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SCIENCE AND SCHOOL IN THE FACE OF THE GLOBAL CHANGE IN THE OCEANS

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The immensity of the oceans and their circumstances in the face of the adversities of climate change. Life and its daily realities in the shellfish bank of Testal (Noia). The desire to teach and learn in the first person, building knowledge that transits from the classroom to the laboratory, from the experience to the curriculum, from the coexistence inside and outside the educational center, to the experiences that science encourages. The pedagogical task shared by teachers and students in Secondary Education with the unequivocal desire to incorporate innovative teaching methodologies, committed to the need to respond to the great challenges of global change, submerging in the immediate environment. Reach far being close.

These are, among others, the symbolic and material scenarios in which -as text and context- Francisco Sónora and Aitor Alonso place us in their article "Ocean Under Global Change: From Science to School", published March 2018 in the *International Journal of Environmental & Science Education* (vol 13, nº 2, pp. 97-112), one of the most prestigious journals in the multiple convergences established between the Environmental Sciences and the Sciences of Education.

Enrolling their proposals in the *Climántica* environmental education project -that for more than a decade has dynamized, going from Galicia to the world, the work in network of thousands of students and hundreds of professors tackling environmental problems related to climate change- the article structures its contents in three main axes:

a) The theoretical-methodological foundation of the initiatives promoted, based on the science of global change and its great dimensions (the warming of the ocean, the stratification and its effects on the loss of biodiversity, the decrease of the pH in the ocean; eutrophication and its consequences in the decrease of oxygen in the oceans).

b) Laboratory practices, from design to completion with a group of 70 students aged between 14 and 16, at the Secondary Education School "Virxe do Mar" in Noia. A formative process that allowed learning to be placed in the anthropogenic global

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change and its ecological implications (convention currents, water mixtures with dyes of different temperatures, dissolution of bivalve shells in acid, average of the turbidity in Secchi disk).

c) Scientific research carried out by schoolchildren, between experimentation and simulation, hypotheses and obtaining information, analysis of data and conclusions based on evidence obtained in a shellfish bank (start of a temporary series of inquiries referred to the recruitment of cockles -*Cerastoderma edule*- that stop being larvae and to the study of their densities to know how global change can affect them).

Three lines of action that, as expressed by the authors in the "conclusions and implications of a pedagogical nature," highlight the immense potential of school communities to generate scientific data, establishing synergies between science and school, curriculum and life, local and planetary realities, to which the sea -made ocean- always, in one way or another, evokes as landscape and ecosystem.

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