

MARINE LITTER – OUTREACHING THE YOUNGSTERS

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Abstract:

Planning has mainly focus on land, however new challenges arise from environmental planning in the sea. MARLISCO - Marine Litter in Europe's Seas: Social Awareness and Co-responsibility aims to raise public awareness, facilitate dialogue and promote co-responsibility among the different actors towards a joint vision for sustainable management of marine litter in European seas. By developing innovative mechanisms and tools, it targets to effectively engage, inform and empower society, reaching the widest possible audience.

Within this project a Video Contest was launched to encourage and provide the opportunity for youngsters to get in touch with the issue of marine litter and share their visions with a broader public. Youngsters were invited to develop and produce a short video expressing their views about marine litter, becoming agents of societal change. This challenge was taken by schools, as a curricular or parallel activity, approached from several or multiple disciplines. It has promoted critical thinking and active citizenship regarding a complex problem that affects everyone and is of the responsibility of all.

In this communication we present and explore the methodology and results of the video contest in Portugal within the several European countries, exploring the lessons learned.

Keywords: Marine Litter, Education, Outreaching, Co-responsibility, Youngsters

Introduction

MARLISCO - Marine Litter in Europe's Seas: Social Awareness and Co-responsibility aims to raise public awareness, facilitate dialogue and promote co-responsibility among the different actors towards a joint vision for sustainable management of marine litter in European seas. By developing innovative mechanisms and tools, it targets to effectively engage, inform and empower society, reaching the widest possible audience. Within the several activities of the project a Video Contest was launched to promote the opportunity for youngsters to get in touch with the issue of marine litter, share their visions with a broader public and reach wider audiences. Youngsters, in articulation with their teachers, were invited to develop and produce a short video expressing their views about marine litter, and submitting it to a national contest. This challenge was taken by schools, as a curricular or parallel activity, often involving a diversity of disciplines. The video development has promoted critical thinking and active citizenship of a larger educational community regarding a complex problem that affects everyone and is of the responsibility of all.

Conceptual Framework

This paper deals with the video context of the MARLISCO project, an issue that develops within the context of science communication. Science communication has shifted methodologically and conceptually. The traditional one way communication has given place to “dialogic and discursive fora

that aim to empower people regarding the issues which might affect them and their communities” (Pidgeon et al., 2014).

From the literature in science communication and from working in the ground, it is clear that publics are capable of debating complex issues of environmental science, technology and policy given the right tools and the opportunity to do so (Renn et al., 1995 as in Pidgeon et al., 2014; Dietz, 2008 as in Pidgeon et al., 2014, Vasconcelos et al, 2013a, Vasconcelos et al, 2013b, Vasconcelos et al, 2012).

This new current is more adequate to the complexity of these contexts with (1) numerous interconnected elements combining technical, behaviour and institutional elements, (2) mixed a diversity of multiple geographical and temporal scales and (3) integrate national level science policy problems difficult to model ” (Pidgeon et al., 2014). Due to this, policy issues are often called wicked (Tumpenny et al, 2009 as in Pidgeon et al., 2014; Rittel and Webber,1973) or postnormal (Rosa, 1998 as in Pidgeon et al., 2014) in the literature.

To overcome this, it is crucial to adequate the processes to promote change of the perspective of the society at large, and conquer participation in issues concerning the environment, in this case marine litter, a collective problem to what all of us contribute. As so, the direct mobilization, involvement and engagement can contribute to develop a continuous process focused in enhancing human knowledge, contributing for the generation of new adopted values, and to the creation of innovative tools targeting to the success of a project aiming the changing of attitudes and behaviour.

This is part of the component of environmental education (EE) of the project. EE is an ongoing process of training and education through which individuals and communities become aware of the environment in which they live, and acquire knowledge, skills, experiences, values and determination that makes them capable of acting individually or collectively in the search for solutions to environmental problems present and future (UNESCO, 1987).

It is essential to go through an educational process with the specific aim of “know how to do, know how to be, and know how to act, reflecting on knowing how to be, both at local level and in social terms” (Alves, 2001). This calls for experiential learning since it considers the individual learning process (Breunic, 2009) a process of learning through experience or better "learning through reflection on doing" (Felicia, 2011). This type of learning is different from the didactic one, where the learner plays a passive role (Felicia, 2011), because the idea is more to implement active learning, such as action learning, adventure learning, free choice learning, cooperative learning, and service learning (Itin, 1999).

