1. Record Nr. UNINA9910483113003321

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Titolo	Prospective Mathematics Teachers' Knowledge of Algebra : A Comparative Study in China and the United States of America / / by Rongjin Huang
Pubbl/distr/stampa	Wiesbaden : , : Springer Fachmedien Wiesbaden : , : Imprint : Springer Spektrum, , 2014
ISBN	9783658036720 3658036729
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (196 p.)
Collana	Perspektiven der Mathematikdidaktik, , 2522-0802
Disciplina	512.00712
Soggetti	Mathematics - Study and teaching Teachers - Training of Mathematics Education Teaching and Teacher 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.
Nota di contenuto	""Foreword""; ""Acknowledgments""; ""Table of Contents""; ""Figures""; ""Tables""; ""Nomenclature""; ""1 Chapter One: Introduction""; ""1.1 Background""; ""1.2 Statement of Purpose""; ""1.3 Research Questions""; ""1.4 Delimitations""; ""2 Chapter Two: Literature Review""; ""2.1 Knowledge Needed for Teaching""; ""2.2 Mathematics Knowledge for Teaching""; ""2.3 Teachersa€? Knowledge of Algebra for Teaching""; ""2.4 Mathematics Knowledge for Teaching Some Key Concepts in Algebra""; ""2.4.1 Teaching and Learning of the Concept of Function"" ""2.4.2 Teaching and Learning of Expressions and Equations Expressions.""""""2.4.3 Two Perspectives about the Concept of Function: A Case Study of Quadratic Function""; ""2.4.4 Flexibility in Learning the Concept of Function: A Case Study of Quadratic Function.""; ""2.5 Mathematics Teacher Education Systems in China and the U.S.""; ""2.5.1 Mathematics Teacher Education in China""; ""2.5.2 Mathematics Teacher Education in the U.S.""; ""2.6 Comparative Studies on Teachersa€? Knowledge for Teaching between China and the U.S.""; ""2.7 Conclusion""; ""3 Chapter Three: Methodology""

Sommario/riassunto

Rongjin Huang examines teachers’ knowledge of algebra for teaching, with a particular focus on teaching the concept of function and quadratic relations in China and the United States. 376 Chinese and 115 U.S.A. prospective middle and high school mathematics teachers participated in this survey. Based on an extensive quantitative and qualitative data analysis the author comes to the following conclusions: The Chinese participants demonstrate a stronger knowledge of algebra for teaching and their structure of knowledge of algebra for teaching is much more interconnected. They show flexibility in choosing appropriate perspectives of the function concept and in selecting multiple representations. Finally, the number of college mathematics and mathematics education courses taken impacts the teachers’ knowledge of algebra for teaching. Contents · Knowledge Needed for Teaching · Mathematics Teacher Education in China and the U.S.A. · Instrumentation, Data Collection, and Data Analysis · Comparison of Knowledge of Algebra for Teaching (KAT) between China and the U.S.A. · Relationship among Different Components of KAT · Comparison of KTCF between China and the U.S.A. Target Groups · Researchers, academics, and scholars of mathematics and didactics · Teachers The Author Dr. Rongjin Huang works as an associate Professor at the Middle Tennessee State University, U.S.A.