

1. Record Nr.	UNINA9910495242603321
Titolo	Addressing Wicked Problems through Science Education : The Role of Out-of-School Experiences / / edited by Marianne Achiam, Justin Dillon, Melissa Glackin
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	9783030742669 3030742660
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (245 pages)
Collana	Contributions from Science Education Research, , 2213-3631 ; ; 8
Disciplina	507.1
Soggetti	Science - Study and teaching Teachers - Training of Environmental education Alternative education Education - Research Science Education Teaching and Teacher Education Environmental and Sustainability Education Alternative Education Research Methods in Education Ensenyament científic Activitats extraescolars Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1 The role of out-of-school science education in addressing wicked problems – an introduction -- Chapter 2 Co-designing a controversy-based educational programme in a science centre -- Chapter 3 Addressing health in out-of-school science experiences -- Chapter 4 Connecting museum visitors to nature through dioramas -- Chapter 5 Family interactions with biodiversity in a natural history museum -- Chapter 6 Real world problem: Connecting socio-scientific

contexts and dioramas -- Chapter 7 Who benefits from the natural gas in Israel? Using a public debate to teach all components of education for sustainable development -- Chapter 8 Climate Garden 2085: an art-science experiment promoting different ways of knowing about climate change -- Chapter 9 Using a wicked problem for inquiry-based fieldwork in high-school geology: Addressing climate change and mass extinction events -- Chapter 10 Connecting with people, places, and histories through archaeology: Youths' development of sustain'abilities' -- Chapter 11 School sliding doors: Out-of-school activities and young people's engagement with climate change -- Chapter 12 Wicked problems and out-of-school science education: Implications for practice and research.

Sommario/riassunto

This book discusses a number of ways in which out-of-school science education can uniquely engage learners with 'wicked' global problems such as biodiversity loss and climate change. The idea for the volume originated in discussions among members of the ESERA special interest group on "Science Education in Out-of-School contexts". It emerged from these discussions that out-of-school institutions and experiences offer opportunities for critical engagement in wicked problems that go far beyond what is possible solely in the science classroom. The book opens with a principled discussion of the nature of wicked problems and what addressing them involves. This introduction clarifies key terms and ideas to create a coherent backdrop for the rest of the book. Subsequent chapters discuss the challenges of designing educational experiences to address wicked problems, as well as the teaching and learning that takes place. The authors offer perspectives across a range of out-of-school environments such as science centres, natural history museums, botanical gardens, geological sites, and local communities. The book concludes with a chapter that synthesises the findings from the various contributions and points to the messages for educators. Finally, the editors outline an exciting research agenda to build knowledge of education addressing wicked problems. The intended audience of the book includes teachers, educators/facilitators, teacher educators, curriculum developers, and early career researchers as well as established researchers.