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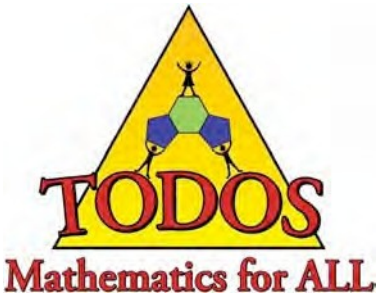
Teaching for Excellence and Equity in Mathematics

Special Issue

Mathematics Education: Through the Lens of Social Justice



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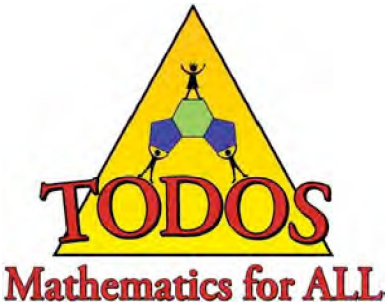

Special Issue
Mathematics Education:
Through the Lens of Social Justice

Editors

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The mission of TODOS: Mathematics for ALL is to advocate for equity and high quality mathematics education for all students — in particular, Latina/o students.

TEACHING FOR EXCELLENCE AND EQUITY IN MATHEMATICS

Teaching for Excellence and Equity in Mathematics

IN THIS ISSUE

From the Editors of TEEM Special Issue
Mathematics Education:
Through the Lens of Social Justice

Recent events in our nation have renewed the urgency to re-examine the role of education in the lives of people historically marginalized in our country. The racial, cultural, and socio-economic demographic shifts have produced a new norm in our public schools. Unfortunately, the current educational system does not equitably educate our youth. Our educational inequities are historical and systemic: grounded in the legacies of slavery, segregation and other forms of institutional discrimination based on race, class, gender, culture, and language. This is particularly evident in mathematics education. Institutional tools that implicate mathematics like standardized tests, ability groups, and curricular tracking systems contribute to the widespread use of pervasive deficit language to rank and sort children. This often results in permanent labels about children's intellectual capacities, family and cultural upbringing and general educability. Mathematics education is a key gatekeeper in this unjust system.

What can we do to dismantle institutional structures (inside and outside the classroom) that perpetuate these inequities in mathematics teaching and learning? What are we doing to transform mathematics education that leads to a more socially just mathematically competent citizenry?

For this *TEEM* special issue on mathematics education through the lens of social justice, we sought manuscripts from classroom teachers, teacher educators, and other interested scholars whose work involves mathematics teaching and learning from a social justice perspective. By social justice perspective, we mean work that has explicitly disrupted institutional structures, policies and practices to advocate for and advance children, historically underrepresented in STEM fields, in learning rich, rigorous and relevant mathematics. Transforming mathematics from a tool of systemic oppression to one of liberation that engages all of us: students, families, and educators in experiencing mathematics in a more just and humanizing way.

Each article in this special issue provides ideas, strategies and resources for this challenging work. Each author highlights the promises, tensions, and struggles of engaging themselves and others, whether it is PreK-12 students or preservice and veteran teachers, in fundamentally changing the experience of learning and teaching mathematics. And each article affirms the importance of mathematics in our lives.

The lead article in this special issue is a conversation with mathematics education scholar Danny Martin, whose seminal work on race, racism, and the mathematics socialization of African Americans provides important understandings about social forces that impact the mathematical experiences and identities of people from a critical perspective. In this conversation, Martin discusses the idea of radical imagination in mathematics education that spotlights racial justice needed for fundamentally transforming how people, particularly young people, experience mathematics in and out of school. Martin highlights his own struggles and what he is learning from his own work, teacher education collaborations, and historical accounts to move forward in transforming mathematics education for the better.

While young children can express ideas of fairness, very few examples exist of mathematizing those conceptions of fairness to address systemic racism. Teacher educator Theodore Chao and pre-school teacher DeAndrea Jones demonstrate how young children can learn fundamental early numeracy concepts and critically examine historical civil rights struggles such as slavery and segregation through play and storytelling. This article provides pre-school aged activities with mathematical extensions for older elementary students to deepen their mathematical and historical knowledge base and develop an activist skill set to navigate a currently unjust world and positively transform their own lives and communities.

