonstrated exhaustively. In fact, the factors and variables that influenced the process of mental representation of the children were the following: Psychological factors (the emotional-affective connection with sites, especially in the cases of Cosenza and Catanzaro), biological factors (the age, relevant mainly in the analysis of mental maps), cultural factors (the level of education, especially for the poor knowledge of the Risorgimento period), environmental factors (the type of use and place of residence).

The problems the children of Catanzaro encountered of accessibility to the monument to Stocco demonstrates that the dimensions, the shapes, the distribution of the objects in space must be considered and rethought in relation to the possibility that the boys and girls have to live it and to experience it.

Summarizing, it can be stated that the learning objectives initially set have been fully achieved. The experience has been effective and constructive and has confirmed that children, taken outside the school walls, learn more easily and with interest, showing that they are observant observers and fit well in the role of young investigators of the surrounding reality.

Children in this study were curious and full of questions, despite their age, they showed a profound reflection ability that was well suited to the realization of this project; reviving the Risorgimento period and the actions of the Calabrian patriots.

Therefore, this research is inserted in the long tradition dedicated, as we have seen, to the teaching of geography and to the studies of geography of perception and environmental psychology that deal in particular with the perception of space by children. Children are “creators of places,” understood as the result of those emotional and symbolic relationships that they experience within the spaces they inhabit daily or that they know. This also shows the importance of the everyday geography as an object of study, of what Philo defined as “the quite marginal, peripheral, meaningful bits and pieces of human life” [67].

Including new subjects such as children and dealing with the mechanisms by which these subjects build their own personal geographies [67] is a fundamental research field in contemporary cultural geography [68].

4.2. The Importance of the Relationship between Geography of Perception and Sustainability Education: Some Research Implications and Reflections

Analyzing the behavior of the individual in the light of the image he has of the environment, it is inevitable that some implications connected to the theme of urban sustainability are identified. In fact, for example, the analysis of the aesthetic and functional judgment could be particularly useful in the context of participatory planning of the territory with the involvement of children in order to plan a more sustainable urban environment for those who live there. The aesthetic beauty and care of places, their accessibility, orientation in urban space by children are important indicators of the state of health of the urban ecosystem. Through a bottom-up approach [69–71], rather than top-down, that is, listening to the opinions that residents have of the territory in which they live, urban planners and local policy-makers could plan the territory taking into account, above all, the direct experience of the environment by the citizens. On this basis, in recent years the participatory planning approach has developed. The key recommendations of the 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs) [72] place great emphasis on promoting bottom-up initiatives to address the challenges of sustainable development [73]. They are based on the conviction that citizens and, therefore, also children must be the first to be involved in the planning of a city, as direct users of that environment. This, in particular, concerns some current cities which, as Lamedica [74] points out, lack the characteristic of sustainability. Contemporary cities are sick, alienating and their spaces are always less healthy, less beautiful, less secure. Excessive traffic, excessive pollution, dirt,

unpleasantness, discomfort, and social danger are factors that ruin them, increasing the anxiety and stress of their inhabitants [75]. A more evident unsustainability can be seen if we examine the situation of the weakest and most vulnerable citizens, such as, in fact, the disabled, the elderly and the children. Above all, children seem increasingly deprived of those precious experiences of free use of the road, which have always been informally moments of education and recognized as a right by the most important International Charters [76–81]. The urban environment should also be able to positively stimulate our ability to perceive space; it should be interesting and full of external sensory stimuli. Often, instead, it happens that the urban environment presents itself as amorphous, or even negative, strongly influencing our way of being, our behavior. A sustainable city, therefore, not only must be more liveable for its inhabitants, but also more pleasant, interesting, harmonious, and must instill well-being and positivity [59]. It is necessary to recover the ability to see and educate people about the street and to public space, rediscovering the pleasantness of the path and the city, favoring the richness of the external sensorial stimuli, the creative and multiple use of urban places and guaranteeing the safety of citizens [74]. In short, according to participatory planning with children, only environmental policies that intend to improve the lives of children in the city will be able to guarantee benefits also for adults. This explains the importance of the geography of perception, which can offer interesting contributions to improve the urban sustainability.

