

# A model for successful implementation of ocean literacy concepts for elementary school educators: the importance of focusing on early childhood for ocean stewardship

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Researcher Louise Chawla (1999) demonstrated that the two biggest factors influencing environmental stewardship are having had positive experiences in nature and strong role models as a child. Children learn very powerfully by observing the actions and attitudes of adults. Indeed, modelling has been shown to help children become problem solvers, critical thinkers, and decision makers (Braus, 1999). Rachel Carson also believed that early childhood years are critical in providing the 'fertile soil' for the seeds of knowledge about the natural world to grow (Carson and Pratt, 1956).

In order to build a society of people who are informed and passionate about the ocean, we should build a system of public education for children that gives them, not just the ability to read and write, but the ability to think holistically and critically, solve problems, make connections, communicate effectively, think globally, understand ecosystems and one's sense of place in it, and respect the natural world through direct experience in it. Such an education system is a challenge to implement in the United States (US) with its focus on the subjects of reading and math in early childhood education. However, novel approaches to teaching ocean literacy principles (OLPs) can be applied within the existing system that seem to work. One approach we tried combines providing direct and positive experiences in nature during the earliest years of education with a curriculum that builds upon that bond in subsequent years, providing an even deeper understanding of and appreciation for the ocean. These ingredients of knowledge and passion for the ocean form the basis for life-long stewardship.

Our model for ocean literacy emphasises the importance of early childhood experiences in inspiring ocean stewardship, relies upon multiple levels of partnerships, and integrates OLPs into an existing curriculum. The US ocean resource agency, NOAA, tested the model with great success. Experts across NOAA, a State Department of Education, a local public school district, and a conservation organisation, brought educators through the fundamentals of ocean science leading up to an understanding of ocean resource sustainability and management, spanning many concepts of the OLPs. Educators were provided with the opportunity to engage with stakeholders involved in resource sustainability. The success of the pilot demonstrates the power and importance in building partnerships at all levels federal, state, and county - (i.e. local school district) and across sectors to effectively implement OLPs and concepts 'on the ground.'

## References

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