Experiential learning is concerned with more concrete issues related to the learner and the learning context, a rather ancient concept that comes from Aristotles as written in Nichomachean Ethics "for the things we have to learn before we can do them, we learn by doing them". This idea lived up again in the beginning of the 1970s, with David A. Kolb development of the modern theory of experiential learning, drawing heavily on the work of John Dewey, Kurt Lewin, and Jean Piaget (Dixon, 1997). This was reinforced by Freire´s educational theory, defending that education should raise the awareness of the students so that they become subjects, rather than objects, of the world making them to think democratically and to continually question and make meaning out of everything they learn. In fact, Freire states that “...our relationship with the learners demands that we respect them and demands equally that we be aware of the concrete conditions of their world, the conditions that shape them. To try to know the reality that our students live is a task that the educational practice imposes on us (Freire, 1998).

Departing from the concept that knowledge is socially constructed (Freire, 1998, Berger et al., 1967) Freire states: "... knowing is a social process, whose individual dimension, however, cannot be forgotten or even devalued. The process of knowing, which involves the whole conscious self, feelings, emotions, memory, affects, an epistemologically curious mind, focused on the object, and equally involves other thinking subjects, that is, others also capable of knowing and curious. This simply means that the relationship called "thinking" is not enclosed in a relationship "thinking subject - knowable object" because it extends to other thinking subjects. (Freire, 1998). In this line he discusses practical and theoretical knowledge, calling the attention to the fact that believes are shaped into knowledge by discussion and critical reflection.

The idea of the video contest of the MARLISCO project is anchored in this conceptual framework. It is expected that by doing the teams increase their ocean literacy, reflect critically on the marine litter problem and come up with joint proposals enriching the responsive capacity of society. Targeting this young group has the advantage to create a dynamics that will transform society since the learners of today are the decision-makers of tomorrow.

The lack in the school program of issues related to the understanding of the way the environment and biodiversity functions contributes to the students' fractional and incomplete vision of nature. This understanding is essential to educate responsible and active citizens of tomorrow promoting future sustainability policies. Therefore the above approach to EE emerges as a possible response to this gap in the learning process. Being a type of education that aims to a more comprehensive learning, it should lead citizens to live in harmony with the environment, by understanding the dynamic relationship that exists between natural ecosystems and social systems, in order to lead to a sustainable management of natural resources, ensuring the welfare of future generations (Evangelista, 1992). For this, educational practice must therefore develop and enhance the capacity for action (Uzzel *et al.*, 1998). The school should, in this context, be seen as an active agent for the creation of change, rather than a passive transmitter of information.

The MARLISCO project aimed to sensitize all citizens of all ages, particularly the younger ones, to sustainable behaviours in relation to the sea, generating a multiplier effect to make them active agents to provoke change in their communities and extended family. Students addressed local and very specific issues, but of utmost importance on the world stage. This helped them to develop critical thinking and co-responsibility for the problems of local and wide scope.

MARLISCO Project - Social Awareness and Co-responsibility

MARLISCO (*Marine Litter in European Seas: Social Awareness and CO-Responsibility* – is an European project funded by the European Commission in the context of the Seventh Framework Program for I & D. MARLISCO is a plan of action for mutual learning and mobilization that aims to raise society awareness to the issues and possible solutions of the marine litter. While involving universities, governmental agencies, environmental NGOs and industries the MARLISCO Portuguese team launched the project and worked on it for three years. The Portuguese team included a set of experts from the New University of Lisbon, and worked closely with a wide range of diversified professionals and experts from other entities.

Overall the MARLISCO project involved a partnership of fifteen countries (see figure 1) and twenty institutions namely: from the industry sector (plastic production, conversion and recycling), research (universities and research centres) and civil society (environmental NGOs).