Geography of perception proposes the educational challenge that of entering the educational path of individuals in a new epistemological perspective that sees the subject who observes, lives, and acts on reality as the protagonist of knowledge [82]. Education is explicitly formulated as a stand-alone goal—Sustainable Development Goal 4—according to which obtaining a quality education is the foundation to creating sustainable development [72]. But educating for sustainability also means educating to orientation. Educating to orientation implies the development of a particular type of intelligence; what Gardner calls spatial intelligence [83], such as perception, production and design, applying its potential in everyday life, interpreting reality, designing actions and transformations of places. Furthermore, since childhood, our actions are placed in space, in a continuous relationship of recursivity and mutual influence. A development of children's spatial intelligence allows them to be able to observe their surroundings, obtain information and meanings, move and calibrate their choices in a logic of strengthening, sustainability and safeguarding the territory [82]. Geographical education in schools must start from these assumptions. Moving in complexity, accepting reality and knowing how to act intentionally in it requires a high capacity to perceive, analyze and re-elaborate the information the external world provides us with.

5. Conclusions

Analyzing the results, we were able to see how the psychological and environmental factors were the Bailly variables that most influenced the perception of children in relation to the research topics considered in the geography of perception.

In reading the mental maps we have found that there are more approximate and more complete and correct maps, drawn by the children, subdivided, then, following the model of Siegel and White, into classes of mental maps [11]. The incompleteness of some maps is strictly connected to the role and meaning that the subject attributes to the information perceived. Indeed, information may appear in the mental map not only because it is decisive for the spatial behavior of the individual, but also because it is considered important from a subjective and psychological point of view. In light of this, other information objectively useful for guidance purposes may be omitted if it is not considered relevant to the subject. This meaning attributed to information is also the cause of the distortion of different mental maps. In fact, they mainly concern the concepts of “distance” and “direction” and depend very much on the degree of emotional involvement of the individual; the more familiar the object in question is, the more it distorts the distortion due to psychological effects and cognitive egocentrism. This explains the presence of the numerous psychological landmarks in different mental maps drawn by the students, especially from Catanzaro and Cosenza. Instead, the children from

the school in the province of Crotone, who were those who had never visited the sites of memory with their relatives before leaving school, designed the largest number of fifth-class maps, the most advanced with presence of perceptual landmarks. Therefore, environmental factors, together with psychological factors, have influenced the mental representation of children. In addition, biological factors, especially age, have also influenced the level of mental map and mental mapping. The children of Crotone and Cosenza (aged 10) drew more advanced maps than the students of Catanzaro (aged 9), whose highest level was the third class of mental map.

Cultural factors have also influenced the perception of children who do not know the Risorgimento due to the absence in the programmes of the primary school of history of the study of this historical period [84].

Finally, we have seen through the completion of this learning module how the study of the geography of perception and lived space is a research area that is also one of the fundamental steps of geographical education. In this context, education to build the capacities of children has become a key instrument for attaining the SDGs [72]. Looking at the route on maps taken from Google Maps (Figure 1) in advance and then experiencing soon afterward the spatial experience made up of concrete places, limits, and rules allowed the children to develop their ability to see, select, establish an order of importance, to make a synthesis in the complexity of the space lived in the places and finally to express themselves graphically, to communicate and produce geospatial knowledge.

Children bring the richness of a more divergent line of thought than the adult one. Their more direct, spontaneous, and unconventional use of the environment means that every place they propose has the characteristics of flexibility, uselessness, and of non-preordering. Creating a “city for children” means responding to the moral duty of making it more accessible, more viable, more sustainable, more useful for all citizens [74].

It is therefore necessary to have an inclusive approach that involves the teaching of geography and humanistic geography to offer new insights and reflections, for example, on the emerging global issues of citizenship, see, e.g., [85], multiculturalism and STEAM interdisciplinary approaches (Science, Technology, Engineering, Arts, and Mathematics) see, e.g., [86,87], spatial data and geography learning [88,89], sustainability and of the relationship with climate change, see, e.g., [90].

Author Contributions: Conceptualization, M.B., F.D.P.; data curation, F.D.P.; formal analysis, M.B.; investigation, F.D.P.; methodology, M.B.; specifically, F.D.P. wrote Sections 1 and 3; M.B. wrote Sections 2 and 4. Both the authors wrote conclusions. However, the research is the result of a work shared by both authors. It is an extract of the Ph.D. thesis discussed by Dr. Francesco De Pascale (University of Calabria, 2015) [46], supervised by Prof. Marcello Bernardo.

Funding: This research received no external funding.

Acknowledgments: The authors thank Ian Michael Robinson for the language review. Furthermore, they thank the schools that participated in the research project and the graduate students who collaborated in the various educational experiments (Carvelli M., Marra A., Palermo L.). Finally, the authors thank the referees and the editor for their very constructive comments, which certainly helped to improve the manuscript.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A The Learning Module and the Entry/Exit Questionnaires Carried out in the Primary Schools of Crotone, Cosenza and Catanzaro (Calabria, southern Italy)

Table A1. The Learning Module Carried out in the Primary Schools of Crotone, Cosenza and Catanzaro. From: [41,42,46].

