



Not only mermaids. Sea imaginaries by Italian pupils pursuing ocean literacy

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Received: May 2018 – Accepted: April 2019

Abstract

This work is in line with recent the British and American ocean academic debate and aims to develop insights among scholars and teachers with discussions on the sea, ocean literacy and oceanic citizenship. The Authors state the key role played by ocean literacy in the school context and affirm that this is a significant educational tool for stimulating a sense of personal responsibility that contributes to the conservation of water and ocean environments. In so doing, they provide their preliminary findings on children’s sea ideas and perceptions which emerged in a piece of work realized by 540 primary school pupils resident in northern Italy. From their representations, in the form of drawings, an idea of the sea is presented which is often stereotyped. This is a meaningful starting point to reflect on the marine imaginary that pupils may develop in the primary school years while the work also sets out to provide a frame to focus perhaps on a more critical and effective geographical and environmental education practice in Italian schools. We believe that the positive image of the sea that most of the children involved in the research demonstrated, can facilitate the task of offering marine environmental education and is well aligned with the guidelines proposed by the current scientific debate on Ocean Literacy.

Keywords: Environmental Education, Human Geography, Ocean Citizenship, Ocean Literacy, Primary School

1. Introduction

Since the mid-2000s, the academic community has been looking into how to develop awareness on the need to change our daily behavior to safeguard pelagic spaces. While it was clear that the sea can provide food, energy, mineral resources and is fundamental for the circulation of goods, it did not still receive the same care and attention as the terrestrial natural spaces. In fact people seem to see very little or

no connection between human activities and the future of the ocean (Voyer et al., 2015).

The ocean is a space that for most of its extension is considered by international law (UN, 1982) a common heritage of humanity but endangered by a great number of factors (Moore and Philipps, 2011; Vallega, 1985). If the high sea represents the heritage of all humanity, every individual, as member of the human community, can enjoy the benefits and resources that the sea may offer. The relation between rights and

duties is the cornerstone around which the participative conception of citizenship rotates, thus making “oceanic citizenship” possible. In the light of this, an increase of studies on ocean literacy and ocean citizenship can be recorded especially in the English speaking academia since the last decade. Many scholars (Fletcher and Potts, 2007; Fletcher, Potts, Heeps and Pike, 2009; McKinney and Fletcher, 2010a; McKinney and Fletcher, 2010b; McKinney and Fletcher, 2012; Squarcina and Pecorelli, 2017, 2018) have highlighted that in order to modify harmful human behaviour, it is time to develop rational and effective sea knowledge. In Issue 35 (2007) of the *Coastal Management Magazine*, Stephen Fletcher and Jonathan Potts published an article entitled “Ocean Citizenship: An Emergent Geographical Concept” in which the focus was on affirming the idea of “ocean citizenship”. This concept encouraged the general public to adopt informed behavior aimed at safeguarding, or at least, limiting the degradation of the sea. According to Fletcher and Potts, individuals have a responsibility to make informed choices to minimize the impact on the environment because by so doing they can contribute to large-scale improvements in what appear to be insurmountable geographical problems. Similarly, in order to first create and then spread an ocean citizenship, some studies denounce the limits but also possible solutions. For example, the scientific journal “*Aquatic Conservation Marine and Freshwater Ecosystems*” (Vincent, 2011) highlighted some critical issues that had emerged from previous surveys undertaken in Mexico, Portugal and Ireland, where the lack of awareness and indifference of the respondents on the “world sea” and in particular on the quality of marine waters, the problems of conservation and pollution of the ocean emerged. According to Vincent (2011) the solution was to transform the ocean into something familiar, whose real value was really felt in order to arouse personal responsibility and diminish that sense of “abstract” that the ocean often embodies in the common imagination.

While many studies state that the level of individual awareness is still marginal in this perspective, other research suggests that where the level of knowledge on marine issues is consolidated, individuals tend to adopt virtuous

attitudes towards the environment (Fletcher et al., 2012; Guest, Wallance and Lotze, 2015; Haklay, 2002; McKinley and Fletcher, 2010, 2011, 2012; Fletcher and Potts, 2007; Fletcher et al., 2009; Santin and Santoro, 2017; Steel et al., 2005; Voyer et al., 2015). In other words, where ocean literacy is significant and solid, ocean citizenship is favoured.

