

## BOOK REVIEW

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# A Mathematics Teacher Looks at Mathematics Educators Looking at Mathematics Education: A Review of *Culturally Responsive Mathematics Education*<sup>1</sup>

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Although it is common among many scholars and policy makers who attempt to discuss what is best for African-American learners, we do not ignore or fail to discuss our own positionality and subjectivity.

– Martin and McGhee, 2009, p. 215

In an attempt to eschew this failure to note my own positionality and subjectivity—the avoidance of author that Lather (2007) calls part and parcel with the *performance* of scientism—I will, from the outset, let the authorial cat out of the bag. I am both a full-time secondary mathematics educator as well as an aspiring Doctor of Philosophy—at once both present teacher and future researcher. I am White, while my students are 99% African American and 1% Hispanic; this makes me not only a teacher at what Ladson-Billings (2006) calls an *apartheid school* but also a rather conspicuous “other” (Delpit, 1995). I am currently in my fifth year of teaching—all at this same school—and, having struggled mightily at times to connect curriculum to culture, would seem to be an ideal audience for Greer, Mukhopadhyay, Powell, and Nelson-Barber’s edited volume *Culturally Responsive Mathematics Education*. The nascent researcher in me believes that I, and teachers like me all around the country, could not help but benefit from a view through a lens more focused on the advantages that culture brings to our efforts to teach mathematics and, on the one hand, I was hopeful that this volume would sharpen that focus. On the other hand, however, as a teacher in the trenches, I am usually less than sanguine about the ability of any sort of writing to proffer more than pyrite-promises. Loaded as I am with both the eternal optimism of the researcher and the perpetual pessimism of the teacher—though the

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<sup>1</sup> Greer, B., Mukhopadhyay, S., Powell, A. B., & Nelson-Barber, S. (Eds.). (2009). *Culturally responsive mathematics education*. New York: Routledge. 400 pp., \$67.95 (paper), ISBN 978-0-8058-6264-5 <http://www.routledge.com/books/details/9780805862645/>

lighter for having confessed them up front—I proceed from here, Janus-faced, with my review.

### Organization of the Book

As educators, little else could be more important than for us to deeply understand how our narrow vision of culture, bias, prejudice, and discrimination all creep consciously or unconsciously into the subject matter we present, the pedagogy we implement, and what we fail to do to minimize or eliminate them from our instruction.

– Barta and Brenner, 2009, p. 87

The book is rather tightly organized into two large sections: (a) Foundations and Backgrounds, and (b) Teaching and Learning; loosely, of course, we could rename these two sections *Theory* and *Practice*. D’Ambrosio contributed the foreword—fittingly, as Paulo Freire is cited in seemingly every chapter, while ethnomathematics is alluded to nearly as often (and explicitly detailed in two separate chapters). The *Theory* section begins with Swetz’s wonderful survey of culture, history, and the concurrent development of mathematics; it then continues on from Ernest’s attempt at a re-articulation of the philosophy of mathematics, through Gutstein’s exploration of economic policy and the attendant mathematical response, before closing with Miller-Jones and Greer’s timely look at testing practices and how these contribute to the notable inter-cultural achievement gaps. Overall, the section provides a wide view of culture, education, and their intertwined relationship—solid reading for any mathematics teacher whose head is not buried in the sand of Platonism, who might believe there is more to education than just the transmission of “the Truth.”

The *Practice* section is both more narrowly focused and more predictable than its predecessor. Batting leadoff is Gay with a broad look at culturally responsive mathematics teachers, followed by three heavy hitters: Martin on African American children, Moses on the Algebra Project, and Lipka on the cultural knowledge of the Yup’ik Alaskan Natives. Civil is positioned in the seventh spot of the lineup with her look at Latina mothers, followed by Davis, Hauk, and Latiolais’ examination of culturally responsive college level mathematics—this only peek into postsecondary education tucked into the nether regions of the book, batting last. I call this section “narrowly focused” because it is replete with specificity; each set of authors brings a different cultural perspective coupled with actual and abundant mathematical applications. I call it “predictable” because, except for the surprising piece on the college level, I am fairly certain that I had previously read everything present. To continue with my baseball analogy, it was rather like watching the late 1990s Yankees win three World Series in a row: impressive and amazing, but each game seeming much as if I had seen it

play out in exactly the same manner before. Tight, beautiful, skilled, to be sure; however, nothing unusual.

### As a Researcher, As a Teacher...

How can middle-class, monolingual European-American math teachers work better with students who are predominately of color, attend schools in poor urban communities, and are often multilingual?

– Gay, 2009, p. 189

As an aspiring Doctor of Philosophy who one day hopes to teach future teachers inside a college of education, I found the book to be a resource both pedagogically rich and potentially problematic. Rich on account of both the breadth of topics covered in the *Theory* section as well as the testimonial power of the heavy hitters from the *Practice* section; in particular, I found Swetz's survey of history and culture to be both interesting and illuminating, and I am becoming of the increasing opinion that one could never reach an intellectual limit on reading Gutstein or Martin. In this day and age of an impending "minority-majority," the power of these authors to inspire the potentially overwhelmed White teacher to action and efficacy cannot be minimized. Here, however, is where I worry that the book has gone mildly astray. Specifically, I wonder who, in fact, is their audience?