Figure 1 – MARLISCO –countries involved

Marine litter has been identified as an emerging threat to the environment, human health and safety, as well as livelihoods. Originated from various land and sea based sources, it is a challenging and complex problem. Figuring out specific responsibilities is hard since these are unclear, and even the costs and consequences are unequally shared. It is clearly a problem without a unique solution that can be the same for all. It requires an integrated approach of articulated efforts. It is a global problem without borders requiring solutions to involve partnerships of different sectors of society.

The litter ending up in the sea is a result of activities and attitudes of all of us, either directly or indirectly. Contrary to what is the general perception, according to the United Nations about 80% of marine litter is generated in land and only 20% result from sea activities. Its exponential growth results from prevailing production and consumption patterns and from human attitudes and behaviour in dealing with waste. MALISCO project has emerged aiming to deal with this issue.

Within the terrestrial sources we can list the general negligent abandonment of garbage (close or far away from the coast), the inappropriate disposal of objects at home (e.g., swabs push down the toilet), absence or overcharge of sewage treatment stations, failure in the management of collection, treatment and elimination of litter and products resulting from industrial activities. The garbage wherever it is left finds its way to the sea, through the rivers, sewage, by the wind, drained by the rain or by the tides. Extreme events such as the hurricanes and/or *tsunamis*, are also responsible to drain substantial amounts of garbage to the ocean. Marine sources include commercial fishing, leisure activities, shipping, military or of research navy, offshore oil or natural gas platforms and aquaculture.

MARLISCO overall goal is to raise public awareness, facilitate dialogue and promote co-responsibility among the different actors towards a joint vision for the sustainable management of marine litter across all European seas.

The main objectives of the MARLISCO project are (1) to increase the awareness of the consequences of societal behaviour in relation to waste production and management on marine socio-ecological systems, (2) to promote co-responsibility among the different actors, (3) to define a more sustainable collective vision, and (4) to facilitate grounds for concerted actions through the successful implementation of the Mobilisation and Mutual Learning Action Plan (MMLAP).

The main focus is to provide and evaluate mechanisms to enable society to perceive the impact of litter on the marine environment, to identify the land-based activities that are involved and collectively arrive at solutions to reduce that impact – in particular solutions that can be implemented locally but have a regional effect.

Specific objectives

1. To provide a review of current understanding of the sources, type, distribution and fate of marine litter in Europe's Sea. This will provide an evidence base to support appropriate actions and to provide a baseline against which change can be measured.
2. To provide an evaluation of key stakeholder perceptions of marine litter, assess current practices and potential solutions, and measure the effectiveness of the Action Plan at changing attitudes and perceptions.
3. To develop a web based portal to promote the Action Plan, provide a source of information on marine litter, stimulate discussion and disseminate the results of the Co-ordination Action.
4. To provide a platform for structured dialogue among the key stakeholders from industry, end users, science and society, in 12 European countries. This will help to identify and resolve barriers that currently retard the adoption of good practice.
5. To develop a video contest in schools in 14 countries around the European Seas in which children will be encouraged to develop short videos about the issue, embodying a multi-disciplinary process of getting in touch with the problem and addressing potential solutions as they see them.
6. To identify good practice and facilitate its adoption via a range of disseminating materials aimed at specific sectors and present them to evaluation during the stakeholder fora.
7. To increase awareness and empower general public and children through a series of national educational activities and innovative communication tools, while facilitating the integration of their views in the platforms of dialogue.

Source: <http://www.marlisco.eu>

MARLISCO has been developed by a consortium of 20 organizations from 15 European coastal countries (Italy, Holland, United Kingdom, France, Slovenia, Ireland, Romania, Germany, Cyprus, Bulgarian, Spain, Portugal, Turkey, Denmark and Greece). It encompasses the four European Regional Seas: North-East Atlantic, Baltic, Mediterranean and Black Sea.

