Focusing on critical issues in mathematics education in a time of pushback

Editorial by
Laura McLeman and Eugenia Vomvoridi-Ivanovic

Welcome to the the Winter 2018 NOTICIAS newsletter! As long-time members of the TODOS family, we are pleased to be the new co-editors of the newsletter, following in the enormous footsteps of Susana Davidenko. Through our participation at different institutions as Doctoral Fellows in the Center for the Mathematics Education of Latinos/as, we acquired knowledge, theories, and frameworks related to equity and the teaching and learning of mathematics to linguistically and culturally diverse populations, specifically Latinx. During our tenure earning years and beyond, our work has focused on different aspects of mathematics teacher preparation with equity and social justice at the forefront. We are excited to enter into this new role that will both challenge and sustain us.

Building on the essential role that NOTICIAS has served in informing TODOS members, we desire to further bring the TODOS community together to consider the many important issues with which we all grapple. To that end, each edition of the newsletter will have a featured theme that focuses on one of these issues. This edition of NOTICIAS focuses on how mathematics educators can challenge mathematics instruction that is socially and culturally unjust. First, on page 2, Liz Griffith and Ksenija Simic-Muller share a lesson that Liz created as a student in one of Ksenija’s mathematics classes for elementary preservice teachers. Their commentary describes how mathematics instruction can focus on unpacking critical issues to develop empathy and understanding, while at the same time focusing on core mathematical concepts.

News from the President

By Diane Kinch
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TODOS’ goals include that we develop leaders for, disseminate knowledge of, influence educational policies to create, and inform families about equitable, rigorous and coherent mathematics that incorporates the role language and culture play in its teaching and learning.

Meeting these goals includes supporting mathematics researchers and others who focus on issues of equity and social justice. In the past few months many of these educators have been attacked in the media by journalists not seeking to understand, but rather to chastise efforts to pursue equity in the American education system. Our mathematics education researchers’ ideas and words have been distorted to convey meanings contrary to their intended message. In some instances, the posting have gone beyond a focus on their academic work, to attack their personal lives. This form of bullying and intimidation is unacceptable.

NCSM and TODOS wrote our joint position statement on Mathematics Education Through the Lens of Social Justice: Acknowledgement, Actions, and Accountability in order to help educators and the community understand how to improve our capacity to meet the mathematical learning goals of every student. Kinch, continued on page 5

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NOTICIAS de TODOS
World Cup, Fairness, and Teaching Mathematics

By Liz Griffith and Ksenija Simic-Muller
Pacific Lutheran University

In her commentary about this summer’s violent events in Charlottesville and elsewhere, TODOS President Diane Kinch wrote, “social justice is about the way in which human rights are manifested in the everyday lives of people at every level of society” (Kinch, 2017). Now, more than ever, teacher educators are needed to help teachers put human rights at the center of their teaching practice. In particular, mathematics teacher educators have a duty to help preservice teachers see the countless ways in which mathematics is intertwined with human rights. In this piece, Liz, a preservice teacher, and Ksenija, a mathematics teacher educator, present an example of using mathematics to shed light on human rights abuses in the context of a mathematics course for preservice teachers.

Ksenija has long incorporated issues of social justice into her work with preservice teachers. She has done this in multiple ways, including connecting her curriculum to campus events. She has written for TEEM (Simic-Muller, 2015) about using the Tunnel of Oppression event, whose purpose is to raise awareness of power, privilege, and oppression as foundation for an assignment in which students engage in mathematical explorations of social justice issues. In spring 2017, in the most recent iteration of this assignment, her students attended the Tunnel of Oppression and were tasked with doing one of three things: 1) writing a report, 2) creating a lesson plan, or 3) creating an infographic about one of the scenes. Among the nine scenes presented at the event, one was about human rights abuses in preparations for the 2022 World Cup. While the scenes have some statistical information (e.g., Figure 1), they are not overtly mathematical, and students need to dig deeper and conduct additional research to find rich mathematics. In fact, this is one of the main goals of the assignment.