Title of the LM	The Mental Representation in Primary School Children in Calabria of Sites of Memory of the Risorgimento
School Year	2012/2013
Pupils involved	Primary school classes of years IV and V of the three provincial capitals of Calabria: Cosenza, Catanzaro, Crotone.
Subjects involved	History and Geography
Time	6 months (total time needed to carry out the LM in the three schools of the selected provincial capitals)
Spaces necessary and material needed	Inside the School: Classroom, School Building. Outside the school: monuments, buildings, symbolic sites of the Unification of Italy.
Main theme	The knowledge of the sites of memory relating to the Risorgimento period, the historical process that led to independence and national unification, the illustrious Italian figures and above all the Calabrian people who lived in that period and contributed to this process.
Unit Objective	Learning to interact with peers, communicate with a specific code, orient oneself in space, especially in the context of the city, to develop a critical sense through direct and indirect observation.
Specific learning objectives	Know the meaning of “site of memory” and the main aspects of the Risorgimento; to recognize and distinguish the sites of memory, to orient oneself in the urban environment, to take advantage of the places considering their figurability, to assess accessibility.
Skills to evaluate	Know how to use specific terms, master empirical knowledge and knowledge acquired during didactic proposals, know how to orient oneself in space.
Learning Pathway	Interview and starting questionnaire to evaluate the initial knowledge of students on places, characters and historical process of Unification of Italy. - Teaching lessons on the subject and delivery of teaching materials: PowerPoint slides to illustrate the historical period of the Risorgimento and the most significant moments in the local context, through the use of the interactive whiteboard (IWB); geographic maps to help the children understand the geographical and political division of pre-unitary Italy and to identify the different states within the Italian geographical region by using different colors; blank map of United Italy with the task of children writing the names of the various regions, highlighting those with special status. - Micro Perception: previewing the map of the intended visit using Google Maps. - Macro perception: Going into the territory and visiting the sites of memory in the urban context, starting from the pupils' school. - Verification through a final questionnaire; elaboration of the mental map of the school-memory trip. Identifying sites of memory locations and geographic coordinates detected on the territory on a paper map of the city downloaded from Google Maps.
Student production	Realization of mental maps of the school-sites of memory route; multiple-choice and open response questionnaires, at the start and at the end of the project.
Assessment and evaluation Methods	Questionnaires, verbal descriptions, mental maps
Teaching Methodology	Teaching lessons, discovery learning during the educational trip

Table A2. Entry and Exit Questionnaire Submitted to the Primary School Pupils.

Entry Questionnaire Submitted to Students	
Queries	Response Format
Q.1 Age Q. 2 Sex	- Open-ended question
Q.3 What is a “place of memory”?	Single choice question (A) It is a place where people can go to make their memories resurface; (B) It is a place in the brain where our memories are kept; (C) It is a place where you can go to visit a monument, which is the emblem of a certain important historical period of our country.
Q.4 Do you think the “places of memory” remember something of that city?	Single choice question (A) Yes, because they remember the laws of the place; (B) Yes, because they remember the origins and the path that led us to be what we are today; (C) No.
Q.5 In your city the “places of memory” are present?	Yes/No
Q.6 In which year was the 150th anniversary of the Unification of Italy celebrated?	Single choice question (A) 2009; (B) 2010; (C) 2011.
Q.7 Why is the Unit of Italy celebrated?	Single choice question (A) Because in the past Italy was politically administered by various foreign sovereigns; (B) Because Italy has a Constitution based on the principle of equality and therefore all citizens must be equal before the law; (C) Because in the past there were two Italys: Northern Italy and Southern Italy.
Q.8 Have you ever visited monuments, squares, museums, or other places that remind you of the Unification of Italy in your city?	- Yes/No
Q.9 What values did the Unit of Italy transmit?	Single choice question (A) Love for the homeland, reconsideration of the history of Italy, awareness of belonging to a great nation; (B) Economic advantages throughout the nation; (C) No value, the situation remained unchanged.
Q.10 Do you think the memory sites are important?	Single choice question (A) Yes, because they represent the common heritage of values and ideals matured in the Risorgimento; (B) No, because it is not important to remember the past of one’s origins.
Q.11 In every city, in your opinion, why should there be at least one “place of memory”?	Single choice question (A) Because every person can feel not only a citizen of his own city, but also a citizen of his own country, since knowing his own local history one can understand the national history; (B) Because belonging to the same territory, we all have the right to claim one; (C) Because people can tell what they saw in that place.
Q.12 Do you think the Unity of Italy has brought only advantages?	Yes/No
Q.13 Motivate your answer.	- Open-ended questions
Exit Interview Questionnaire	
Topics	Open Questions
1. The possibility to reach and easily access memory sites and any barriers-difficulties encountered	Q.1 After visiting some “memory sites” of the city of ... , you think that the places you visited are easily reachable and accessible on foot or by means of transport, or that there are “barriers-difficulties” that freely prevent you from visiting it?
2. The aesthetic and functional judgment and the most popular aspects of the memory sites;	Q.2 Express your aesthetic judgment on the visited memory sites. Q.3 Among the memory sites visited, which of them has affected you the most? Q.4 Describe the aspects that were most to your liking from each place you visited.
3. Orientation skills and emotional-affective ties with the territory	Q.5 Has the visit of the memory sites of ... aroused in your mind some memories that recall emotional ties with that territory? This topic has also been examined by considering the behavior of children during educational output and analysis of mental maps
4. The elaboration of a mental map of the pathway from school to site of memory.	Q.6 Draw the map of the route you have taken in the city of...

