1. Record Nr. UNINA9910483770303321

Titolo	Development of Science Teachers' TPACK : East Asian Practices / / edited by Ying-Shao Hsu
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2015
ISBN	9789812874412 9812874410
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (165 p.)
Disciplina	370 370711 507.1 607.11
Soggetti	Science - Study and teaching Teachers - Training of Technical education Science Education Teaching and Teacher Education Engineering and Technology 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 at the end of each chapters and index.
Nota di contenuto	Preface -- Part I TPACK in Teaching Practices -- Chapter 1 The development of teachers' professional learning and knowledge -- Chapter 2 The TPACK-P framework for science teachers in a practical teaching context -- Chapter 3 The current status of science teachers' TPACK in Taiwan from interview data -- Part II The Transformative Model of TPACK -- Chapter 4 Rubrics of TPACK-P for teaching science with ICTs -- Chapter 5 -- Applying TPACK-P to a teacher education program -- Part III The Integrative Model of TPACK -- Chapter 6 Developing preservice teachers' sensitivity to the interplay between subject matter, pedagogy and ICTs -- Chapter 7 Examining teachers' TPACK in using e-learning resources in primary science lessons -- Part IV Epilogue -- Chapter 8 The end of the beginning: An epilogue.

Sommario/riassunto

Science is a subject matter that requires learners to explore the world and develop their own abilities on the basis of that exploration. As technology broadens and deepens, science teachers need to expand their Technological Pedagogical Content Knowledge (TPACK), which determines how well they use technology to help students learn science. The book details our efforts to prepare science teachers to teach with the help of technology, examining various aspects of teacher education, professional development, and teaching material preparation. It consists of three parts, which focus on: how TPACK is conceptually constructed within the field of science education, how teacher evaluation and teaching materials are developed and utilized based on the transformative model, and how science teachers are prepared and supported with electronic resources based on the integrative model. The book offers a valuable resource for all those working in science education, as well as those readers who are interested in teacher education. Science teachers will come to know how simulations and animations can pedagogically support student learning. Practices for teachers' TPACK development such as learning-by-design, evaluation and measurement, and teacher communities are also addressed, applied and discussed in the case of science teachers. The individual chapters will provide teacher educators and researchers from all disciplines with new insights into preparing teachers for the Digital Era.