

How ocean literate are you?



Aquariums worldwide are increasingly taking up an educational role by providing hands-on experiences to their visitors and by engaging in conservation projects.

You may be excused for not knowing what the term 'ocean literacy' actually means, as the term only started being regularly used in Europe over the past decade. A global movement promoting ocean literacy has three over-arching goals: (i) to ensure that every student learns about the ocean; (ii) to foster a generation of ocean-literate citizens who understand the mutual influence and impacts between people and oceans, and (iii) to kick start ocean literacy campaigns in each country.

It is widely acknowledged that the implementation of ocean literacy should be guided by seven core principles, namely: (i) the Earth has one big ocean with many features; (ii) the oceans, and life in the oceans, shape the nature of life on Earth; (iii) the ocean is a major influence on weather and climate; (iv) the ocean made Earth habitable; (v) the ocean supports a great diversity of life and ecosystems; (vi) oceans and humans are inextricably connected; and (vii) the ocean is largely unexplored.

With every second breath we take made possible by oxygen released from the zillions of phytoplankton cells in the world's oceans, there is good reason to promote a higher level of ocean literacy. These cells are responsible for releasing over half the oxygen in the Earth's atmosphere.

There are other reasons why we need to promote ocean literacy, including the pivotal role oceans play in regulating the climate, the staggering biodiversity of oceans and the negative impacts anthropogenic activities are having on the integrity of oceans.

Having attended the third European Marine Science Educators Association (EMSEA) conference in Crete last week (the next EMSEA conference will be held in October 2016 in Belfast), I was exposed to the various innovative ways in which teachers, scientists and aquarium operators are striving to foster a society of ocean-literate citizens.

The concept of 'blue schools' is steadily making progress in the education infrastructure of certain countries, especially Portugal, where private schools have steamed ahead with implementing the concept. Schools that take up this initiative are expected to use every opportunity to instil ocean literacy principles in their students and hold an annual 'sea week', during which lessons are replaced marine-oriented projects that the schools work upon.

'Kit do Mar' is an online portal and network replete with ocean literacy resources for teachers and students alike.

The EU, through its flagship Horizon 2020 funding programme, is tangibly supporting ocean literacy. For instance, the Sea Change project (www.seachangeproject.eu), which involves 17 partners from nine countries, aims to develop a long-term infrastructure to promote ocean literacy in Europe.

One idea is to formalise EMSEA as a legal entity and promoting ocean literacy at all key events across Europe.

The project invariably includes an advisory board constituted mainly by experts from the US and Canada, to tap into the extensive experience the US has developed since the establishment in 1976 of the National Marine Educators Association (NMEA). Another ocean literacy-oriented project recently funded by the EU Commission is called 'Responseable'.

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Even though the term 'ocean literacy' might not have been used that frequently in Malta to date, a number of local entities have been embarking on ocean literacy initiatives over the years without necessarily branding them as such.



Ocean literacy is steadily making its way into classrooms across Europe.

A few of these initiatives include: (i) the opening of the first-ever marine environmental education centre in Dwejra, Gozo, as part of the Panacea project, in March 2013, by the University's Physical Oceanography unit; (ii) the continuous educational campaigns conducted by Sharklab at the Malta National Aquarium, culminating in the regular release of sharks 'reared' at the aquarium; (iii) the regular release of rehabilitated turtles by Nature Trust (Malta) and the Fisheries Department; (iv) regular talks jointly organised by the Spot the Jellyfish campaign (www.ioikids.net/jellyfish) and the Malta Tourism Authority (MTA) as part of the Blue Flag campaign, and (v) the online educational portal International Ocean Institute (IOI) Kids, which provides tools for teachers and students alike (www.ioikids.net).

The University is a partner in the Perseus@school initiative (www.perseus-net.eu), which seeks to set up a network of schools in the Mediterranean and Black Sea which give their students hands-on experience on ocean literacy.

This initiative was launched through a competition for all local secondary school students at the first ever ocean literacy event held in Malta took place last May, courtesy of a consortium made up of the University, the Malta National Aquarium, the MTA and Sharklab, under the patronage of President Marie-Louise Coleiro Preca.

The winning entry, submitted by a student from St Monica School, Birkirkara, has recently been selected and the student will be nominated as the Perseus ambassador for Malta and will be invited to deliver a presentation at a special event at the European Parliament on December 10.

Ocean literacy has been successfully launched and is making increasing ripples across Europe. But one of the major challenges constraining its continued expansion is the incorporation of ocean literacy topics in national school curriculums, so that ocean literacy moves on from being just a collection of commendable albeit voluntary initiatives to being entrenched in our schools' syllabuses.

Concurrently, teachers need to be provided with the right tools to be able to inspire their students about the sea. Doing this does not mean breaking school budgets, since plenty of resources are already online and teachers can avail themselves of simple props, such as a Secchi disc or a small plankton net, to drive a point home.

www.alandeidun.eu

alan.deidun@gmail.com