Appendix B Some Materials Used in the Context of the Learning Module

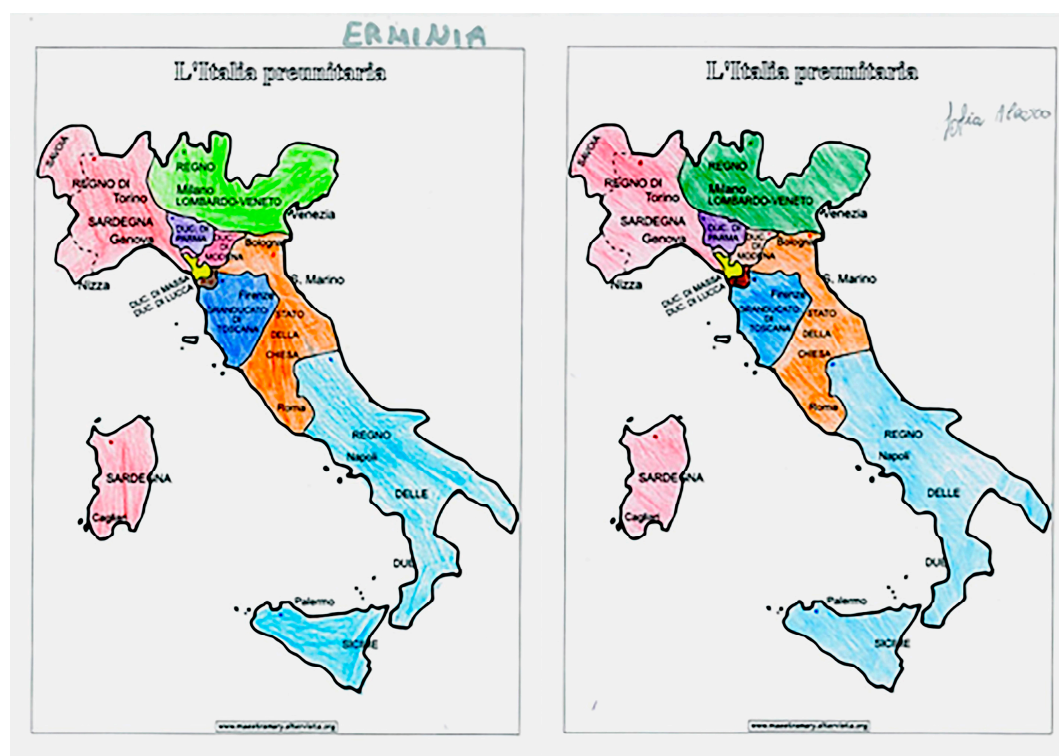


Figure A1. Geographic Maps to Help the Children Understand the Geographical and Political Division of Pre-Unitary Italy and to Identify the Different States within the Italian Geographical Region by Using different Colors.

	COME SI PRESENTA (aspetto, ambiente circostante, ecc.)	COORDINATE GEOGRAFICHE	ALTRE ANNOTAZIONI
Targa ai Fratelli Bandiera	chiesa, FARMACIA, BAR.	LAT. LONG. 39° 17' 04' 07" 50" 42" ALT. 14,657 m	
Palazzo Berlingieri	DISCESA BERLINGIERI, CHIESA SANTA CHIARA	LAT. LONG. 39° 17' 10' 07" 11" 34" ALT. 25,866 m	
Palazzo Barracco	CASTELLO, BAR.	LAT. LONG. 39° 17' 04' 07" 53" 52" ALT. 29,589 m	
Monumento ai Fratelli Bandiera	AVE MARIA, STRADE.	LAT. LONG. 39° 17' 12' 05" 06" 04" ALT. 43,607 m	

Figure A2. Coordinates Detected by the Pupils during the Direct Observation. From [43].

