# Journals of Interest - Mathematics and Science Education

January 2018

**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>Journal</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Research</td>
<td>2</td>
</tr>
<tr>
<td><em>Volume 46, Issue 9</em></td>
<td>2</td>
</tr>
<tr>
<td>Educational Studies in Mathematics</td>
<td>3</td>
</tr>
<tr>
<td><em>Volume 97, Issue 1</em></td>
<td>3</td>
</tr>
<tr>
<td>Mathematical Thinking and Learning</td>
<td>4</td>
</tr>
<tr>
<td><em>Volume 20, Issue 1</em></td>
<td>4</td>
</tr>
<tr>
<td>Journal of Research in Science Teaching</td>
<td>5</td>
</tr>
<tr>
<td><em>Volume 55, Issue 1</em></td>
<td>5</td>
</tr>
<tr>
<td>International Journal of Science Education</td>
<td>6</td>
</tr>
<tr>
<td><em>Volume 40, Issue 1</em></td>
<td>6</td>
</tr>
<tr>
<td><em>Volume 40, Issue 2</em></td>
<td>6</td>
</tr>
<tr>
<td>Science Education</td>
<td>7</td>
</tr>
<tr>
<td><em>Volume 102, Issue 1</em></td>
<td>7</td>
</tr>
<tr>
<td>Journal of College Science Teaching</td>
<td>8</td>
</tr>
<tr>
<td><em>Volume 47, No. 3</em></td>
<td>8</td>
</tr>
<tr>
<td>International Journal of Mathematical Education in Science and Technology</td>
<td>9</td>
</tr>
<tr>
<td><em>Volume 49, Issue 1</em></td>
<td>9</td>
</tr>
<tr>
<td><em>Volume 49, Issue 2</em></td>
<td>10</td>
</tr>
<tr>
<td>Journal for Research in Mathematics Education</td>
<td>11</td>
</tr>
<tr>
<td><em>Volume 49, No. 1</em></td>
<td>11</td>
</tr>
<tr>
<td>Journal of Mathematics Teacher Education</td>
<td>12</td>
</tr>
<tr>
<td><em>Volume 20, Issue 6</em></td>
<td>12</td>
</tr>
</tbody>
</table>
Editors’ Introduction: Introducing a Methodological Research Collection on Pressing Issues for LGBTQ Students
Joseph R. Cimpian, Carolyn D. Herrington.

Coming Out and Leaving Home: A Policy and Research Agenda for LGBT Homeless Students
William G. Tierney, James Dean Ward.

Gay-Straight Alliances as Settings for Youth Inclusion and Development: Future Conceptual and Methodological Directions for Research on These and Other Student Groups in Schools
V. Paul Poteat, Hirokazu Yoshikawa, Jerel P. Calzo, Stephen T. Russell, Stacey Horn.

Classification Errors and Bias Regarding Research on Sexual Minority Youths
Joseph R. Cimpian.

Queer and Trans Youth, Relational Subjectivity, and Uncertain Possibilities: Challenging Research in Complicated Contexts
Cris Mayo.

A Ratchet Lens: Black Queer Youth, Agency, Hip Hop, and the Black Ratchet Imagination
Bettina L. Love.

Outing the Politics of Knowledge Production: A Review of LGBTQ Issues in Education: Advancing a Research Agenda
Ed Brockenbrough.

Reviewers for Volume 46
Educational Studies in Mathematics

Volume 97, Issue 1

Editorial
Merrilyn Goos.

Why Johnny struggles when familiar concepts are taken to a new mathematical domain: towards a polysemous approach
Igor’ Kontorovich.

Conflicting frames: a case of misalignment between professional development efforts and a teacher’s practice in a high school mathematics classroom
Einat Heyd-Metzuyanim, Charles Munter, James Greeno.

Power and identity in immigrant parents’ involvement in early years mathematics learning
Miwa Aoki Takeuchi.

Culture and ideology in mathematics teacher noticing
Nicole L. Louie.

Mediating primary mathematics: theory, concepts, and a framework for studying practice
Hamsa Venkat, Mike Askew.

Inverse function: Pre-service teachers’ techniques and meanings
Teo Paoletti, Irma E. Stevens, Natalie L. F. Hobson, Kevin C. Moore, Kevin R. LaForest.

Keith Weber.

Keith Weber.
Mathematical Thinking and Learning

Volume 20, Issue 1

On MTL’s Second Milestone: Exploring Computational Thinking and Mathematics Learning
Lyn English.

Computational Literacy and “The Big Picture” Concerning Computers in Mathematics Education
Andrea A. diSessa.

Group Theory, Computational Thinking, and Young Mathematicians
George Gadanidis, Erin Clements, Chris Yiu.

The Dynamic Geometrisation of Computer Programming
Nathalie Sinclair, Margaret Patterson.

