SYMPAB - (16488) - TEACHING FOR OCEAN LITERACY: A LITERATURE REVIEW

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Short Abstract

This paper presents findings from a focused literature review aimed for identifying pedagogical principles for teaching for Ocean Literacy in primary and lower secondary school in cooperation with aquaria. A specific focus is how digital technologies (using e.g. AR/VR) and creative pedagogies can support teaching for Ocean Literacy. The review leads to a list of pedagogical principles, in headlines summed up as: 1) technology-supported, 2) inquiry-based, and 3) data-driven science teaching, using 4) real-time data if possible, 5) supported by VR and/or AR to e.g. illustrate invisible phenomena and processes, and with 6) communication between pupils and external stakeholders (the public and/or scientists), 7) a systems approach to critical concepts and processes, and a focus on 8) model-based inquiry, where pupils design their own models, and use them to test out their ideas. Based on the literature review about creative pedagogies the importance of place and felt knowledge about the ocean and about nature, alongside the notion that technology should enhance but not replace a real experience, points to 9) an embodied material-dialogic interaction with nature and technology as a key for teaching for Ocean Literacy. 10) Empowerment and agency and individual, collaborative and communal action for change are features that were notable in the review. Where multiple disciplines are referred to in the literature, they are largely interdisciplinary - rather than transdisciplinary. 11) Transdisciplinary approaches drawing on disciplinary knowledge, skills and understandings as needed in order to respond to the questions being asked (by young people, in this case) are not frequently seen and would be novel in teaching for Ocean Literacy.