1. Record Nr. UNISA996518464903316

Titolo	The Mathematics Teacher in the Digital Era [[electronic resource]] : International Research on Professional Learning and Practice / / edited by Alison Clark-Wilson, Ornella Robutti, Nathalie Sinclair
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	3-031-05254-4
Edizione	[2nd ed. 2022.]
Descrizione fisica	1 online resource (447 pages)
Collana	Mathematics Education in the Digital Era, , 2211-8144 ; ; 16
Disciplina	929.374
Soggetti	Mathematics - Study and teaching Teachers - Training of Educational technology Mathematics Education Teaching and Teacher Education Digital Education and Educational Technology Professors de matemàtica Formació del professorat Innovacions educatives Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1: Introduction -- 2: Designing Professional Development for Teaching Mathematics With Technology: A Multi-Level Approach to Foster Teacher and Facilitator Noticing -- 3: Using Instrumental Orchestration Model for Planning and Teaching Technology-Based Mathematical Tasks as Part of a Restructured Practicum Course -- 4: An Ensemble Approach to Studying the Teaching of Multiplication Using Touchtimes -- 5: Using First- and Second-Order Models to Characterise In-Service Teachers' Video-Aided Reflection on Teaching and Learning with 3D Pens -- 6: Opportunities and Challenges that Silent Video Tasks Bring to the Mathematics Classroom -- Teaching Linear Equations with Technology: A Flipped Perspective -- 7: Tensions and Proximities in teaching and learning activities: Case study of a teacher's

implementation of tablet-based lesson -- 8: Digital Resources in Kindergarten Teachers' Documents and Resource Systems: A Case Study in France -- 9: Analysis of Primary School Teachers' Roles in the Dynamics of Mathematics Lessons that Integrate Technology Resources in Challenging Socio-Economic Contexts -- 10: Characterising Features of Secondary Teachers' Curriculum Scripts for Geometric Similarity with Dynamic Mathematical Technology -- 11: Instrumental Orchestration of the use of Programming Technology for Authentic Mathematics Investigation Projects -- 12: Researching Professional Trajectories Regarding the Integration of Digital Technologies: The Case of Vera, A Novice Mathematics Teacher -- 13:The Abrupt Transition to Online Mathematics Teaching due to the Covid-19 Pandemic: Listening to Latin American Teachers' Voices -- 14: Meta-Didactical Transposition 2: The Evolution of a Framework to Analyse Teachers' Collaborative Work with Researchers in Technological Settings -- 15:Revisiting Theories that Frame Research on Teaching Mathematics with Digital Technology.

Sommario/riassunto

This book brings together international research on school teachers', and university lecturers' uses of digital technology to enhance teaching and learning in mathematics. It includes contributions that address theoretical, methodological, and practical challenges for the field with the research lens trained on the perspectives of teachers and teaching. As countries around the world move to integrate digital technologies in classrooms, this book collates research perspectives and experiences that offer valuable insights, in particular concerning the trajectories of development of teachers' digital skills, knowledge and classroom practices. Via app: download the SN More Media app for free, scan a link with play button and access the videos directly on your smartphone or tablet. Professor Alison Clark-Wilson works at the Institute of Education, University College London. Her research spans aspects of designing, implementing, and evaluating educational digital technologies with a particular interest in mathematics education. More specifically, she researches the more dynamic mathematical technologies alongside teachers' professional trajectories as they come to know and use such technologies. Beyond mathematics, Alison has extensive experience of working with governments, civil society organisations and industry partners on initiatives that aim to bridge research knowledge with educational technology product design and evaluation processes. Professor Ornella Robutti works in the Mathematics department "G. Peano" at the University of Torino. Her fields of research are students' cognitive processes during mathematical activities; teaching mathematics within technological environments; teachers' work as individuals and in communities, when teaching mathematics, when learning in professional development programs, and when designing tasks for students; meanings of mathematical objects in institutional and social contexts; mathematics students' and teachers' identities; boundary objects and boundary crossing between communities. Professor Nathalie Sinclair is a Distinguished University Professor in the Faculty of Education at Simon Fraser University. She is the founding and current editor of Digital Experiences in Mathematics Education and has written several books, including Mathematics and the Body: Material Entanglements in the Classroom. She directs the Tangible Mathematics Project, which has created multitouch applications TouchCounts and TouchTimes.