This is also outlined in the article titled “Ocean citizenship. The time to adopt a useful concept for environmental teaching and citizenship education is now!” (Squarcina and Pecorelli, 2017).

Ocean citizenship derives from a relationship of a space with a territory not being subject to, or at least not in its totality, state jurisdiction, belonging to the entire humanity and to every single individual even if she/he lives thousands of kilometres away and even if she/he has never crossed it or seen it (Squarcina and Pecorelli, 2018). Here, we would like to contribute to the international debate as we believe ocean citizenship must become a new cultural attitude along with ocean literacy.

For these reasons, we encourage sea education actions supported by formally appointed institutions and informal actors. The spread of ocean literacy should recall the attention of all the educational agencies, such as school and school subjects. In particular, as geographers we believe that geography, or that is the study of the relationship between human beings and the planet, is well equipped for an analysis of marine spaces that comprises both cultural and emotional aspects.

Since contemporary pedagogy and didactic practice no longer considers pupils as *tabula rasa* but individuals with experiential baggage, perceptions and visions of the fantastic and naive world on which to build a real education and a rational knowledge of reality (Nigris, 2003), we considered it necessary to evaluate in advance, how children see the sea and what their relationship is with this space. At the same time we explored the relationship between children and the sea, as a real and symbolic space, the theater of narratives and inexhaustible representations (Squarcina, 2015). We believe that this may represent an indispensable premise to work of educational proposition activities aimed at the affective appropriation of the sea in a perspective of Ocean Citizenship. In other words, rather than investigating the point of

arrival of a possible educational activity, we focus our attention on children's previous knowledge and emotional relationship with the marine environment. Starting from these premises and thanks to the collaboration of a group of teachers, activities aimed at promoting the knowledge of the marine surface of the earth have been organized in a number of Italian primary schools. The relationship with a space has been built since the moment a child was born thanks to direct experience, comparisons with spatial representations and narrations. Moreover, near and far spaces are shaped by literature, cinema, and from those all the discourses and narrations used by human beings (Malatesta, 2015; Squarcina, 2015). As a result, school-age children have also accumulated spatial experiences from which to broaden their world knowledge. Therefore, it was decided to analyze the idea of the sea in a group of children attending primary schools living in the continental area of the Po valley. This choice was due to the fact that we believe in the importance of promoting ocean citizenship among those who live far from the sea while stimulating awareness of daily behavior impacts on the marine environment. We also decided to develop additional understanding of ideas of the sea, ocean imaginaries and marine perceptions by analyzing drawings of the children taking part to the research. In fact, from an educational perspective: "Drawing can be both a document to be analyzed to understand the role of space in the life of the child, both a tool for building and structuring spatial knowledge" (Giorda, 2006, p. 33). Similarly, for children the act of drawing represents the concrete expression of their feelings and emotions (Crotti and Magni, 2009; Rolling, 2013) and it allows them to "tell, by drawing, what they could not find the words for if expressed in verbal language" (Constanza, 2007, p. 23). Moreover, it is argued that designing places, environments and landscapes is a tool that has many formative potentials for the active teaching of geography because through pictorial representation, the colors that are used and the details, children explore their living space. In so doing, they take possession of something that from a geographical point of view concerns the development of relations with places, with living space and with the territory (Giorda, 2006).

2. Methodological notes

Given the fact that in primary school years children undergo a rapid and profound psychological and cognitive evolution, it was decided to limit the survey to fourth and fifth grade pupils aged 9 and 10. By this age, they have completed the body schema and have reached the conquest of abstract thought, which leads to "awareness of experience, expanding the ability to re-elaborate experiences in a complex cognitive framework" (Giorda, 2014, p. 33). Secondly, we contacted as many primary school teachers of the 4th and 5th classes as possible to work in the area under observation.

After having explained to them the general meaning of the research we invited the teachers to assign the realization of a drawing to the students, using the techniques, colours and materials they preferred, in order to represent "their sea".

The purpose was to invite the children to describe the sea in an art work as inspired by their own direct and indirect experiences. The role of the teachers was limited to explaining the assignment to their pupils and to collecting and scanning the drawing for the researchers. In other words, the teachers' role was thought to be as neutral as possible and for this reason during the general explanation we explicitly asked them not to interfere with unrequired suggestions.