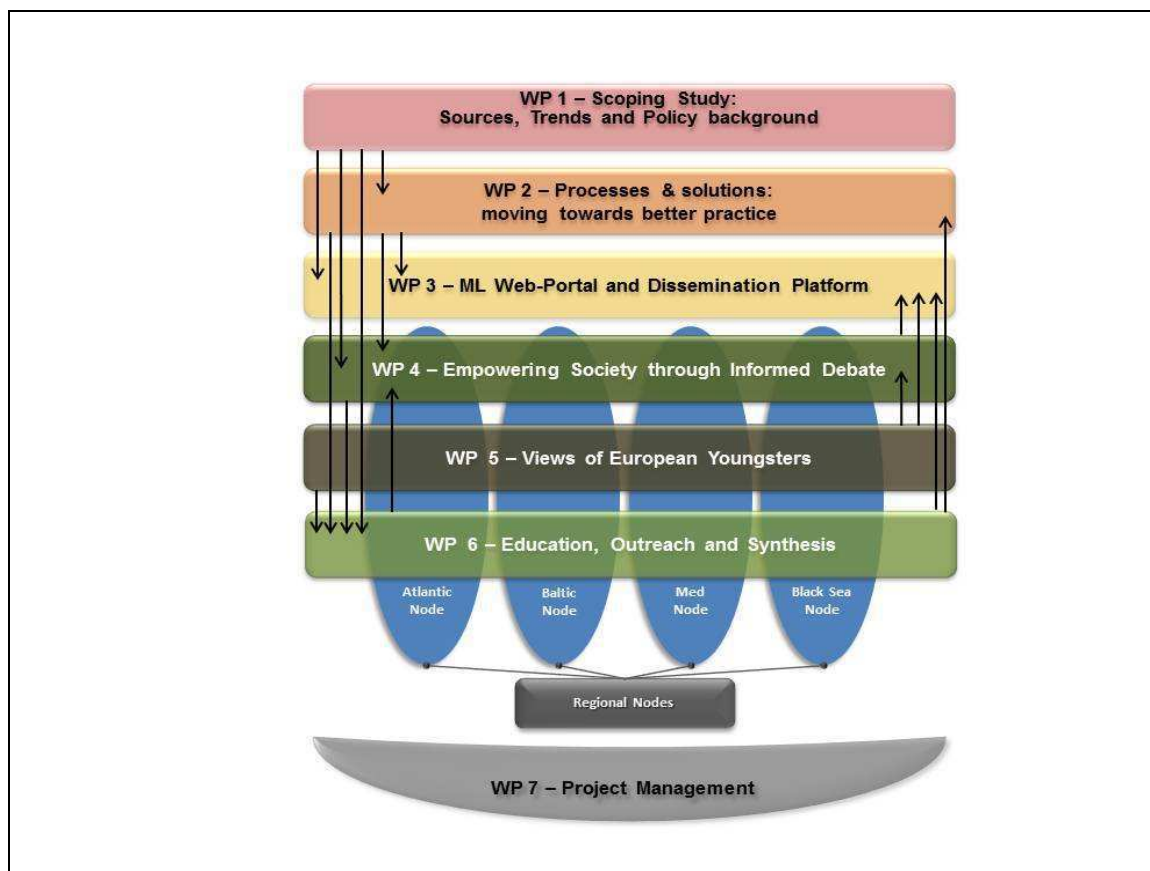


Figure 2 – MARLISCO Work Packages structure

MARLISCO is organized in 7 work packages (figure 2).

- **WP1** – Scoping study: sources, trends and policy background
- **WP2** – Processes & solutions: moving towards better practice (Best-practices collection and stakeholder survey)
- **WP3** – Marine litter web-portal and dissemination platform
- **WP4** – Empowering society through informed debate (National fora)
- **WP5** – Views of European youngsters (European video contest)
- **WP6** – Education, outreach and synthesis (several customized activities to raise social awareness about marine litter including MARLISCO exhibition)

The central idea of departure of MARLISCO project has been to develop innovative mechanisms and tools to effectively engage, inform and empower society, reaching the widest possible audience. MARLISCO activities include:

- A scoping study of the sources and trends regarding marine litter in each Regional Sea.
- A collection of best practices from all partner countries.
- A survey on the prevailing perceptions and attitudes of different stakeholders regarding marine litter.
- National debates in 12 partner countries.
- Diversified, tailor-made national activities including exhibitions, workshops, festivals, clean ups, etc.

- A European video contest for youngsters to collect their visions on the issue of marine litter and empower them as agents of change in society.

