

JOURNAL OF  
**MATHEMATICS  
EDUCATION**  
AT TEACHERS COLLEGE

*A Century of Leadership in Mathematics and Its Teaching*

**Rethinking Purposes and Best Practices of Mathematics Education**

© 2021.

*This is an open access journal distributed under the terms  
of the Creative Commons Attribution License,  
which permits the user to copy, distribute, and transmit the work,  
provided that the original authors and source are credited.*

# TABLE OF CONTENTS

## PREFACE

- v *Nasriah Morrison, Teachers College, Columbia University*  
*Alyssa MacMahon, Teachers College, Columbia University*

## ARTICLES

- 1 **Jumping on the Shower Curtain: Using the Hundred Chart Kinesthetically to Embody Quantity Sense in Elementary Students**  
*Evan Throop Robinson, St. Francis Xavier University*
- 9 **Two Modes of Game-Based Learning for Middle School Mathematics**  
*Micah Stohlmann, University of Nevada, Las Vegas*
- 21 **Teaching Statistics with an Inquiry-Based Learning Approach**  
*Jae Ki Lee, Borough of Manhattan Community College*  
*Sun Young Ban, Merritt College*
- 33 **Supporting and Retaining Early Career Mathematics Teachers Using an Online Community of Practice**  
*Paula Jakopovic, University of Nebraska Omaha*  
*Travis Weiland, University of Houston*  
*Maria Campitelli, Florida International University*  
*Lorraine M. Males, University of Nebraska-Lincoln*  
*Lisa Amick, University of Kentucky*

## NOTES FROM THE FIELD

- 45 **Humanizing Mathematics to Broaden the Space of Participation**  
*Robert Q. Berry, III, The School of Education and Human Development, University of Virginia*
- 47 **Evolution in the Field of Mathematics Education: Its People, its Products, and its Directions**  
*M. Kathleen Heid, Pennsylvania State University*
- 49 **Some Career Reflections on Research and Scholarship In Mathematics Education**  
*Robert Reys, College of Education & Human Development, University of Missouri*
- 51 **Learning With and From the Community**  
*Marta Civil, University of Arizona*

NOTES FROM THE FIELD

## Humanizing Mathematics to Broaden the Space of Participation

Robert Q. Berry, III

*The School of Education and Human Development,  
University of Virginia*

As I reflect on mathematics education, I am reminded of those who have contributed to my development in mathematics education. I was influenced by a second-grade teacher who told me I was smart and capable; a sixth-grade teacher who was a warm-demander and expected excellence; a high school mathematics teacher who called me out on my laziness because he knew I was not performing up to my potential; a mathematics professor who made me sit in her office for hours until I could prove that I understood it; and a doctoral advisor who saw my potential and nurtured me as a mathematics educator. These people and many students have influenced my work. The stories and evidence are compelling that humanizing mathematics teaching and learning positively impacts persistence and engagement with the field. Within the last 30 years, there has been significant growth in research and work to understand people's mathematical experiences and how it contributes to their mathematical identity, agency, and their worldview of mathematics. The underlining questions appear to be, "what is the purpose for teaching mathematics?"

There are many ways in which researchers, teachers, and leaders investigate this question. Some take on an objective approach that is socially and politically neutral. And, others acknowledge that mathematics is neither objective nor politically and socially neutral. The field is questioning how mathematics is often positioned as objective, politically and socially neutral. As a field, we must engage the questions such as:

- How do we humanize/rehumanize mathematics education? What role do curricula play in humanizing mathematics, and how does it intersect with teaching and learning?

- How does the field attune to contexts and conditions in mathematics teaching and learning? Specifically, how does the field support learners to use mathematics to critique their contexts, understand their conditions, and read the world?
- In what ways do racial-equity, gender-equity, and different forms of representations push the field towards being more equitable in research, teaching, and learning?

For many mathematics educators, I believe that their love for mathematics, students, and communities is the common thread that binds us together as a field. It explains our willingness to engage in activities supportive of building a community around mathematics. It explains the willingness to engage in professional networks and critical conversations about mathematics teaching and learning. The field of mathematics education must engage in critical conversations about humanizing and rehumanizing mathematics to broaden the space of participation.

Too often, humanizing, context, and conditions are ignored in the field. For example, a common theme among policy and reform documents is a call for increased participation of historically excluded learners in mathematics. This call usually references increased and new demands of the U.S. economy, the drive to exceed international competitors, and a need to secure the U.S. from international security threats. Rarely are there references focused on the circumstances of historically excluded people and communities. Positioning historically excluded people increased participation in mathematics to meet the interests of international competition, national security threats, and the economy to the exclusion of the communities of historically excluded people is a form of racial commodification (Basile & Lopez, 2015).

These policies and reform do not provide clarity on how historically excluded people and their communities will benefit from increased participation in mathematics. The field must consider how policies and reforms maintain the interests of those who have power. When we consider power issues in the field, we broaden our understanding of how those with power are often centered and those from historically excluded communities continue to be marginalized.

A growing body of research is engaged in understanding contexts, conditions, and race in mathematics education. This growing body of research challenges the

dominant discourse and pushes mathematics education to consider sociological, anthropological, and critical theories. A significant contribution to the field would be developing how this body of work informs practice and research methodologies.

---

## Reference

- Basile, V., & Lopez, E. (2015). And still I see no changes: Enduring views of students of color in science and mathematics education policy reports. *Science Education, 99*(3), 519 – 548.