1. Record Nr.	UNINA9910438240703321
Titolo	Multiple representations in biological education / / edited by David F. Treagust, Chi-Yan Tsui
Pubbl/distr/stampa	Dordrecht ; ; New York, : Springer, 2013
ISBN	1-299-40781-1 94-007-4192-8
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (393 p.)
Collana	Models and modeling in science education ; ; v. 7
Altri autori (Persone)	TreagustDavid F TsuiChi-Yan
Disciplina	570.71
Soggetti	Biology - Study and teaching Education
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	FOREWORD, Kathleen Fisher -- PREFACE , David F. Treagust and Chi-Yan Tsui -- Introduction to Multiple Representations: Their Importance in Biology and Biological Education, Chi-Yan Tsui and David F. Treagust -- PART I : Role of Multiple Representations in Learning Biology -- Chapter 1 Identifying and Developing Students' Ability to Reason with Concepts and Representations in Biology, Trevor R. Anderson, Konrad J. Schönborn, Lynn du Plessis, Abindra S. Gupthar, and Tracy L. Hull -- Chapter 2 Pictures in Biology Education, Wolff-Michael Roth and Lilian Pozzer-Ardenghi -- Chapter 3 Possible Constraints of Visualization in Biology: Challenges in Learning with Multiple Representations, Billie Eilam -- Chapter 4 Promoting the Collaborative Use of Cognitive and Metacognitive Skills through Conceptual Representations in Hypermedia, Lei Liu and Cindy E. Hmelo-Silver -- Chapter 5 Learning and Teaching Biotechnological Methods Using Animations, Hagit Yarden and Anat Yarden -- PART II: Implications for Biology Teaching and Teacher Education with Multiple Representations -- Chapter 6 Experts' Views on Translation across Multiple External Representations in Acquiring Biological Knowledge about Ecology, Genetics, and Evolution, Konrad J. Schönborn and Susanne Bögeholz -- Chapter 7 Evolution is a Model, Why Not Teach It That Way?, Paul Horwitz -- Chapter 8 Multiple Representations of Human Genetics in Biology

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Sommario/riassunto	This new publication in the Models and Modeling in Science Education series synthesizes a wealth of international research on using multiple representations in biology education and aims for a coherent framework in using them to improve higher-order learning. Addressing a major gap in the literature, the volume proposes a theoretical model for advancing biology educators' notions of how multiple external representations (MERs) such as analogies, metaphors and visualizations can best be harnessed for improving teaching and learning in biology at all pedagogical levels. The content tackles the conceptual and linguistic difficulties of learning biology at each level—macro, micro, sub-micro, and symbolic, illustrating how MERs can be used in teaching across these levels and in various combinations, as well as in differing contexts and topic areas. The strategies outlined will help students' reasoning and problem-solving skills, enhance their ability to construct mental models and internal representations, and, ultimately, will assist in increasing public understanding of biology-related issues, a key goal in today's world of pressing concerns over societal problems about food, environment, energy, and health. The book concludes by highlighting important aspects of research in biological education in the post-genomic, information age.