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Titolo	Navigating elementary science teaching and learning : cases of classroom practices and dilemmas // edited by Sophia Jeong [et al.]
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Edizione	[First edition.]
Descrizione fisica	1 online resource (427 pages)
Collana	Springer Texts in Education Series
Disciplina	634.9
Soggetti	Science - Study and teaching (Elementary) Ensenyament científic Educació primària Estudi de casos Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- New perspectives on the use of cases in elementary science teacher preparation -- Enhancing the learning of prospective and practicing elementary teachers through case-based pedagogy: Philosophical underpinnings -- Case-based pedagogy as an instructional tool -- Case-based pedagogy as a research tool -- Towards an expanded vision of elementary science teaching and learning -- Overview of the organizational structure of the book -- Section 1: Contemporary approaches to teaching science in the elementary grades -- Evidence-based learning -- Confronting what it means to participate in STEM/STEAM -- Engaging young children in maker spaces -- Building culturally responsive science classrooms -- Children's engineering by design -- Ambitious science teaching practices -- Section 2: New roles for technology in elementary science -- Fostering experiences with modeling and coding in the elementary years -- Instructional innovations with cellphones, iPads and personal technology -- New media literacies -- Ethical issues involving the use of low and high level technologies with young children -- Section 3: Creating inclusive elementary science learning environments --

Working against deficit models -- Differentiating science teaching and learning -- Meeting the science learning needs of children with Asperger's or along the autism spectrum, or other exceptionalities -- Section 4 Engaging children in socio-scientific issues -- Teaching about climate change -- Citizen science -- Democratizing science for young children -- Issues around the teaching of evolution (as it relates to young children) -- Fostering youth activism -- Section 5: The tensions of standards-based science instruction -- Considering issues of high-stakes assessments -- Responding to increasing demands for accountability -- Taking pedagogical risks in an era of high-stakes assessments -- Section 6: Diverse ways of assessing young children's science understandings -- Using students' funds of knowledge -- Eliciting and responding to student thinking/critical thinking -- Interdisciplinary teaching and assessment -- Section 7: Animals in the science classroom -- Teaching the value of life and death -- How should we use animals in the classroom? -- Nurturing a pedagogy of care for all species -- Section 8: Issues of diversity in elementary science teaching and learning -- Considering issues related to identity categories -- The impact of religion on science teaching and learning in the early years.0 The influence of language in science classrooms -- Power dynamics in elementary science classrooms -- Building science learning support systems for refugee, undocumented, immigrant, transitory, homeless students -- Section 9: Informal science learning environments -- The role of the family (caregivers) in elementary science education -- Teaching science outdoors (including experiential learning) -- Diverse contexts for informal science learning -- Section 10: Developing mindful science teachers and learners -- The role of emotions in science teaching and learning -- Creating meaningful/relevant/engaging science learning environments -- Fostering a sense of "wonder" in young children -- Science as a bridge to developing the whole child -- Concluding Chapter.

Sommario/riassunto

This book is a resource for both prospective and practicing elementary teachers as they learn to teach science in ways which foster the development of a community of science learners with multiple perspectives and diverse approaches to problem solving. It includes cases that feature dilemmas embedded in rich narrative stories which characterize the lives of teachers of science, and by extension their students, and serve as tools for discussion, critique, and reflective practice. The introduction to the book explores changing contexts for elementary science teaching and learning, and describes how case-based pedagogy can be used as a tool for both instruction and research. Each subsequent section of the book includes cases that are organized around topics such as contemporary approaches to teaching elementary science, new roles for technology, and the creation of inclusive learning environments for all students in elementary science. Each case is followed by reflective commentaries and concludes with questions for reflection and discussion. Teachers will benefit from these cases as they explore the complexities and ambiguities of elementary science teaching and learning in today's classrooms. .