In Portugal the MARLISCO social awareness activities already involved more than 9000 persons. In this paper we focus in this last activity - the video contest – that, in Portugal generated 92 videos, engaging and mobilizing more than 600 students and teachers.

This has followed up the launching of the MARLISCO’s European Video Contest as stated in the MARLISCO site: “In 2013, the European Project MARLISCO challenged European youngsters to tell us what they think about the problem of marine litter in a short video” (<http://www.marlisco.eu>). For the overall project this resulted in 379 videos submitted involving 2 123 youngsters, from 118 schools. The best videos were selected by a national jury in each of the 14 participating European countries.

The Portuguese Video Contest – youngster “hands-on” activity

Supported by the project central idea - to develop innovative mechanisms and tools to effectively engage, inform and empower society, reaching the widest possible audience – the MARLISCO project launched an Europe-wide national-level video contest for schools for youngsters (in Portugal 12 to 18 years old students were involved). Students were challenged to produce a 2 minutes video to manifest their ideas and propose solutions to the marine litter problem. It was expected that becoming aware of the problem could shift their own behavior. This was supposed to be done in teams of at least two students with one teacher/educator. Each student – teacher/educator team could submit as many videos as they wanted. The team had total freedom to decide the topic and context for the video as far as they addressed the following issues: 1) Why is the marine litter a problem? 2) Where does the marine litter come from? 3) What can be done to reduce the marine litter? 4) What have we done in our school or community about this problem? 5) Innovative ideas/solutions to solve the marine litter problem.

In sum, videos were expected to highlight several issues namely, the impacts of marine litter, consumer good practices to reduce marine litter, reporting an initiative developed in the school or in their community to better manage or reduce waste or the preparation of an artistic/creative work (for instances using material collected in a beach clean-up). The key was to pass a clear message on marine litter to a broader public. The videos selected in each country could be broadcasted in the national television (perhaps together with another video from another country), supported by a national celebrity to leverage dissemination and to reinforce the importance of the message.

Videos are encouraged to be shown in other public events, within the project or not. A final award for the team winners of each country was to travel to participate in the European Sea Celebration Day in Bremen-Germany. A final video compilation of all the video winners Europe-wide was prepared – “Voices of Young Europeans about Marine Litter” and broadcasted during this celebration in May 2014.

The evaluation criteria of the videos submitted were: adequacy of the topic, quality of the research shown, relevance and potential impact of the message, quality of the production, and creativity and originality of the video. In Portugal, teams were encouraged to find a catchy title and the videos were evaluated by a jury of four elements - the national coordinator of the project, the European coordinator of the Video Contest, a movie expert, a godfather of the video contest – taking into account the voting in the YouTube. The team had a substantial debate if this last component of evaluation was fair since it can be easily manipulated by asking friends to vote. However, one of the key objectives of the MARLISCO project was to widened up the diffusion of this issue, therefore recurring to the internet voting had a good potential to contribute to this.

The public voting had as basis the number of “Likes” in the MARLISCO YouTube and Facebook pages (the number of views did not count). The public voting period to decide the winner (finalists) was open to the public during 10 days (3 to 13 of March). The voting of the special categories ended one day before the launching of the best videos voting and it lasted approximately 2 weeks. The number of "likes" on Facebook and YouTube attained a total of 14292 (which count as points to decide the winner), though it had a total of 7195 views on YouTube and 61280 views on Facebook during the period of voting. The most popular video achieved a total of 2283 likes.

In Portugal to achieve a wide engagement and mobilization the Portuguese MARLISCO team did a wide diffusion through the website and the Facebook contacting more than 1 400 organizations directly. This effort paid back since thirty four (34) schools got involved and developed videos. Thirty one (31) submitted their videos. The 3 missing informed that either the videos developed did not have enough quality or that they did not had enough time to finish them. This was a loss of 11 videos not delivered, the process of producing the video was performed and was positive by involving teachers and students got involved in the theme during sometime around a concrete project.

Ninety two (92) videos were submitted for evaluation (figure 3). Some schools had more than one teacher involved and at least forty one (41) teachers got mobilized. A total of 458 students (2 teams/videos were composed by 50 elements each, the other teams varied between 2 and 10 elements, usually not more than 5 members because MARLISCO team announced that only could take 5 students to Bremen).