I am a third-year doctoral student in a mathematics education program; I have read almost all of these authors before, some several times, and felt—as stated above—that I did not see much that I would consider new. Thus, it would seem, I am not the audience for this book. I would recommend this book highly to a new cohort of doctoral students, fresh into their first year, most still surveying a broad swath of literature as they seek to find their own voice, their individual passions. To be more specific, if ever granted the ability to teach first year doctoral students I will almost certainly use this work in whole or in part. I must report, however, that I would only use it for advanced graduate students, as much of the theory section assumes a familiarity with specific corners of academia that might not be a part of the typical beginning graduate student's argot. We have here an academically advanced tome—scaring the pants off of novice graduate students in order to expose them to culturally responsive mathematics hardly seems efficacious.

The problem of arcane academic language will only exacerbate as the book is disseminated downward, from graduate schools to undergraduate, from post-secondary to secondary, from high school to middle school. As a teacher, however, I desire desperately for these ideas to make it out of our nation's college campuses and into our neighborhood schools. Thus, in an effort to prevent the baby being thrown out with the bathwater, I recommend the book in piecemeal,

thinking of my many colleagues who might benefit from an introduction to topics such as these. Swetz, though lengthy, would be the piece I would most advise reading from the *Theory* section. Cruising the globe both geographically and historically—aggregating mathematical tidbits while making a case for the cultural development of mathematics—seems, on paper, an impossible task; Swetz, however, performs this task with seeming ease. Glancing back over my copy, I find notes scribbled all over the margins: “cool,” “wow,” “bold,” “relevant.” I find it hard to picture any lover of mathematics—from the college professor to the high school student—not feeling similarly.

Any mathematics teacher unfamiliar with Robert Moses and The Algebra Project must read Moses, Maxwell, and Davis’s chapter. Moses’s story should serve as an inspiration for any teacher to think, “How might I do this week’s lesson just a bit differently than I have done it before?” Lipka, Yanez, and Andrew-Ihrke’s chapter on the Yup’ik provided me with at least one geometrical idea for my class—this when I thought I had all but “mastered” the concept of the quadrilateral. I think that theirs is the broadest look at what can be done in the classroom when culture is foregrounded. Civil and Quintos’s chapter on Latina mothers would also be beneficial to most teachers, I believe, as it would provide a sort of view through the looking-glass: what exactly do parents think about all of this, anyways? All three of these chapters are accessible, practical, and inspirational; any current or pre-service teacher could not help but glean something from them. If I were to teach a class of undergraduates someday, or have free reign to assign reading to my colleagues, these four chapters—Swetz, Moses et al., Lipka et al., and Civil and Quintos’s—would make my short list.

### Concluding Thoughts

The idea of culturally responsive education...is widely understood but, so the familiar argument goes, isn’t mathematics, and more particularly the teaching of mathematics, culture-free?

– Greer, Mukhopadhyay, Nelson-Barber, and Powell, 2009, p. 1

Spring (2008) defines culture as “socially transmitted behavior patterns, ways of thinking and perceiving the world, arts, beliefs, institutions, and all other products of human work and thought” (p. 3). Unless we are willing to adopt a sort of Platonic ideal pertaining to mathematics, we are stuck—under the auspice of this definition—regarding mathematics as a product of human work, and, thus, a part of our culture. It is, of course, those two words—*our culture*—that cause so much trouble for so many people; whose culture, exactly, is meant here? The power of this book lies in part in its ability to debunk the myth of mathematics as a Western invention, passed down from the Ancient Greeks to the Enlightenment Europeans to the modern day “first world” in some unbroken chain of unbridled

genius. While it is true that the mathematics we learn today in school is a largely Westernized mathematics, what the authors of this volume want us as educators to understand is that this does not necessarily need be so. The Yu'pik were doing mathematics long before the White man “discovered” what would soon be re-named America; could not this parallel product of human work be equally as rich as the Westernized mathematics that has been so normalized?

I conclude with a quote from Delpit (1995) who writes, “I would like to suggest that if one does not see color, then one does not really see children” (p. 177). I use Delpit’s statement to address those who think that mathematics both is and should remain culture-free. If this is so, then I, as a White mathematics teacher, am free to ignore the racial and cultural differences of my Black and Hispanic students as I teach them the only academic discipline that is fully pure, gentle, and clean. Given—as I believe—that this illusion of cultural independence is not true (Skovsmose, 2005), then Delpit’s words apply: choosing not to see culture in mathematics would be tantamount to choosing not to see children. For the mathematics teacher who wishes to see children, who believes that to do so they need to improve their ability to see culture, *Culturally Responsive Mathematics Education* is an excellent step in a most excellent direction.

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