On this occasion, we also asked the teachers not to provide any gender indications of the involved students. This was because the knowledge of this data might have induced interpretative research prejudices and somehow it might have moved the attention from the ways of representing the sea environment. 22 of the teachers and trainees of the degree course in Primary Education Sciences of the University of

Milano-Bicocca joined in the research, working with the students.

In Table 1 we can see in detail the name, the district of the villages where the participants of the project live as well as the exact number of pupils divided into classes. A map (see Figure 1) was elaborated by Andrea Soggiu to provide the research with an accurate understanding of the location of those villages where the collection of data took place.

Name of the village	district	Pupils class 4^	Pupils class 5^	TOTAL
Arcisate	VA	28	0	28
Briosco	MB	0	22	22
Caravaggio	BG	53	48	101
Casale Corte Cerro	VB	0	25	25
Cavaria con Premezzo	VA	20	0	20
Cesano Boscone	MI	66	62	128
Desio	MB	18	0	18
Garlasco	PV	0	26	26
Groppello Cairoli	PV	11	0	11
Lesmo	MB	0	19	19
Melzo	MI	19	22	41
Monza	MB	0	25	25
Muggiò	MB	18	0	18
S. Pellegrino Terme	BG	39	0	39
TOTAL		291	249	540

Table 1. Pupils distribution in municipalities and school classes. Source: data elaborated by the Authors.

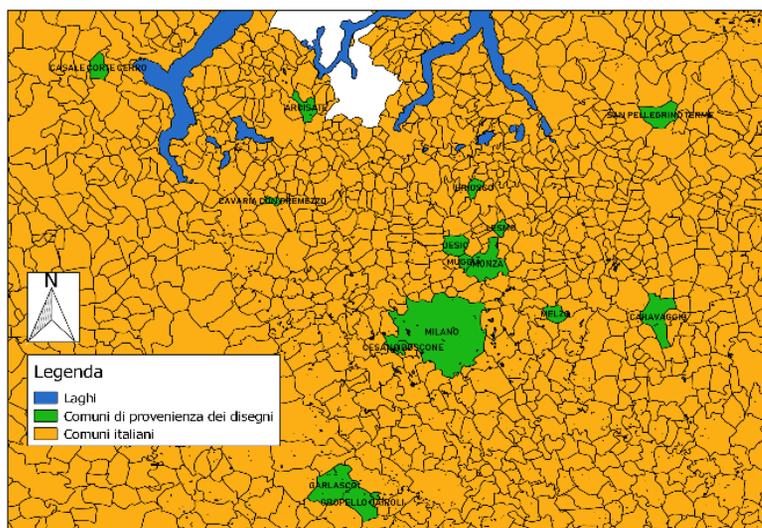


Figure 1. Spatial representation of schools involved in the study. Source: data elaborated by A. Soggiu.

3. Drawing analysis

Despite the variety of graphic styles and pictorial techniques, the analysis of the drawings has highlighted a certain constancy of subjects and settings that will be dealt with in the following sub-sections. As Widlocher states that the subject of the drawings “is very close to the child’s daily life and his experiences” (1992, p. 156) it is believed that a genuine children’s sea experience may emerge from their art work. Similarly, methodologically speaking art-based research may provide a tangible understanding and interpretation of our experience within the natural world (Rolling, 2013).

The analysis of the drawings took place in several distinct phases. First of all, the main themes were identified and a grid was subsequently constructed where the most recurring themes were quantified. A qualitative evaluation based on visual elements was then elaborated by the Authors. Finally, the discursive and symbolic values given to the different elements (eg: a smiling sun, the threatening shark, etc.) were analyzed in depth.

3.1 Main subjects

In observing 540 children’s sea art works, we firstly noticed a prevailing theme: bathing. 389 drawings represent the beach, intended as a play area, or included in larger representations, with a whole series of typical seaside holiday scenes: sun umbrellas, deckchairs, beach games, buckets and spades, drinks, ice-creams, people relaxing and sunbathing and people swimming. Among the latter, children have the tendency to self-portrait, or, in some cases, a brief text confirms that it is a representation of themselves. This may underline how the pupils’ prevailing sea idea is bound to summer and their experience of vacation time spent on the beach as if they were saying “my idea of the sea is beach life” as shown for example in Figure 2.



Figure 2. The sea conceived as a recreational space. Source: picture provided by a school involved in the study.