Figure 3 – Essays for MARLISCO Video development

MARLISCO Portugal offered a set of support services, but the most relevant was a Workshop in partnership with the Faculty of Beaux Arts of Lisbon University to technically support students and teachers teams. This workshop was organized in two sessions (November 4 and December 9, 2013). It registered 72 attendances (17 teachers and 55 students from 11 schools) (figure 4).



Figure 4 – MARLISCO Project workshop of technical support

The project team also provided financial support. Sixteen (16) schools requested financial support representing a total of 41 videos/teams supported. Some schools did not claim funding and the majority of schools did not use all the money. The financial resources were used to organize the award ceremony.

National Juries were set-up in the countries involved to select the best national video and winners. Wider public engaged fostering the dissemination of the videos, constitute an intermediary step in the video selection process to capture public support and preference, with a sub-set of the national videos going on “public voting” on Youtube. The exposing and sharing of these videos in social networks, such as Facebook, allowed for a wide outreach. Some of the videos have reached 1.000 “views” within the first week.

Due to the great amount of videos (92), a pre-selection was a must. Four members of the team viewed all the videos and fill in a table with a “yes, no and maybe” option to decide if the video should proceed to the next phase. The four evaluations were assembled: excluded the videos that had “no” from the four members, and included all the videos that had four “yes”. The videos classified with “maybe” or the ones that were not consensual were discussed in a meeting to decide jointly. From the 92 videos 30 were delivered to the national jury (15 for each cohort). The second phase consisted in integrating the voting of the jury and the public (this one accounting for 20%) to get the final result. Only the TOP 10 (selected by the jury for each cohort) were submitted to public voting.

From these 20 top videos, not taking into account the age range, the most voted video by the public won the People’s choice award. Moreover, as there were some good videos that were excluded in an earlier phase the team project decided to attribute some special prizes. These prizes (Informative, Animation, Character and Creative) were attributed by public votes.

Besides the initial sponsors for the Portuguese National Awards - Oceanarium of Lisbon, “Pavilhão do Conhecimento” (Pavilion of Knowledge) and “Kit do Mar” (Ocean Kit) - the MARLISCO Portuguese team decided to contact several companies that offer adventure activities (outdoor/sport/nature). These contacts were only developed after knowing the finalists, in order to request local companies from the same city of the finalist team. The result was very positive and all the companies contacted accepted, in a total of 11 companies that represented a total of 12 team prizes.

Youngsters Portuguese Video Team Recognition

The National award ceremony in Portugal - an event organized specifically to announce and deliver the prizes to the finalists’ teams – was held on the 22th March in Lisbon Oceanarium. A total of 117 participated, being 70 members of the video contest teams (students and teachers), 20 guests (jury members, sponsors and high entities representatives) and 27 winning students and teacher of an additional contest that the Portuguese project team organized (MARLISCO Anthem Contest).

All the 15 prizes teams except for one participated in the ceremony. The missing team lives in Madeira Island and did not get financial support to pay for the travel expenses. However, we had one student from the Island of Madeira and two students and one teacher from São Jorge Island (Azores) that got some local support.



Figure 5 – Video Winer and the team Winer and MARLISCO Portuguese coordinator

The whole day ceremony event was filmed and also live streamed in the web, so that all schools, families of the students, and other people interested, could watch the ceremony. (<https://www.youtube.com/watch?v=Vxp4EtT-5mA>). All people present at the ceremony had free entrance in Lisbon Oceanarium exhibition and also in the MARLISCO exhibition of the Oceanarium at the time.

All awarded teams were called to the stage to receive their prizes, after showing the video and revealed the classification (figure 5). Besides the prizes offered by sponsors, MARLISCO Portugal also offered a simple kit to all students and teachers (MARLISCO bag, t-shirt, cap, certificate, bracelet, pin, small porcelain trophy (designed by an artist for this occasion). All teams also received a trophy to the school that was especially designed by an artist, inspired by the MARLISCO video logo.