References

1. Nora, P. (Ed.) *Les Lieux de Mémoire I*; Gallimard: Paris, France, 1984.
2. Downs, R.M. Geographic space perception: Past approaches and future prospects. *Prog. Geogr.* **1970**, *2*, 65–108.
3. Brunet, R. Espace, perception et. *Comportement. L'Espace Géographique* **1974**, *3*, 189–204. [[CrossRef](#)]
4. Bailly, A.S. L'organisation urbaine. In *Théories et. Modèles*; Centre de Recherche d'Urbanisme: Paris, France, 1975.
5. Frémont, A. *La Région Espace Vécu*; PUF: Paris, France, 1976.
6. Brusa, C. *Geografia e Percezione Dell'ambiente: Varese Vista Dagli Operatori Dell'ente Pubblico Locale*; Giappichelli: Turin, Italy, 1978.
7. Cesa-Bianchi, M. *Ambiente e Percezione: Ricerca Geografica e Percezione Dell'ambiente*; Geipel, R., Cesa-Bianchi, M., Eds.; Unicopli: Milan, Italy, 1980; pp. 27–33.
8. Bianchi, E. Comportamento e percezione dello spazio ambientale. Dalla Behavioral Revolution al Paradigma Umanistico. In *Aspetti e Problemi Della Geografia*; Pellegrini, G.C., Ed.; Marzorati: Settimo Milanese, Italy, 1987; pp. 545–598.
9. Lando, F. La geografia della percezione. Origini e fondamenti epistemologici. *Riv. Geogr. Ital.* **2016**, *123*, 141–162.
10. Rocca, L. Prefazione. In *Immagini di Padova: Analisi Delle Percezioni Della Città e dei Suoi Quartieri in Alunni di Classi Terza e Quinta Della Scuola Primaria*; Lovigi, S., Ed.; Cleup: Padua, Italy, 2013; pp. 11–13.
11. Siegel, A.W.; White, S.H. The Development of Spatial Representations of Large-Scale Environments. In *Advances in Child Development*; Reese, H.W., Ed.; Academic Press: New York, NY, USA, 1975; pp. 37–55.
12. Lando, F. *Fatto e Finzione: Geografia e Letteratura*; Etaslibri: Milan, Italy, 1993.
13. Lovigi, S. Percepire il territorio per potervi agire. Analisi delle mappe mentali del quartiere di residenza in alunni di classi terza e quinta della scuola primaria, *Ambiente Società Territorio. Geogr. Nelle Scuole* **2011**, *56*, 33–37.
14. Frémont, A. *Aimez-Vous la Géographie*; Éditions Flammarion: Paris, France, 2005.
15. Best, E. *Pour une Pédagogie de L'éveil*; Armand Colin: Paris, France, 1973.
16. Lowenthal, D. Geography, experience and imagination: Towards a geographical epistemology. *Ann. Assoc. Am. Geogr.* **1961**, *51*, 241–260. [[CrossRef](#)]
17. Relph, E. Humanism, phenomenology and geography. *Ann. Assoc. Am. Geogr.* **1977**, *67*, 177–179. [[CrossRef](#)]
18. Tuan, Y. Geography, phenomenology and the study of human nature. *Can. Geogr.* **1971**, *15*, 181–192. [[CrossRef](#)]
19. Tuan, Y. Comment in reply. *Ann. Assoc. Am. Geogr.* **1977**, *67*, 179–180. [[CrossRef](#)]
20. Buttiner, A. Comment in reply. *Ann. Assoc. Am. Geogr.* **1977**, *67*, 180–183. [[CrossRef](#)]
21. Pocock, D.C.D. La geografia umanista. In *Concetti Della Geografia Umana I*; Bailly, A., Ed.; Patron: Bologna, Italy, 1989; pp. 185–190.
22. Wright, J.K. Terrae incognitae: The place of imagination in geography. *Ann. Assoc. Am. Geogr.* **1947**, *37*, 1–15. [[CrossRef](#)]
23. Handley, M.; John, K. Wright and human nature in geography. *Geogr. Rev.* **1993**, *83*, 183–193. [[CrossRef](#)]
24. Lando, F. La geografia umanista: un'interpretazione. *Riv. Geogr. Ital.* **2012**, *119*, 259–289.
25. Gavinelli, D. Introduzione (sessione 8-Geografia e letteratura. Luoghi, scritture, paesaggi reali e immaginari). In *L'apporto Della Geografia tra Rivoluzioni e Riforme: Atti del XXXII Congresso Geografico Italiano (Roma, 7–10 giugno 2017)*; Salvatori, F., Ed.; AGEI: Rome, Italy, 2019; pp. 597–604.
26. Brosseau, M. Geography's Literature. *Prog. Hum. Geogr.* **1994**, *18*, 333–353. [[CrossRef](#)]
27. Maggioli, M.; Morri, R. Tra geografia e letteratura: Realtà, finzione, territorio. In *Letteratura e Geografia: Parchi Letterari, Spazi Geografici e Suggerimenti Poetiche nel '900 Italiano, Quaderni del '900*; Mancini, S., Vitali, L., Eds.; Fabrizio Serra Editore: Pisa, Italy, 2009; pp. 53–70.
28. Pasquinelli d'Allegria, D. *I Parchi Letterari: Geografia e Letteratura Nella Didattica Modulare: Atti del XXVIII Congresso Geografico Italiano (Roma 18–22 Giugno 2000)*; Edigeo: Rome, Italy, 2003; pp. 2136–2150.
29. Persi, P. Parchi letterari e professionalità geografica: Il territorio tra trasfigurazione e trasposizione utilitaristica. *Geotema* **2003**, *20*, 1–142.