The second most represented theme is underwater life: 180 drawings reproduce the main theme of the sea floor or a portion of pelagic waters populated by marine animals of different species as seen also in Figure 3. Brightly colored fishes are prevailing, as if they were inspired by documentary films on tropical seas or by the reconstruction of a coral reef habitat in an aquarium. There is no shortage of fantastic elements, such as mermaids or hidden treasures testifying that for children, whether directly experienced or indirectly perceived, reality coexists with fantasy and fantastic storytelling.

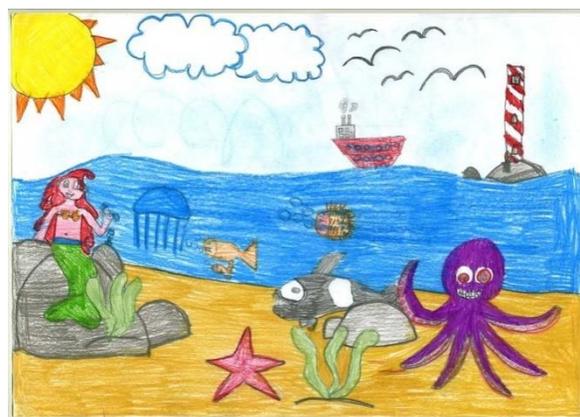


Figure 3. Realistic elements and fantastic elements in the description of the sea. Source: picture provided by a school involved in the study.

Another recurring topic concerns sports and games. In fact, 22 drawings portrait people doing water-skiing, beach volleyball, tennis matches, ball games and so on, confirming the predominantly playful idea of the sea. Interestingly, 4 children represented their sea experience by drawing geographical maps; two depicted the Italian peninsula surrounded by the Mediterranean sea; while another presents a picture in which the southern part of Italy is graphically reported including Sicily and Sardinia but Corsica is not represented. Another piece of art work reproduces an imaginative map in which Africa appears on the right of the picture, divided by the sea where a land named with toponymies Brazil, North America and South America. These lands follow each other from top to bottom but are divided by a stretch of sea where we can spot an island on which the pupil wrote: "Philippine archipelago". In these specific cases, pupils' works can be interpreted as an expression of children to whom the sea suggests above all, if not exclusively, themes of traditional school geography: cartographic representation and the denomination of terrestrial regions.

Other drawings can be defined as generic seascapes or as the sum of generic sea related elements, ranging from sushi to ice cream, from sailing to the fish market counter. Although disparate and not connected to each other, these are somehow connected to the sea. Moreover, the idea of 3 students can be considered interesting who represented the sea in relation to disasters and catastrophes. In the first their idea of the sea is associated with a shipwreck while the second student draws a tsunami hitting a city. The third pupil designs a tsunami and a beach on which, however, people are sunbathing and not worrying about what is going to happen. Finally, a boy or a girl instead describes a battle between sea monsters on the one side while helicopters, planes and ships are to be seen on the other. Here we can perhaps identify elements shaped by the influence of the TV news and/or some popular movies.

3.2 The weather

Analyzing the drawings of our students we can say that the sea is associated with warm sunny weather. In 468 out of 540 drawings the sun is always shining, while in only 5 drawings is the sea represented as stormy or on a rainy day. Another interesting element concerns those drawings whose subject focuses on underwater life. Here the sheet has been divided into two parts, in which the lower part is devoted to the presence of fish, in the upper one there is a blue sky and the sun is shining (see also Figure 4). The sun is also present in three of the four works that represent catastrophic events. In a possible interpretation in a psychological key, which goes beyond our field of study we can state that the idea of the sea for the children involved here is linked to the summer season and, in particular, to a lovely, warm and sunny weather.

3.3 The environment

In contrast, pollution is a missing element. As a matter of fact, in practically most of the pictures analyzed, there are no elements that refer to marine pollution. In only one case is a pipeline represented, presumably a sewage pump flowing into the sea. Similarly, in another art work picturing the sea floor populated by smiling multicolored fishes, a plastic bag and a drink can appear.

In someone else's drawing, trash objects such as can appear in the sand on the beach, while in another there is a boat in the sea water with the inscription: "Let's clean the sea". Clearly, although environmental degradation and pollution are often discussed in schools and by mass media, children rarely tend to associate it with their idea of the sea, on the contrary, presenting an idea of an environment shaped by positive values even from an environmental point of view.