Cultivating Computational Thinking Practices and Mathematical Habits of Mind in Lattice Land
Christina (Yu) Pei, David Weintrop, Uri Wilensky.
Journal of Research in Science Teaching

Volume 55, Issue 1

Issue Information (pages 1-2)

A new design for manuscript typesetting in the Journal of Research in Science Teaching: Increasing efficiencies and embracing future publication trends
Fouad Abd-El-Khalick, Dana L. Zeidler.

Key challenges and future directions for educational research on scientific argumentation
J. Bryan Henderson, Katherine L. McNeill, Maria González-Howard, Kevin Close, Mat Evans.

A person-in-context approach to student engagement in science: Examining learning activities and choice
Jennifer A. Schmidt, Joshua M. Rosenberg, Patrick N. Beymer.

Pedagogical content knowledge of experts and novices—what knowledge do they activate when analyzing science lessons?
Matthias Krepf, Wilfried Plöger, Daniel Scholl, Andreas Seifert.

Investigating a learning progression for energy ideas from upper elementary through high school
Cari F. Hermann-Abell, George E. DeBoer.

Characterizing teacher attention to student thinking: A role for epistemological messages
Rosemary S. Russ.

Gesticulating science: Emergent bilingual students’ use of gestures
Zeynep Unsal, Britt Jakobson, Per-Olof Wickman, Bengt-Olov Molander.
International Journal of Science Education

Volume 40, Issue 1

The key factors affecting students’ individual interest in school science lessons
Derek Cheung.

Understanding children’s science identity through classroom interactions
Mijung Kim.

Native plant naming by high-school students of different socioeconomic status: implications for botany education
Gonzalo M.A. Bermudez, Sandra Díaz, Ana L. De Longhi.

Professional development design considerations in climate change education: teacher enactment and student learning
Andrea Drewes, Joseph Henderson, Chrystalla Mouza.

Scientific explanations in Greek upper secondary physics textbooks
Athanasios Velentzas, Krystallia Halkia.

Volume 40, Issue 2

Analysis of a physics teacher pedagogical ‘micro-actions’ that support 17-year-olds learning of free body diagrams via a modelling approach
Su Lynn Tay, Jennifer Yeo.

Investigating the interrelationships among conceptions of, approaches to, and self-efficacy in learning science
Lanqin Zheng, Yan Dong, Ronguai Huang, Chun-Yen Chang, Kaushal Kumar Bhagat.

Students’ reasons for preferring teleological explanations
Friederike Trommier, Hiege Gresch, Marcus Hammann.

Gender and family influences on Spanish students’ aspirations and values in stem fields
Milagros Sáinz, Jörg Müller.

Representations as mediation between purposes as junior secondary science students learn about the human body
Clas Olander, Per-Olof Wickman, Russell Tytler, Ake Ingerman.

Memorisation methods in science education: tactics to improve the teaching and learning practice
What does three-dimensional teaching and learning look like? Examining the potential for crosscutting concepts to support the development of science knowledge
Sarah J. Fick.

Experiences and practices of evolution instructors at Christian universities that can inform culturally competent evolution education
M. Elizabeth Barnes, Sara E. Brownell.

Community organizations’ programming and the development of community science teachers
Maria Varelas, Daniel Morales-Doyle, Syeda Raza, David Segura, Karen Canales, Carole Mitchener.

Boosting the numbers of STEM majors? The role of high schools with a STEM program
Martha Cecilia Bottia, Elizabeth Stearns, Roslyn Arlin Mickelson, Stephanie Moller.

An Inquiry into the structure of situational interests
Flávio S. Azevedo.

Framing negotiation: Dynamics of epistemological and positional framing in small groups during scientific modeling
Soo-Yean Shim, Heui-Baik Kim.

High school students’ evaluations, plausibilit (re) appraisais, and knowledge about topics in Earth science
Doug Lombardi, Elliot S. Bickel, Janelle M. Bailey, Shondricka Burrell.

Metaphors describing energy transfer through ecosystems: Helpful or misleading?
Ulrike Wernecke, Juila Schwanewedel, Ute Harms.

Using Q methodology to investigate undergraduate students’ attitudes toward the geosciences
Julia M. Young, Daniel P. Shepardson.
Data Modeling for Preservice Teachers and Everyone Else
Anthony J. Petrosino, Michele J. Mann.

Providing Opportunities for Argumentation in Science Exam Settings
Lauren Swanson, Cinzia Fissore, Ruben Solorza.

Integration, Authenticity, and Relevancy in College Science Through Engineering Design
Ken L. Turner Jr., Adam R. Hoffman.

Physics Meets Art in the General Education Core
Marta L. Dark, Derrick J. Hylton.

Two-Year Community: Tools for Success: A Study of the Resources and Study Habits of General Chemistry 1 Students at Two Community Colleges
Laura B. Bruck, Aaron D. Bruck.

Case Study: Skinny Genes? An Interdisciplinary Look at a Complex Behavioral Disorder
Joan-Beth Gow, Lisa A. Carpino.