Lesson Plan Outline

| Introduction: Talk about the World Cup with the class. |
| Does anyone know what the World Cup is? |
| Who knows where the last World Cup was held? |
| Does anyone remember watching the last World Cup? |
| Which team is your favorite and why? (Show some stadium pictures) |
| In the Brazil World Cup over 5 million people attended World Cup-related events and just under 3.5 million people attended the 64 matches. That is a lot of people. To put it into a picture, you would need enough stadiums to hold half of the entire population of the state of Washington. |
| Talk about what goes into planning for the World Cup: construction (stadiums-build 12, hotels, restaurants), money and funding, workers. |
| Talk about migrant workers. |
| There are estimated to be around 1.8 million migrant workers working to build the World Cup venue in Qatar. The migrant workers are mostly from Nepal and India. |
| Who knows what continent Nepal and India are on (Asia)? |
| Now we are going to look at where Nepal, India, and Qatar are and compare them to each other. |
| Working Conditions Activity in groups and then with the entire class. (See below) |
| Talk about seriousness of the working and living conditions that the workers endure. Go over stats on deaths of workers during the building of the Qatar World Cup venue so far. It is believed that between 400-600 people die each year building for the Qatar World Cup. Right now 4 stadiums are still under construction. That means people are working on them now and are still dying. |
| Talk about the students’ views and how they feel about the situation in Qatar with the 2022 World Cup. Fair? Okay? How do you stop this? Change it? What should be done instead? |

Griffith and Simic-Muller, continued on page 3
Griffith and Simic-Muller, continued from page 3

Figure 1: Student photo of the poster representing migrant worker deaths in Qatar.

At the time, Qatar was still going to host the 2022 World Cup. Since then, allegations about corruption and general unrest in the area have made these plans uncertain. Stories of human rights abuses have contributed to doubts about Qatar’s ability to host the World Cup (Human Rights Watch, 2017). The Tunnel scene focused on the treatment of migrant workers involved in preparing for the World Cup.

Task Cards

Card 1: Wages
You get paid £8 a day. You are working 18 hours a day, 6 days out of the week.
How much money do you make in an hour?
How much money do you make a week?
How much will you make in the month of July?
Is this enough money to make a decent living if rent costs $2,074 per month?

£1 = $1.25

Card 2: Housing
You are living in a one-room apartment. There is one mattress, in the middle of the room, for you and your 14 other roommates to share. The mattress is 60 inches wide and 80 inches long.
Assuming that everyone living in the house is 5’ 4” tall (the average height of Nepalese men), how many people will be able to sleep on the mattress?
How will you make it fair, if not everyone can sleep on the mattress at the same time?

Note: Don’t forget about the width of a person. State the assumption you will be making.

Card 3: Temperature
It’s summertime, and you are hard at work building the stadiums. Here are the temperatures (in °F) you have been working in recently:
What is the average temperature that you have been working in?
What is the temperature outside where we are today?
What is the difference between the temperature outside today and the average temperature in Qatar during July?
The hottest day of the year in Seattle last year was 95, and a temperature of 95 or higher is considered rare for the Seattle area. Think about that temperature relative to the temperatures in Qatar. Be ready to talk about your interpretations with the class.

Card 4: Work
The largest stadium, Al Bayt Stadium, is 39 meters high and has a capacity of 60,000 seats. A roommate of yours is working on the roof of the stadium. He has a safety harness that is attached to the roof to keep him from falling. The safety harness is old and he weighs more than the belt can hold. How many stories would he fall if he fell off the roof and his safety belt broke? In comparison, our school is only one story tall.

1 meter = 0.3 stories
Liz’s Commentary

Last spring, I experienced The Tunnel of Oppression. Walking through the tunnel was an eye-opening and humbling experience. When I walked into the section on migrant workers in Qatar helping to prepare for the 2022 FIFA World Cup, a belt and harness similar to ones that workers use were hanging from the ceiling, and there was a poster showing the amount of worker deaths between 2012 and 2013 alone. These visuals stuck with me, and I began looking into online news articles and stories about migrant workers in Qatar. What I found was astonishing. There were second-hand accounts and pictures, and first-hand accounts from workers about the living and working conditions they were experiencing. These reports sparked my interest in developing a lesson around the information so students can learn and understand a real world issue currently happening.