The 2-days European Ceremony for the young representatives of the national winning teams took place on the 18th and 19th May 2014 within the 7th European Maritime Days Ceremony (EMDC). The delegations of youngsters were accompanied by the teachers that supervised their involvement in the contest and by a staff from the MARLISCO national partner. During the plenary session off the EMDC, MARLISCO was presented by the conference moderator and the Teaser of the MARLISCO Video Contest. Winners were publicly recognized, to an audience of 900 participants. One representative from each of the 14 national winning teams was called on stage to be greeted and receive from European Commissioner for Maritime Affairs and Fisheries - Maria Damanaki (2010-2014) an official recognition for their efforts. In total 86 youngsters, from 13 countries, with ages between 9 and 19 years old, took part in an attractive and interactive programme and had the opportunity to meet each other and share their experiences in an intercultural context.

Reaching Collective Learnings

The Portuguese achievements on the video contest were rather successful. Results show this. In fact, the number of youngsters engaged and videos produced was particularly high in Portugal. Of a total of 379 videos submitted by the 14 countries involved in the video contest (Greece did not have the video contest) Portugal contributed with 92 (24%). And out of the 2 123 students involved, 570 (27%) were Portuguese (Figure 6).

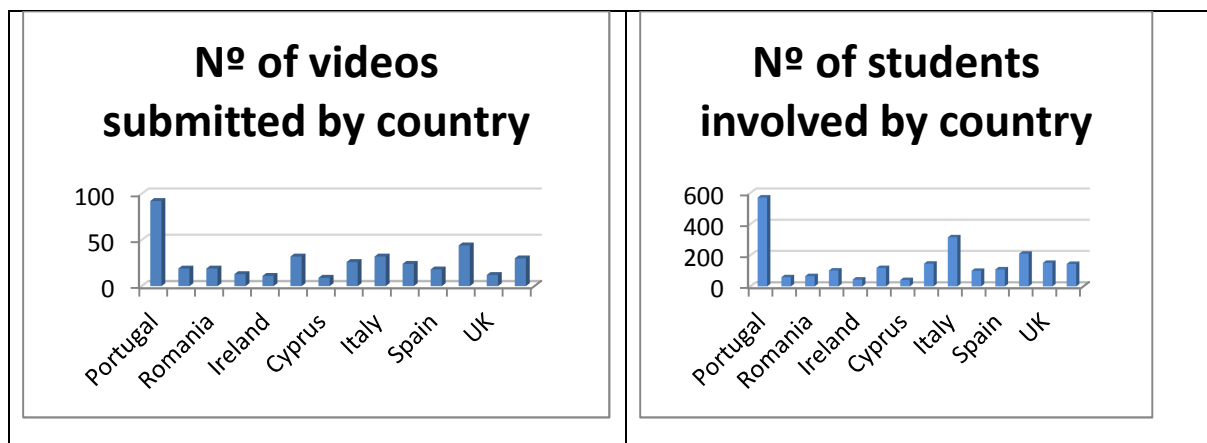


Figure 6 – MARLISCO Project – numbers of videos/students by country

The ones involved – students and teachers – worked towards a cause, researched on the issue, discussed and communicated. While doing this they improve their ocean literacy and developed critical thinking. More important than any of these numbers is the snowball effect, that has just started and that hopefully will give continuity and reinforce the movement towards overcoming the marine litter problem.

Reflecting on Lessons for the Future

The experience of the Portuguese team in creating emancipatory education, coming from previous projects, is well reflected in the results attained. MARLISCO project has constituted an opportunity to this team to further develop ways for wide mobilization and engagement of multi-generational groups (e.g., students and teachers). Nowadays the general concern of communicating science has been in the agendas but that requires tools to its implementation, this might be a way.

Involving, mobilizing and engaging a group in “hands on” projects of their own creates dynamic synergies that hopefully positively influences societal transformation by reshaping individual attitudes and behaviours, defend a cause, or contribute to improve collective learnings. Doing this may be the key to improving social attitudes and provide a way to mitigate or solve problems that look to us today as unsolvable. Substitution of generations will be the better judgement of the results of these efforts in shaping more responsible citizens.

Capacitating our complex and uncertain society to the challenges it has to face, turning the citizen into a changing agent should be a priority in any political agenda. Empowered, active and responsible citizens can be the key to transform society in a better place to live.

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