Cases on Technology Integration in Mathematics Education

Part of the Advances in Educational Technologies and Instructional Design Book Series

Drew Polly
(University of North Carolina at Charlotte, USA)

Common Core education standards establish a clear set of specific ideas and skills that all students should be able to comprehend at each grade level. In an effort to meet these standards, educators are turning to technology for improved learning outcomes.

**Cases on Technology Integration in Mathematics Education** provides a compilation of cases and vignettes about the application of technology in the classroom in order to enhance student understanding of math concepts. This book is a timely reference source for mathematics educators, educational technologists, and school district leaders employed in the mathematics education or educational technology fields.

**Topics Covered:**
- Hand-Held Technologies
- Interactive Whiteboards
- Internet-Based Technologies
- Mathematic Gaming
- Mobile Applications
- Simulations
- Student Assessment

**Market:** This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners. Ideal for classroom use.

**Drew Polly** is an Assistant Professor in the Department of Reading and Elementary Education at the University of North Carolina at Charlotte. His research agenda focuses on examining how to support the implementation of technology and standards-based pedagogies. More information can be found at: [http://education.uncc.edu/abpolly](http://education.uncc.edu/abpolly).
### Section 1: Leveraging Technology to Teach Specific Content

**Chapter 1**  
**Leveraging Dynamic and Dependable Spreadsheets Focusing on Algebraic Thinking and Reasoning**  
Margaret L. Niess (Oregon State University, USA)

**Chapter 2**  
**A Case Study of Primary School Students’ Use of a Dynamic Statistics Software Package for Analyzing and Interpreting Data**  
Irene Kleanthous (Cyprus Ministry of Education, Cyprus)  
Maria Meletiou-Mavrotheris (European University, Cyprus)

**Chapter 3**  
**Local Lotto:**  
Vivian Lim (University of Pennsylvania, USA)  
Erica Deahl (Massachusetts Institute of Technology, USA)  
Laurie Rubel (City University of New York, USA)  
Sarah Williams (Massachusetts Institute of Technology, USA)

**Chapter 4**  
**Bringing Dynamic Geometry to Three Dimensions:**  
Nicholas H. Wasserman (Teachers College, Columbia University, USA)

**Chapter 5**  
**Playing with Perpendicular Lines:**  
Douglas A. Lapp (Central Michigan University, USA)  
Dennis St. John (Central Michigan University, USA)

**Chapter 6**  
**Students’ Experiences Composing and Decomposing Two-Dimensional Shapes in First and Second Grade Mathematics Classrooms**  
Drew Polly (University of North Carolina – Charlotte, USA)  
Tabitha Vuljanic (Kannapolis City Schools, USA)

### Section 2: Leveraging Technology to Support Mathematical Practices

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Robert Pritchard (Sacramento State University, USA)  
Susan O’Hara (University of California – Davis, USA)  
Jeff Zawars (Stanford University, USA)

**Chapter 8**  
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Charles B. Hodges (Georgia Southern University, USA)  
Edie R. Hipchen (Golden Isles Elementary, USA)  
Traci Newton (Golden Isles Elementary, USA)

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Marshall Lassak (Eastern Illinois University, USA)

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Christine Browning (Western Michigan University, USA)  
Dustin Owen Smith (Western Michigan University, USA)

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Milan Sherman (Drake University, USA)  
Carolyn McCaffrey (Portland State University, USA)  
Amy Hillen (Kennesaw State University, USA)  
Charity Cayton (East Carolina University, USA)

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Lida J. Uribe-Flórez (New Mexico State University, USA)

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Jennifer Wall (Northwest Missouri State University, USA)  
Michael P. Rogers (Northwest Missouri State University, USA)

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George Gadanidis (Western University, Canada)

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Drew Polly (University of North Carolina – Charlotte, USA)  
Elizabeth Rodgers (Kannapolis City Schools, USA)  
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Alejandra Salinas (Boston University, USA)  
Chu Ly (Boston University, USA)

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Christie Sullivan Martin (University of South Carolina, USA)  
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Jeffrey Hall (Mercer University, USA)  
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Barbara Bartholomew (California State University – Bakersfield, USA)  
Amanda Sibley (Arizona State University – Polytechnic, USA)  
Scott Fraser (Arizona State University – Polytechnic, USA)

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Gerard Rambally (University of North Texas at Dallas, USA)

**Chapter 22**  
**Tianxing Cai (Lamar University, USA)**
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