

JOURNAL OF
MATHEMATICS
EDUCATION
AT TEACHERS COLLEGE

A Century of Leadership in Mathematics and Its Teaching

Forward-Thinking Orientations for 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 *Anisha Clarke, Teachers College, Columbia University*
Nasriah Morrison, Teachers College, Columbia University

ARTICLES

- 1 **Building Thinking Classrooms: A Conversation with Dr. Peter Liljedahl**
Peter Liljedahl, Simon Fraser University
Anisha Clarke, Teachers College, Columbia University
Nasriah Morrison, Teachers College, Columbia University
- 9 **Multiplication by Sunlight: How Can a Geometric Definition be Realized in a Physical Tool?**
Justin K. Dimmel, School of Learning and Teaching, University of Maine
Eric A. Pandiscio, School of Learning and Teaching, University of Maine
Camden G. Bock, School of Learning and Teaching, University of Maine
- 17 **Modeling as Story-Building and Storytelling: Redesigning Algebra with Adolescent Girls of Color**
Kara Louise Imm, Hunter College, The City University of New York
- 31 **Gerrymandering in the High School Geometry Classroom**
Kate Belin, Fannie Lou Hamer Freedom High School
Courtney Ferrell, Bronx Theatre High School
- 43 **Hyper-Acceleration of Algebra I: Diminishing Opportunities to Learn in Secondary Mathematics**
Terrie M. Galanti, University of North Florida
Toya Jones Frank, George Mason University
Courtney K. Baker, George Mason University

Continued on next page

TABLE OF CONTENTS

(Continued)

NOTES FROM THE FIELD

- 51 Humanity and Practicality during the Emergency Conversion to Online Learning**
Christopher R. H. Hanusa, Queens College, City University of New York
- 53 COVID and the Importance of Casual Interactions in Mathematics Classrooms**
Sian Zelbo, J.D., Ph.D., The Brearley School, Stern College for Women, Yeshiva University
- 55 Meeting the Social-Emotional Needs of My Students During the Pandemic Through the Use of Activity Lists**
Michelle Longhitano, Teachers College, Columbia University
- 57 A Digital Touch to Teaching and Learning Mathematics**
Bryan Nevarez, Queens College, City University of New York
- 59 Navigating the Pandemic through Interdisciplinary Collaborations**
Estefania Hereira, Flushing International High School
- 61 Meeting Students Where They Are: A Schoolteacher's Brief Account of Teaching in the Pandemic**
Brian Darrow, Jr., Teachers College, Columbia University

© 2021 Nevarez. This is an open access article 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.

NOTES FROM THE FIELD

A Digital Touch to Teaching and Learning Mathematics

Bryan Nevarez
Queens College,
City University of New York

Being thrust into remote teaching at the onset of the pandemic proved a challenging transition. I was fortunate to have a large whiteboard at home, a few dry-erase markers, and a 2014 MacBook Pro. I immediately rearranged the furniture in my basement to create my new classroom. After only two weeks of using Zoom and Google Meet for my classes, I realized that my makeshift setup was not working well. There were too many instances when students told me to move my camera “a little to the left (or to the right)” because light caused a glare on the reflective surface of the whiteboard. Poor Wi-Fi connection produced intermittent video streaming and quickly became a nuisance. Still, I knew there was a way to carry out the teaching and learning of mathematics online, despite the grim circumstances that we faced.

Thankfully, a colleague offered advice for teaching mathematics in this new digital environment. After his recommendation, I bought a tablet. While I awaited the tablet’s arrival, I scoured through many high-quality instructional YouTube videos on mathematics. Their creativity and enthusiasm fueled my hope that the beauty and utility of mathematics could still be appreciated by students, only this time enhanced by technology. Of those YouTube channels, Eddie Woo’s and Po-Shen Loh’s stood out to me. The high standard of mathematics instruction set by these two renowned educators with

their colorful and easy-to-look-at mathematical diagrams drove me to do the same. I could not wait to employ this technologically charged way of exchanging and presenting mathematical ideas with my students.

The use of the tablet for my teaching became essential. The GoodNotes application was also an indispensable tool that streamlined the organization of my notes for my numerous classes, allowed me to produce high-quality PDF files, and easily synched with Google Classroom. I remember experiencing the joy of writing and displaying mathematics on the tablet by sharing it through Zoom. Over the past year, many students expressed that they enjoyed learning an array of topics in a remote environment, from drawing geometric figures to calculating the volumes of solids of revolution.

In light of the litany of hurdles that I continue to face daily after teaching remotely for over a year, I can say, unequivocally, that teaching mathematics is alive and well. Technology became a lifeline for my teaching. It was possible for me to provide an educational experience despite the turmoil associated with surviving a pandemic. As we head back into the classrooms, I look forward to using technology not merely as a supplementary educational tool but rather as one that has become inextricably linked to displaying the beauty and awe-inspiring power of mathematics.