Handbook of Research on
Transforming Mathematics
Teacher Education in the Digital Age

Part of the Advances in Higher Education and Professional Development Book Series

Margaret Niess (Oregon State University, USA), Shannon Driskell (University of Dayton, USA) and Karen Hollebrands (North Carolina State University, USA)

Description:

The digital age provides ample opportunities for enhanced learning experiences for students; however, it can also present challenges for educators who must adapt to and implement new technologies in the classroom.

The Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age is a critical reference source featuring the latest research on the development of educators' knowledge for the integration of technologies to improve classroom instruction. Investigates emerging pedagogies for preservice and in-service teachers.

Readers:

This publication is ideal for professionals, researchers, and educational designers interested in the implementation of technology in the mathematics classroom.

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Topics Covered:

- Digital Instructional Materials
- Distance Technologies
- Formative Assessment
- Inquiry-Based Games
- Online Animation Platforms
- Online Discussion Blogs
- TPACK Framework

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Margaret (Maggie) L. Niess is Professor Emeritus of Mathematics Education at Oregon State University. Her research focuses on integrating technology in teaching science and mathematics and the knowledge teachers require for integrating technologies in their teaching—TPACK. She has authored multiple peer-reviewed journals and chapters including multiple teacher preparation books. She directed the design, implementation, and evaluation of an online Master of Science program for K-12 mathematics and science teachers with an interdisciplinary science, mathematics, and technology emphasis. Her research from this program explores the effectiveness of social metacognitive constructivist learning trajectory in online graduate coursework. She is an editor of an upcoming IGI Handbook of Research on Teacher Education in the Digital Age. She has chaired multiple committees for the Association of Mathematics Teacher Educators (AMTE), currently serves as chair for the American Educational Research Association’s SIG-TACTL (Technology as a Change Agent in Teaching and Learning).