3.4 Human activities

Proportionally there are very few drawings that represent, if we exclude the tourist related activities of sunbathing and swimming, the economic activities that may take place by the sea and/or on the coast. 9 drawings depict scenes

of professional fishing, 11 drawings represent cargo ships, often put in the background of scenes. Moreover, 20 children chose to include cruise ships in their drawings, 2 of which are named “Titanic”. This may prove the fact that elements taken from literature and cinema are mixed with elements drawn from direct experience. In so doing, some narratives become paradigmatic.



Figure 4. Stereotypical representation of the sea. Source: picture provided by a school involved in the study.

3.5 Fantastic elements

As mentioned above, in some of the drawings presented in this study, fantastic and mythological characters have been included in the representations of the sea. So in 8 drawings we can spot mermaids and in other 2 there are characters looking like tritons or like the traditional shape of Neptune. In 8 drawings we can see hidden treasures, while in 2 pictures there is the presence of pirate ships. Finally, 6 works reproduce submerged cities and in 5 other ones, sea monsters are depicted.

3.6 Stereotypes

The representation of the marine environment appears in most cases to have taken into account stereotypes and reflects idealized images of the sea associated with the seaside and summer holidays (as in Figure 2). As previously reported, in most of the children’s art works the

sun is a prevailing element. It also seems interesting to note that in 206 cases the sunset is included in the sea landscape recalling illustrated postcards or tourist brochures. Another recurring element is the presence, (72 drawings) of palm trees. While this plant widely decorates seaside resorts beaches and gardens, in our school pictures they seem to reproduce an exotic landscape or more precisely an evocative stereotyped “tropical paradise” as represented in Figure 4. Similarly, islands are in 30 drawings according to the model of the tropical advertising “paradise island”.

It should also be noted that in 78 cases, dolphins nicely animated the pictures, sometimes in an underwater context, sometimes jumping out of the sea water but never in the proximity of the beach. This element, we may argue, is more iconographic rather than descriptive, as it is a symbol that recalls a stereotypical and idealized image of the marine landscape.

Finally, 220 drawings are populated by birds. Only in few cases did pupils try to describe sea-birds in detail, and in most cases they limited themselves to symbolizing the birds’ presence by drawing some graphic V to decorate the sky.

4. Conclusions

According to Olivero Ferraris (1973), when drawing a picture children do not reproduce what they see, but what they know about things, they make selections, they leave out elements that they consider unimportant and emphasize elements considered essential even if not visible. This is even more true, in our case-study, as they were asked to draw a picture based on memories and past personal experiences. In describing the sea, the children involved in our research show that they use their direct experience, but also elements that the culture they belong to attributes to this space.

As we have seen so far, the sea is mainly linked to the beach and summer experiences; it is a space characterized by favorable weather conditions, having fun, relaxing, spending time with friends and family, eating ice creams and practicing sports or other ludic activities. The sea is shaped mainly by positive values while

negative aspects, such as storms, pollution, piracy, human trafficking, oil spill disasters are almost absent despite being reported by the news daily.

This type of mental sea representation may provide a frame, a starting point to plan marine environmental education courses. It is necessary to draw up, especially for children who live far from the sea, educational activities aimed at stimulating a more realistic image of this environment. Children should be able to become more aware that the sea is endangered by human activities; it plays a key economic role (Vallega, 1984, 1985); it has a biological complexity.

We believe that the positive image of the sea that most of the children involved in the research demonstrated, may facilitate the task of offering marine environmental education. Moreover, this is in line with the guidelines proposed by the current scientific debate on Ocean Literacy (Squarcina and Pecorelli, 2017, 2018).

In fact, an effective environmental education can only be based on the very object of geographical science: the relationship between human beings and the environment that surrounds them (Malatesta, 2010), a relationship that involves companies, but also individuals, since their tender age (Malatesta, 2015), a relationship deeply influenced by affective aspects, capable of transforming a space into a place (Tuan, 1978) and as such to be loved, to be taken care of. In other words, to transform the sea into a “part of me” (Voyer et al., 2012). A certain level of awareness has already been affirmed among scholars and those employed in English-language education. But what about Italy?

Acknowledgements

While the full article is the result of a joint piece of work, Enrico Squarcina developed paragraphs 3 and 4; Valeria Pecorelli wrote paragraphs 1 and 2.

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