Research and Teaching: Assessing the Effectiveness of Sustainability Learning

Research and Teaching: Structure and Evaluation of a Flipped General Chemistry Course as a Model for Small and Large Gateway Science Courses at an Urban Public Institution
Melissa A. Deri, Pamela Mills, Donna McGregor.

Research and Teaching: Many Paths Toward Discovery: A Module for Teaching How Science Works
Rebecca M. Price, Kathryn E. Perez.

Research and Teaching: SMASH: A Diagnostic Tool to Monitor Student Metacognition, Affect, and Study Habits in an Undergraduate Science Course
Kelsey J. Metzger, Brittany A. Smith, Ethan Brown, Paula A. G. Soneral.
International Journal Of Mathematical Education in Science and Technology

Volume 49, Issue 1

Precalculus teachers’ perspectives on using graphing calculators: an example from one curriculum
Ilyas Karadeniz, Denisse R. Thompson.

The effect of explanations on mathematical reasoning tasks
Mathias Norqvist.

The effectiveness of resources created by students as partners in explaining the relevance of mathematics in engineering education
Michelle Dunn, Birgit Loch, Wendy Scott.

Advanced mathematics communication beyond modality of sight
Mina Sedaghatjou.

ICT integration in mathematics initial teacher training and its impact on visualization: the case of GeoGebra
Monika Dockendorff, Horacio Solar.

Are middle school mathematics teachers able to solve word problems without using variable
Burcin Gökkurt Özdemir, Emrullah Erdem, Tugba Örnek, Yasin Soylu.

The concept of invariance in school mathematics
Shlomo Libeskind, Moshe Stupel, Victor Oxman.

Kurtosis: a forgotten moment
Lynn G. McAlevey, Alan F. Stent.

An elementary algorithm to evaluate trigonometric functions to high precision
B. Tomas Johansson.

Guided discovery of the nine-point circle theorem and its proof
Orly Buchbinder.

Dynamic geometry as a context for exploring conjectures
Arsalan Wares.
Corrigendum

Volume 49, Issue 2
On problematic aspects in learning trigonometry
Dina Kamber, Djurdjica Takaci.

Prospective mathematics teachers’ understanding of the base concept
Tugba Horzum, Erhan Ertekin.

Comparing the development of the multiplication of fractions in Turkish and American textbooks
Tugrul Kar, Gürsel Güler, Ceylan Sen, Ercan Özdemir.

Intra-mathematical connections made by high school students in performing Calculus tasks
Javier García-García, Crisólogo Dolores-Flores.

Objectifying the adjacent and opposite angles: a cultural historical analysis
Wajeeh Daher, Nadera Musallam.

On reconstruction of a matrix by its minors
Azamat Akhtyamov, Meirav Amram, Artour Mouftakhov.

Pizza again? On the division of polygons into sections with a common origin
Ilya Sinitsky, Moshe Stupel, Marina Sinitsky.

Tensor calculus: unlearning vector calculus
Wha-Suck Lee, Johann Engelbrecht, Rita Moller.

Mathematics and engineering in real life through mathematical competitions
M. More.

Erratum
Journal for Research in Mathematics Education

Volume 49, No. 1

The Role of Replication Studies in Educational Research
Jinfa Cai, Anne Morris, Charles Hohensee, Stephen Hwang, Victoria Robison, James Hiebert.

Three Conceptual Replication Studies in Group Theory
Kathleen Melhuish.

Brief Report: The Effects of Preservice Elementary School Teachers’ Accurate Self-Assessments in the Context of Whole Number
Eva Thanheiser.

Exploring Longitudinal Changes in Teacher Expectancy Effects on Children’s Mathematics Achievement
Faiza M. Jamil, Ross A. Larsen, Bridget K. Hamres.

Research Commentary: On Replications
Alan H. Schoenfeld.

Research Commentary: When and Why Replication Studies Should be Published: Guidelines for Mathematics Education Journals
Jon R. Star

Research Commentary: A Rejoinder: Reframing Replication Studies as Studies of Generalizability: A Response to Critiques of the Nature and Necessity of Replication
Kathleen Melhuish, Eva Thanheiser.

Research Commentary: A Rejoinder: A Reflection on the Evolution of a Replication Study
Faiza M. Jamil.
The quality of mathematics teaching: a central goal in mathematics teacher education
Despina Potari.

Prospective elementary teachers’ responses to unanticipated incorrect solutions to problem-solving tasks
Allyson Hallman-Thrasher.

Teachers’ construction of meanings of signed quantities and integer operation
Ruchi S. Kumar, K. Subramaniam, Shweta Shripad Naik.

Leader noticing of facilitation in videocases of mathematics professional development
Kristin Lesseig, Rebekah Elliott, Elham Kazemi, Megan Kelley-Petersen, Matthew Campbell, Judith Mumme, Cathy Carroll.