30. Cosgrove, D.; Daniels, E. *The Iconography of Landscape: Essays of the Symbolic Representation*; Cambridge University Press: Cambridge, UK, 1988.
31. Conti, A.; Da Silva, E.L. Paesaggio culturale e letteratura: Le memorie dei viaggiatori stranieri in Minas Gerais nel XIX secolo. In *L'apporto Della Geografia tra Rivoluzioni e Riforme: Atti del XXXII Congresso Geografico Italiano (Roma, 7-10 Giugno 2017)*; Salvatori, F., Ed.; AGEI: Rome, Italy, 2019; pp. 621–627.
32. Scaramellini, G. *La Geografia dei Viaggiatori: Raffigurazioni Individuali e Immagini Collettive nei Resoconti di Viaggio*; Unicopli: Milan, Italy, 1993.
33. Lucchesi, F. *L'esperienza del Viaggiar: Geografi e Viaggiatori del XIX e XX Secolo*; Giappichelli: Turin, Italy, 1995.
34. De Vecchis, G. *Verso L'altro e L'altrove*; Carocci: Rome, Italy, 2005.
35. Rossi, L.; Papotti, D. (Eds.) *Alla Fine del Viaggio*; Diabasis: Reggio Emilia, Italy, 2006.
36. Giorda, C. *La Geografia Nella Scuola Primaria: Contenuti, Strumenti, Didattica*; Carocci: Rome, Italy, 2006.
37. Ronza, M. Educare ai beni culturali: Geografia, identità e sostenibilità. In *Educare al Territorio, Educare il Territorio. Geografia per la Formazione*; Giorda, C., Puttilli, M., Eds.; Carocci: Rome, Italy, 2011; pp. 122–133.
38. Istituto Treccani. Enciclopedia Italiana di Scienze, Lettere ed Arti. 2019. Available online: <http://www.treccani.it/enciclopedia/risorgimento/> (accessed on 21 October 2019).
39. Giorda, C. *Il Mio Spazio nel Mondo. Geografia per la Scuola Dell'infanzia e Primaria*; Carocci: Rome, Italy, 2014.
40. Reclus, E. *L'Homme et la Terre*; Librairie Universelle: Paris, France, 1905.
41. Bernardo, M.; De Pascale, F. Children's Geographies. *La rappresentazione mentale dei luoghi della memoria del Risorgimento in bambini di scuola primaria: Il caso studio di Crotone*. *Geotema* **2018**, *57*, 102–114.
42. De Pascale, F. La percezione dei luoghi e dei personaggi dell'Unità d'Italia in Calabria: Il valore educativo di un approccio storico-geografico con il supporto di strumenti GIS Open Source. In *Geografie di Oggi. Metodi e Strategie tra Ricerca e Didattica*; Alaimo, A., Aru, S., Donadelli, G., Nebbia, F., Eds.; FrancoAngeli: Milan, Italy, 2015; pp. 121–138.
43. Palermo, L. La Percezione dei Luoghi Della Memoria nel Contesto Urbano di Crotone. Master's Thesis, Dipartimento di Studi Umanistici, Corso di laurea in Scienze della Formazione Primaria, Università della Calabria, Rende, Italy, 2013.
44. Guzzo, L.M. *I volti di Villa Margherita*; La Rondine Edizioni: Catanzaro, Italy, 2011.
45. Celebrations for the 150th Anniversary of the Unification of Italy. Page Dedicated to the Monument to Francesco Stocco. Available online: <https://www.italiaunita150.it/catanzaro-monumento-a-francesco-stocco/> (accessed on 22 October 2019).
46. De Pascale, F. Lo Studio dei Luoghi Della Memoria e Dei Terremoti in Calabria Attraverso la Geografia Della Percezione, la Geoetica e le Nuove Tecnologie, Ph.D. Thesis, University of Calabria, Rende, Italy, 2015.
47. Sulco, N. *Per L'inaugurazione di due Lapidi Commemorative in Cotrona il 27 Gennaio 1907*; Stabilimento Tipografico Pirozzi: Crotone, Italy, 1907.
48. Intrieri, L. Il Risorgimento. In *Storia, Cultura, Economia*; Mazza, F., Ed.; Rubbettino Editore: Cosenza, Italy, 1991.
49. Meluso, S. *Il Voto del Coraggio: La Guida Calabrese dei Fratelli Bandiera*; Ene: Cosenza, Italy, 1967.
50. Meluso, S. *Sbarco e Cattura dei Fratelli Bandiera e Compagni*; Fiore, S.G., Ed.; Museo Demologico: Cosenza, Italy, 1995.
51. Nardi, C. *Eventi Risorgimentali*; Casa del Libro: Cosenza, Italy, 1970.
52. Pierantoni, R. *Storia dei Fratelli Bandiera*; Casa editrice L.F. Cogliati: Milano, Italy, 1909.
53. Valente, G. *Dizionario dei Luoghi Della Calabria*; Edizioni Framas: Catanzaro, Italy, 1973.
54. Visalli, V. I Calabresi nel Risorgimento Italiano. In *Storia Documentata Delle Rivoluzioni Calabresi dal 1799 al 1862*; Walter Brenner Editore: Cosenza, Italy, 1989.
55. Perussia, F. La percezione dell'ambiente: Una rassegna psicologica. In *Ricerca Geografica e Percezione Dell'ambiente*; Geipel, R., Cesa-Bianchi, M., Eds.; Unicopli: Milan, Italy, 1980; pp. 55–67.
56. De Pascale, F.; D'Amico, S. Historical Memory and Natural Hazards in Neogeographic Mapping Technologies. In *The Digital Arts and Humanities. Neogeography Social Media and Big Data Integrations and Applications*; Travis, A.C., Lünen, A.V., Eds.; Springer: Berlin, Germany, 2016; pp. 119–137. [CrossRef]
57. De Pascale, F. Geoethics and Sustainability Education Through an Open Source CIGIS Application: The Memory of Places Project in Calabria, Southern Italy, as a Case Study. In *Going Beyond-Sustainability in Heritage Studies No 2*; Albert, M., Bandarin, F., Pereira Roders, A., Eds.; Springer: Berlin, Germany, 2017; pp. 295–306.

58. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]
59. Lovigi, S. *Immagini di Padova: Analisi Delle Percezioni Della Città e dei Suoi Quartieri in Alunni di Classi Terza e Quinta Della Scuola Primaria*; Cleup: Padua, Italy, 2013.
60. Axia, G. *La Mente Ecologica: La Conoscenza Della Mente nel Bambino*; Giunti Barbera: Florence, Italy, 1986.
61. Gould, P.; White, R.R. *Mental Maps*; Penguin: Harmondsworth, UK, 1974.
62. Piaget, J. *Lo Sviluppo Mentale del Bambino e Altri Studi di Psicologia*; Einaudi: Turin, Italy, 1967.
63. Lynch, K. *L'immagine Della Città*; Marsilio: Venice, Italy, 1964.
64. Costa, M. *Psicologia Ambientale e Architettonica: Come L'ambiente e L'architettura Influenzano la Mente e il Comportamento*; FrancoAngeli: Milan, Italy, 2009.
65. Downs, R.M.; Stea, D. Cognitive maps and spatial behavior: Process and products. In *Image and Environments: Cognitive Mapping and Spatial Behaviour*; Downs, R.M., Stea, D., Eds.; Aldine: Chicago, IL, USA, 1973; pp. 8–26.
66. Bailly, A.; Béguin, H. *Introduction à la Géographie Humaine*; Masson: Paris, France, 1982.
67. Horton, J.; Kraftl, P. What else? Some more ways of thinking and doing 'Children's Geographies'. *Child. Geogr.* **2006**, *4*, 69–95. [CrossRef]
68. Malatesta, S. *Geografia dei Bambini Luoghi, Pratiche e Rappresentazioni*; Guerini e Associati: Milan, Italy, 2015.
69. Antronico, L.; Coscarelli, R.; De Pascale, F.; Muto, F. Geo-hydrological risk perception: A case study in Calabria (Southern Italy). *Int. J. Disaster Risk Reduct.* **2017**, *25*, 301–311. [CrossRef]
70. Antronico, L.; Coscarelli, R.; De Pascale, F.; Condino, F. Social Perception of Geo-Hydrological Risk in the Context of Urban Disaster Risk Reduction: A Comparison between Experts and Population in an Area of Southern Italy. *Sustainability* **2019**, *11*, 2061. [CrossRef]
71. De Pascale, F.; Antronico, L.; Coscarelli, R. La percezione del rischio idrogeologico in Calabria: Il caso studio della Costa degli Dei. *Arch. Di Studi Urbani E Reg.* **2019**, *124*, 171–199. [CrossRef]
72. UN. Transforming Our World: The 2030 Agenda for Sustainable Development. 2015. Available online: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (accessed on 16 August 2019).
73. Maruna, M.; Rodic, D.M.; Colic, R. Remodelling urban planning education for sustainable development: The case of Serbia. *Int. J. Sustain. High. Educ.* **2018**, *19*, 658–680. [CrossRef]
74. Lamedica, I. *Conoscere e Pensare la città*; Erickson: Trento, Italy, 2009.
75. Peron, E.M.; Falchero, S. Ambiente e Conoscenza. In *Aspetti Cognitivi Della Psicologia Ambientale*; La Nuova Italia Scientifica: Rome, Italy, 1994.
