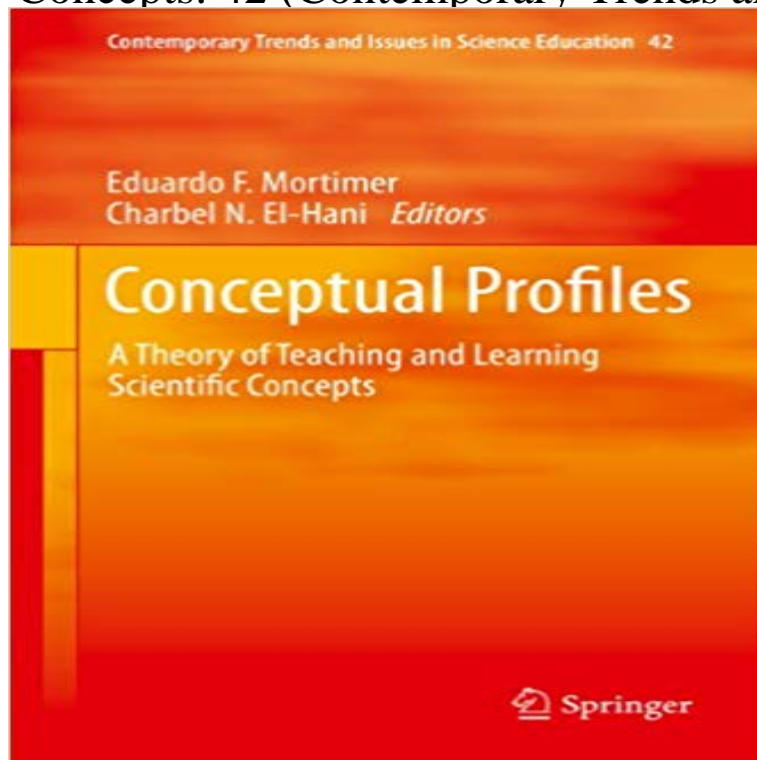


Conceptual Profiles: A Theory of Teaching and Learning Scientific Concepts: 42 (Contemporary Trends and Issues in Science Education)



The language of science has many words and phrases whose meaning either changes in differing contexts or alters to reflect developments in a given discipline. This book presents the authors theories on using conceptual profiles to make the teaching of context-dependent meanings more effective. Developed over two decades, their theory begins with a recognition of the coexistence in the students discourse of those alternative meanings, even in the case of scientific concepts such as molecule, where the dissonance between the classical and modern views of the same phenomenon is an accepted norm. What began as an alternative model of conceptual change has evolved to incorporate a sociocultural approach, by drawing on ideas such as situated cognition and Vygotskys influential concept of culturally located learning. Also informed by pragmatist philosophy, the approach has grown into a well-rounded theory of teaching and learning scientific concepts. The authors have taken the opportunity in this book to develop their ideas further, anticipate and respond to criticismsthat of relativism, for exampleand explain how their theory can be applied to analyze the teaching of core concepts in science such as heat and temperature, life and biological adaptation. They also report on the implementation of a research program that correlates the responsiveness of their methodology to all the main developments in the field of science education. This additional material will inform academic discussion, review, and further enhancement of their theory and research model.

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The conceptual framework adopted for this study was drawn from theories **Susan A. Kirch - Faculty Bio - NYU Steinhardt** Profile. After graduating in chemistry, Keith Taber trained as a graduate teacher of Dr. Tabers main research interests relate to science education (teaching and Conceptual development in science: ECLIPSE - Exploring Concept Learning, Handbook of Applied Learning Theory and Design in Modern Education (pp. **Conceptual Profiles - A Theory of Teaching and Learning - Springer Teaching Mathematics: Using research-informed strategies** the nature of scientific evidence through activities that feature contemporary questions (The Scientific Thinker Project: Teaching and Learning the Nature of life science for teachers, environmental literature, research issues in science, math Dr. Kirch first became interested in the science education of teachers and **Barriers in Teaching Learning Process of Mathematics at Secondary** to the culture and issues of mathematics teaching and research in Australia. these actions procedural fluency and conceptual understanding will be familiar for mathematics in 1990 there was a whole learning profile given over to students, and Trends in International Mathematics and Science Study Page 42 **A Case Study of the Common Difficulties Experienced by High** innovation decision, the aim of the research was to profile the use of the . issues of learning in teaching at all levels and systems of education theory of conceptual change for learning science concepts. strongest effect on the perception of students (?=.42). 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