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Titolo	Research Advances in the Mathematical Education of Pre-service Elementary Teachers [[electronic resource]] : An International Perspective // edited by Gabriel J. Stylianides, Keiko Hino
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Collana	ICME-13 Monographs, , 2520-8322
Disciplina	370.733
Soggetti	Mathematics—Study and teaching Teaching Learning Instruction International education Comparative education Mathematics Education Teaching and Teacher Education Learning & Instruction International and Comparative Education
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	THEME 1: Pre-service teachers' mathematics-content and mathematics-specific pedagogical preparation.- Using mathematics-pedagogy tasks to facilitate the professional growth of pre-service elementary teachers -- Investigating the relationship between prospective elementary teachers' math-specific knowledge domains -- A self-study of integrating computer technology in a Geometry course for prospective elementary teachers -- Pre-service elementary teachers' generation of multiple representations to word problems involving proportions.- THEME 2: Professional growth through activities and assessment tools used in mathematics teacher preparation programs.- Pre-service teachers' mathematics-content and

mathematics-specific pedagogical preparation -- Preparing elementary school teachers of mathematics: A continuing challenge -- Designing non-routine mathematical problems as a challenge for high performing prospective teachers -- Preservice teacher procedural and conceptual knowledge of fractions -- Designing simulations to learn about preservice teachers' capabilities with eliciting and interpreting student thinking -- Professional growth through activities and assessment tools used in mathematics teacher preparation programs .- THEME 3: Pre-service mathematics teachers' knowledge and beliefs.- An investigation of prospective elementary teachers' argumentation from the perspective of mathematical knowledge for teaching and evaluating -- The mathematics backgrounds and mathematics self-efficacy perceptions of pre-service elementary school teachers -- Mathematics teachers' knowledge and productive disposition for teaching: A Framework and measure -- Prospective mathematics teachers' opinions about their opportunities for learning how to teach to a diverse set of students -- Pre-service mathematics teachers' knowledge and beliefs -- Learning to act in-the-moment: Prospective elementary teachers' role-playing on numbers -- The role of writing narratives in developing pre-service elementary teachers' noticing -- Noticing and deciding the next steps for teaching: A cross-university study with elementary pre-service teachers -- Understanding the work of mathematics teacher educators: A knowledge of practice perspective -- Perspectives on noticing in the preparation of elementary mathematics teachers.

Sommario/riassunto

This book examines new trends and developments in research related to the mathematical education of pre-service elementary teachers, and explores the implications of these research advances for theory and practice in teacher education. The book is organized around the following four overarching themes: pre-service teachers' mathematics content and mathematics-specific pedagogical preparation; professional growth through activities and assessment tools used in mathematics teacher preparation programs; pre-service mathematics teachers' knowledge and beliefs; and perspectives on noticing in the preparation of elementary mathematics teachers. Including contributions from researchers working in 11 different countries, the book offers a forum for discussing and debating the state of the art regarding the mathematical preparation of pre-service elementary teachers. By presenting and discussing the findings of research conducted in different countries, the book offers also opportunities to readers to learn about varying teacher education practices around the world, such as: innovative practices in advancing or assessing teachers' knowledge and beliefs, similarities and differences in the formal mathematics education of teachers, types of and routes in teacher education, and factors that can influence similarities or differences.