Situated in an introductory mathematics course at the high school level, McNeil and Fairley describe an interdisciplinary (language arts and mathematics) project with social justice goals. Using the classic play, *A Raisin in the Sun* by Black playwright and activist Lorraine Hansberry as the context, students learned about linear and exponential functions while also learning about the injustices towards Black Americans. The article describes the different components of this project and includes students' reflections on the impact it had on them.

In "Methods, Maps, and Meaningful Mathematics", Zavala shares part of her journey towards becoming a critical mathematics educator. She describes how she implemented a mathematics activity with social justice implications with her bilingual preservice teachers and what she learned through this experience. Her detailed description of her process provides a valuable resource for mathematics teacher educators who want to support preservice teachers in their learning to teach within a social justice framework.

Felton-Koestler, Sutherland, and Tracy share their experiences in a mathematics content course for preservice elementary teachers that use projects aimed at supporting the students in the use of mathematics to understand the world within a social justice perspective. Sutherland and Tracy, at the time two of the students in Felton-Koestler's course, describe the projects they chose (teacher pay and school lunches, respectively) and the kinds of connections they made between the context of the project and the mathematical ideas. Felton-Koestler offers an analysis on these projects showing areas for further probing in terms of social justice issues.

In the final article of this issue, Rochelle Gutiérrez describes professional acts of creative insubordination that center student advocacy in the teaching mathematics. Through her work with pre-service and in-service teachers, Gutiérrez describes successful strategies to challenge institutional and individual acts of discrimination that serve to harm students and diminish the richness of learning mathematics. Realistic and school-based, these acts of creative insubordination provide language and practice for educators who are committed to students and advocating for a just and equitable mathematics education and find themselves in situations that demand rejection of the status quo.

It is important to understand that the work of mathematics education from a social justice standpoint is always evolving and never a finished product. The articles of this special issue offer foundational frameworks, substantive strategies and classroom-based activities that are replicable and challenging. As a companion piece to this special issue we encourage you to read the National Council of Supervisors of Mathematics and TODOS: Mathematics For All joint position statement on social justice in mathematics education. http://www.todos-math.org/socialjustice

We hope that the ideas and resources of this issue can serve as guideposts for your own journey to make mathematics a more peaceful, just and equitable experience for our nation's youth.

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Acknowledgement: We would like to thank all the reviewers for their service for this special issue. Their names will be listed among the reviewers for 2014-2016 in the next regular issue of *TEEM*. Special thanks to Rocio Benedicto, Carol A. Edwards and Bob McDonald of the TODOS board for editing and formatting assistance.

Call for Manuscripts

We encourage the submission of manuscripts that are aligned with the mission of TODOS: Mathematics for ALL (see p. 2). Manuscripts in applied or action research, literature surveys, thematic bibliographies, commentary on critical issues in the field, professional development strategies, and classroom activities and resources are encouraged and welcome.

Please see **http://www.todos-math.org/teem** for guidelines and then submit complete manuscripts to **teem@todos-math.org.** *TEEM* Editors welcome query emails on the suitability of topics or approaches.

Call for Reviewers

Refereeing is not only a valuable experience and service to the profession, but is also an essential means to ensure that articles of high quality and relevance are published in a timely manner. To be eligible to be a reviewer (normally one manuscript per year), we invite you to send an email to **teem@todos-math.org** with the following information:

- Full name, affiliation, and contact information (including email, phone number, fax number, and mailing address);
- Grade levels (e.g., elementary, middle, secondary, college) where you have teaching or research experience; and
- Thematic areas with which you have particular interest and expertise, and any other pertinent professional information.

Your information will assist the editors in assigning papers to the various reviewers.

TODOS LIVE! Webinar Available: "Reviewing and Writing for TEEM"

On July 22, 2013, Lawrence Lesser conducted a live webinar that explored the big picture and process for reviewing and writing for *TEEM*. The target audience includes classroom teachers, coach-es, administrators, curriculum coordinators, professional developers and university/college faculty. Use the link below to access the recorded webinar.

http://tinyurl.com/TODOSTEEM