76. UN Human Rights. *Convention on the Rights of the Child: Adopted and Opened for Signature, Ratification and Accession by General Assembly Resolution 44/25 of 20 November 1989 Entry into Force 2 September 1990, in Accordance with Article 49*; UN Human Right: Geneva, Switzerland, 1989.
77. European Commission, EU Law. *Green Paper on the Urban Environment: Communication from the Commission to the Council and Parliament*; European Commission: Brussels, Belgium, 1990.
78. Movement "Città educative", Carta Delle Città Educative. In Proceedings of the Congresso Internazionale delle Città Educative, Barcellona, Spain, 26–30 Novembre 1990.
79. Commissione Comunità Europee. *Proposta per un Programma di Ricerca Sulle Città Senza Auto*; Edizione: Treviso, Italiana, 1992.
80. United Nations. Agenda 21. In Proceedings of the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, Brazil, 3–14 June 1992.
81. The Aalborg Charter. In Proceedings of the European Conference on Sustainable Cities & Towns, Aalborg, Denmark, 27 May 1994.
82. Mason, E. Educazione all'orientamento e intelligenza spaziale. In *Educare al Territorio, Educare il Territorio. Geografia per la Formazione*; Giorda, C., Puttilli, M., Eds.; Carocci: Rome, Italy, 2011; pp. 164–172.
83. Gardner, H. *Formae Mentis*; Feltrinelli: Milan, Italy, 1987.
84. Italian Law 28 March 2003, n. 53, Delegation to the Government for the Definition of the General Norms on Education and the Essential Levels of the Performances in Subject of Education and Professional Formation. Available online: <https://archivio.pubblica.istruzione.it/normativa/2004/legge53.shtml> (accessed on 27 October 2019).
85. Hayward, B. *Children Citizenship and Environment Nurturing a Democratic Imagination in a Changing World*; Routledge: London, UK, 2012.

86. De Pascale, F. Percorsi interdisciplinari STEAM per la scuola del futuro, *Ambiente Società Territorio. Geogr. Nelle Scuole* **2018**, *18*, 38–42.
87. De La Garza, A.; Travis, C. (Eds.) *The Steam Revolution: Transdisciplinary Approaches to Science, Technology, Engineering, Arts, Humanities and Mathematics*; Springer Geography: Berlin, Germany, 2019.
88. Álvarez Otero, A.J.; de Lázaro y Torres, M.L. Spatial data infrastructures and geography learning. *Eur. J. Geogr.* **2017**, *8*, 19–29.
89. Zwartjes, L.; de Lázaro y Torres, M.L. Geospatial Thinking Learning Lines in Secondary Education: The GI Learner Project. In *Geospatial Technologies in Geography Education*; De Miguel Gonzalez, R., Donert, K., Koutsopoulos, K., Eds.; Key Challenges in Geography; Springer: Berlin, Germany, 2019; pp. 41–61.
90. Rooney, T. Weathering time: Walking with young children in a changing climate. *Child. Geogr.* **2019**, *17*, 177–189. [[CrossRef](#)]



© 2019 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).