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Nota di contenuto	Front Matter -- Copyright page -- Preface -- List of Figures and Tables -- Argumentation Research in Science Education -- Vygotsky's Spinozist Perspectives on Language -- Children's Reasoning and Problem Solving -- Argumentation as Joint Action -- The Role of Physical Objects in Science Lessons -- Argumentation and Inscriptions -- Argumentation and the Thinking Body -- Teaching Argumentation in Elementary Science -- Back Matter -- Index.
Sommario/riassunto	Science educators have come to recognize children's reasoning and problem solving skills as crucial ingredients of scientific literacy. As a consequence, there has been a concurrent, widespread emphasis on argumentation as a way of developing critical and creative minds. Argumentation has been of increasing interest in science education as a means of actively involving students in science and, thereby, as a means of promoting their learning, reasoning, and problem solving. Many approaches to teaching argumentation place primacy on teaching the structure of the argumentative genre prior to and at the beginning of participating in argumentation. Such an approach, however, is unlikely to succeed because to meaningfully learn the structure (grammar) of argumentation, one already needs to be competent in argumentation. This book offers a different approach to children's argumentation and reasoning based on dialogical relations, as the origin of internal dialogue (inner speech) and higher psychological functions. In this approach, argumentation first exists as dialogical

relation, for participants who are in a dialogical relation with others, and who employ argumentation for the purpose of the dialogical relation. With the multimodality of dialogue, this approach expands argumentation into another level of physicality of thinking, reasoning, and problem solving in classrooms. By using empirical data from elementary classrooms, this book explains how argumentation emerges and develops in and from classroom interactions by focusing on thinking and reasoning through/in relations with others and the learning environment.