Far too often students, myself included at times, are unmotivated in mathematics from the feelings of, “Why do I need to know this?,” “Who cares?,” or “When will I ever use this outside of school?” Real-world problems show students instances where the mathematical concepts and skills they are learning in the classroom are applicable to scenarios outside of the classroom. The Oppression of Workers in Preparation for 2022 World Cup in Qatar Lesson Plan challenges not only students’ mathematics skills, but also requires critical thinking beyond simply executing a math problem. By completing this lesson, I hope students gain mathematical knowledge and practice, learn a little about Nepal and Qatar, practice problem solving, collaborate in small groups, and empathize with someone unlike themselves they have never met. Having lessons that teach more than just the curriculum helps form well-rounded, open-minded people, which we need more than ever right now.

Bibliography


Card 5: As a Class
You want to go home and visit your family back in Nepal. A plane ticket from Doha, Qatar to Kathmandu, Nepal costs around $450. How long will it take you to save that much money?

Note: This might not even be possible as our employer holds our passports and possibly will not give it to us, so we have to stay in Qatar and continue to work until the stadium we are building is done.

TODOS Live – Free Webinars for Members
Season Seven has begun and we have three insightful webinars. All three sessions from Season Seven along with all nine sessions from Season Six are available at https://toma.memberclicks.net/todoslive_seasonsix

Season 7 Highlight
Cultural and Linguistic Diversity: Resources for Teaching and Learning
Presented by Marta Civil
The session centered on the idea of diversity as a resource for mathematics teaching and learning. The focus was on how to build on the diversity present in our classrooms (in particular, language and cultural diversity) to enhance the mathematics learning opportunities for all of us (teachers, students, and parents). Marta discussed the concept of valorization of knowledge and how that may affect how we interact with diversity in the classroom.
Stay tuned and check your emails for upcoming sessions.
As Liz explains, these types of lessons help “form well-rounded, open-minded people, which we need more than ever right now.” We agree whole-heartedly with Liz, and we applaud her work in this area as it is challenging to create lessons around controversial issues, especially for someone so new to the profession. We would like to invite more teachers to create these types of lessons, while remaining mindful of when and how they are implemented, especially when working with our most vulnerable populations who may have experienced the very trauma being addressed.

However, as we have seen recently and as addressed in the column News from the President (p. 1), our work in this area has come under fire. Specifically, Diane Kinch addresses the recent attacks on mathematics educators’ work that focuses on equity and social justice by calling our attention to the responses of varying mathematics education organizations, including TODOS. Additionally, she points to the need of all TODOS members to be advocates for this work, and in particular for the students who “have been unrepresented in our system and textbooks.” We encourage everyone to (re-)read the TODOS and NCSM joint position statement Social Justice Mathematics and ask the difficult questions that Diane asks: “Why does it matter?” and “What can I do?”

If you are interested in learning more about critical mathematics education, we have provided several citations of articles and books in the References That Inform Our Work column (p. 6). Since our list cannot be exhaustive, please feel free to contact us and suggest additional relevant literature. Further, if there is a message you would like to share with the TODOS community, and/or a specific topic or issue aligned with the TODOS mission that you would like to see addressed in a future newsletter, please contact us. In the meantime, thank you for reading. We hope that you will find the contents of this issue to be meaningful.

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Kinch, continued from page 1

Tragically, there are people threatened by these ideals, and their response is to organize and put out false and cruel statements about our stance on creating socially just mathematics learning opportunities.

Just as we have seen in other attacks in our country, it brings people together. In this case, the major mathematics education organizations have joined TODOS in responding – from the National Council of Teachers of Mathematics (NCTM), to the Association of Mathematics Teacher Educators (AMTE), to the Special Interest Group for Mathematics Education Research (SIG-RME), to the National Council of Supervisors of Mathematics (NCSM). Each of our statements describe the importance of ensuring that each and every child has an opportunity to learn mathematics and that our nation benefits from thought leaders that bravely advocate for this work. TODOS stands with SIG-RME as we encourage TODOS members “to actively participate in conversations about how we can stand together to support critical scholars under attack and promote and encourage scholarly and productive exchanges that are essential to advancing mathematics education for all people.” (http://sigrme.org/)

Collaboratively, we will continue to take actions to hold ourselves accountable for the words in our Social Justice Position Statement. ALL children are at stake. In particular, those children who have been unrepresented in our system and textbooks need advocates. Members of TODOS can be these advocates. While there are some groups that will not seek to understand how to create a stronger education system, there are many who want to know such things as, Why social justice in mathematics? Why does it matter? And, What can I do? Expect to hear more from TODOS about how to help bring increased understanding to these important questions.

