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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.