TODOS will build a narrative backed up by actions for us to utilize proactively to work towards the achievement of our goals. We join with Benjamin Banneker Association in efforts to build an equitable, socially just and culturally relevant focus on mathematics education. Together we are stronger. Please write to me with your ideas on how we can achieve this and what role you might serve in our efforts.

Diane Kinch
President, TODOS: Mathematics for ALL
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References That Inform Our Work


Iris Carl Award

Nominate a colleague for the Iris M. Carl Equity and Leadership Award. Nominations are due by March 01, 2018. Nomination Process: Candidates for the award must be nominated by TODOS members by completing the Nomination Package, https://goo.gl/VHNJ8G and sending the Package electronically to iriscarlaward@todos-math.org.

Award Description

The award was named in honor of Iris M. Carl, a visionary leader in mathematics education whose impact continues today. Her ideals and leadership helped shape mathematics education in the United States by bringing about change and by promoting the understanding of equality and equity in education. In 2003, Iris Carl encouraged the creation of TODOS: Mathematics for ALL and worked diligently with the founding members in writing our constitution and in developing our vision and mission. Previous winners include Lee Stiff (2017), Jose Franco (2016), Rochelle Gutierrez (2016), and Gil Cuevas (2015). The 2018 awardee(s) will be announced and recognized during the TODOS Conference on June 21-23, 2018, in Scottsdale, AZ.

The TODOS Iris M. Carl Equity and Leadership Award recognizes an individual who has made significant contributions to the quality of mathematics education provided to underserved students, in particular to Latinx students. The honoree is a mathematics educator who exhibits commitment to improving the mathematics education for all students and has made, or is making, unique contributions that have promoted equity and access for underserved students.

Iris Carl Award, continued on page 7

¡MUCHAS GRACIAS!

A huge thank you to our previous editor, Susana Davidenko, for her many years of leadership and service working with NOTICIAS de TODOS.
Your nominee, the candidate, must have met or meets most of the following criteria:

- Promotes excellence in mathematics education for all students.
- Acts to significantly impact the lives of all students— in particular, Latinx or other underserved populations.
- Creates opportunities or eliminates barriers for all students to engage in mathematics.
- Leads by example in practice and professional achievement.
- Leads sustained initiatives to improve the quality of mathematics education and success for all students. Promotes high quality mathematics education for all students.
- Acts to significantly influence leaders and practitioners in schools and communities.


**Call for Action**

Join the conversation in a Collective Call to Action, with the purpose being a year dedicated to learning from each other. Our collective knowledge and understanding of topics and issues related to Equity and Social Justice in Mathematics Education can only grow from our sharing and building of ideas, theories and resources. When the Association of Mathematics Teacher Educators, the Benjamin Banneker Association, Inc, the California Mathematics Council-South, the Journal of Urban Mathematics Education, the National Council of Teachers of Mathematics, the National Council of Supervisors of Mathematics, the North American Study Group on Ethnomathematics, the Women and Mathematics Education, and you all come together we move closer a more equitable mathematics classroom for all students.

**Calendar of Readings**

The next Webinar will be in January 2018 based on *The Impact of Identity in K-8 Mathematics* by Julia Aguirre, Karen Mayfield-Ingram, and Danny Martin, reading suggested by the Nation Council of Teachers of Mathematics (NCTM).

**Targeted Questions:**

- What are equitable instructional practices that support the development of students' mathematical identity and sense of agency?
- How can we advocate for the implementation of these practices?

**January/February 2018 Reading (Webinar March 2018)**

*Excellence Through Equity: Five Principles of Courageous Leadership to Guide Achievement for Every Student (2016)* by Alan M. Blankstein and Pedro Noguera. Reading suggested by the National Council of Supervisors of Mathematics (NCSM)

**Targeted Questions:**

What are the five principles of courageous leadership to guide achievement for every student discussed by these authors? How does your organization’s vision reflect the five components of courageous leadership? What can we do together to make visible these components?

**March - April 2018 Reading (Webinar May 2018)**


**Targeted Questions:**

How might teachers begin to teach mathematics for social justice? How might teacher educators begin to teach teachers how to teach mathematics for social justice? How might teaching mathematics for social justice "look like?" How can mathematics be re-envisioned as a means to create a more socially just world?

**Todos Mission Statement**

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.
Todos Conference
It’s ALL about ALL students Learning Quality Mathematics: Advocating for Equity and Social Justice.

Support the Teaching and Learning of Mathematics! Now is the time to support and advocate for all students and their teachers! Attend a conference like no other with knowledgeable and inspiring presenters while collaborating to impact student achievement! Sessions will focus on the importance of advocating for equity and social justice for ALL students learning quality mathematics.

Sessions will focus on the following topics:
• Centering Language, Literacy, and Culture in Mathematics
• Building on Student, Family, and Community Strength
• Moving Beyond Awareness, Engaging in Social Justice in Mathematics
• Implementing Mathematics Standards-Based Curricula Through Tasks, Technology, Social Media, and Assessment
• Opening Gates: Advocacy and Activism in Mathematics Education for ALL

Conference Dates: June 21-23, 2018
Location: Scottsdale Plaza Resort, Metro Phoenix, Arizona
Hotel Conference rates available:
https://goo.gl/6Z2tcL

Conference registration is open:
Register Now

The conference fee includes conference materials and the following meals:
• Thursday ~ Reception with hors d’oeuvres
• Friday ~ continental breakfast and lunch
• Saturday ~ continental breakfast and lunch

Registration will be capped, so don’t delay your registration!
Pre-Conference registration $100, $140 if only attending Pre-Conference (see page 9 for information on pre-conference)
Early Bird Conference Registration: $375, does not include Pre-Conference
Registration after March 1, 2018: $400, does not include Pre-Conference

General Overview

Thursday
Pre-Conference 8:00am to 3:30pm, separate registration required
Registration will open at 3:00 PM
Conference begins at 5:30 PM
Keynote Address, Dr. Maria del Rosario Zavala
Presentation of 2018 Iris M. Carl Leadership and Equity Awareness Reception following Keynote Address

Friday
Continental Breakfast
"Setting the Tone"
Impact Sessions
Lunch with Presentation
Dinner on Your Own

Saturday
Continental Breakfast
Lunch Presentation
Closing Activity Ends at 4:00 PM

Todos is excited to announce the Keynote speaker for our 2018 Conference, Dr. Zavala!

Dr. Maria del Rosario Zavala is an Assistant Professor of Elementary Education at San Francisco State University.

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Prior to joining the faculty at SF State, she worked in a variety of capacities in K-12 classrooms as a mathematics and writing teacher, in different settings. She researches issues of mathematics education equity and social justice through a focus on students' racial and linguistic identities in the mathematics classroom, teachers' identities as culturally responsive mathematics teachers, and various issues in bilingual mathematics education. In her work with in-service and pre-service mathematics teachers, Dr. Zavala focuses on developing competencies in instruction centered on students' thinking and that takes into account students' multiple identities that they bring to the classroom.

**Embracing Personal and Professional Disequilibrium in a Quest for Social Justice in Mathematics Education**

The plenary session will be a chance to begin to think about ideas and questions to guide participants’ work throughout the conference. Dr. Zavala will start from the question, “In what ways can each of us challenge systems of oppression that continue the marginalization of large sections of the population from learning rigorous mathematics?” Dr. Zavala proposes that true commitment to social justice requires first accepting that if you are not committed then you are complicit in upholding an unjust system, and second, that change will require discomfort, both personal and professional. In the same way that teachers may ask students to experience a productive disequilibrium when learning mathematics, participants will explore what productive personal and professional disequilibrium may mean if they are to truly enact change. Using examples from contemporary research and policy, participants will think about what questions are truly necessary to be asking themselves, and what values underlie particular questions and decisions.

Key questions that will guide this keynote include:

- What is the hardest question I can ask myself right now about my educational practice?
- What values lie at the heart of this question?
- Who will benefit, and how will they benefit?

**A Pre-Conference Session for Leaders**

**Thursday, June 21st 8:00 AM to 3:00 PM**

Lunch will be provided.

Leading for quality mathematics and social justice in mathematics teaching is necessary if we are to dismantle institutional structures, policies, and practices that promote systemic inequities in mathematics education. In this pre-conference session, leaders will engage in activities and discussions that will foster reflection on the status of their institutions in terms of social justice identification and acknowledgement of the roles power, privilege, and oppression play in the current unjust system of mathematics education actions to transform mathematics education policies and practices that do not serve to promote fair and equitable mathematics teaching and learning.