

Mathematical Counterstory and African American Male Students: Urban Mathematics Education from a Critical Race Theory Perspective

Clarence L. Terry, Sr.
Occidental College

In this article, the author argues that the persistent underachievement of many African American male students in urban school districts requires pedagogical interventions designed to re-engage and re-orient students to mathematics as a critical cultural activity. While counterstory, a critical race theory construct, has wide application across educational research, few researchers have explored its relevance for urban mathematics education. Here, the author provides a grounded operationalization of counterstory by examining the pedagogy embedded in African American narrative on literacy. Using data from a participatory action research project involving male African Americans in South Los Angeles, the author then demonstrates how counterstory is embedded in the mathematical activity associated with graphical representation and trend analysis of data. Through the theorized approach to counterstory presented, the author provides useful direction for education researchers interested in counterstory, and for mathematics educators attempting to broaden their pedagogical approaches to teaching and learning mathematics.

KEYWORDS: African American male students, critical race theory, critical mathematics literacy, counterstory, mathematics education, urban education

*It's a number game, but shit don't add up somehow:
Like I got 16 to 32 bars to rock it
but only 15% of profits ever see my pockets;
like 69 billion in the last twenty years
spent on national defense but folks still live in fear;
like nearly half of America's largest cities is one-quarter Black,
that's why they gave Ricky Ross all the Crack;
16 ounces to a pound, 20 more to a Ki
a five-minute sentence hearing and you're no longer free...*

CLARENCE (“LA MONT”) TERRY, SR. is an assistant professor in the Department of Education at Occidental College, 1600 Campus Road, Education (F-1), Los Angeles, CA 90041; e-mail: lterry@oxy.edu. His research focuses on the impact of critical pedagogical interventions on the mathematics learning and identity development of male African Americans across learning settings.

... Crack mothers, Crack babies and AIDS patients,
 youngbloods can't spell but they can rock you in PlayStation.
 This new math is whippin motherfuckers' ass
 You wanna know how to rhyme? You better learn how to add.
 It's mathematics! *

The numerically laced lyrics above, excerpted from hip-hop vanguardian Mos Def's song *Mathematics* (Smith & Martin, 1999), capture an image of an urban American landscape replete with socioeconomic, political, health, and educational injustices for African American youth. In turn, the song constitutes an appeal for the development of a literacy that is commensurate with the expressed need to critically read and reflect on the urban American text, as well as on Black life within that context. The artist-activist asserts that if African American youth are to effectively decode, process, and understand the meanings embedded in urban life—as well as to counteract the negative forces therein—they must develop mathematical literacy. The “new math” is not the newest policy take on curriculum or instruction, or even contested national or state content standards for that matter; the new math requires one to critically mathematize everything from the goings-on of the neighborhood block to understanding global capital markets—and everything in between. Indeed, for generations of African Americans *still* coming up from slavery, “reading the word and world” has very literally been the key to unlocking persistent racial, cultural, socioeconomic, political, and physical bonds (Freire, 1970/2000; Freire & Macedo, 1987; Perry, Steele, & Hilliard, 2003; Wacquant, 2002; Woodson, 1933/1969). Mathematical literacy as such remains equally important, if not more so in the contemporary urban milieu.

In this article, I discuss the role that the critical race theory (CRT) notion of *counterstory*¹ can play in urban mathematics education. To provide context, I highlight problematic notions of equity that plague mathematics education as shaped by national policy documents, thereby arguing the need for a CRT lens in research and practice in urban mathematics education. While “counterstory-telling” is a CRT methodology that has growing application across educational research, few researchers have explored its relevance for mathematics classrooms. To explore counterstory in mathematics education, I begin with an examination of

* **EDITORS NOTE:** The lyrical excerpt was printed as written and performed to preserve the integrity of the art form.

¹ I favor *counterstory* over the more common usage *counter-story*, also reflected in the shift away from *counter-storytelling* to *counterstory-telling*. The shift connotes an emphasis on the construction and telling of a particular counterstory, rather than a focus on the dominant narrative being countered.

the pedagogical relationship between narrative and counterstory in an attempt to provide an operational definition of counterstory as a CRT construct. While this operationalization will undoubtedly be of use to education researchers in general, it allows us, as mathematics educators, to identify counterstory in mathematical teaching and learning contexts in particular. As such, in the second half of the article, I apply this operationalization of counterstory to critical ethnographic data from a recent study involving high school-aged Black male urban youth in South Los Angeles. Focusing specifically on the conception and construction of *mathematical counterstory* (Terry, 2010a), I propose this emergent mathematical activity as a potential pedagogical basis for developing productive curricular and instructional interventions in urban mathematics classrooms.

National Doctrines of Equ(al)ity in Mathematics Education

Examining the relatively high level of “illiteracy” in school mathematics, Moses and Cobb (2001) have fairly assessed the socioeconomic position of a number of African Americans as serfdom. This positionality is particularly true considering the clear connections between PreK–12 mathematics achievement, college access, and socioeconomic status. The persistent disparities in racially disaggregated mathematics achievement data over the past several decades have prompted efforts by the mathematics education community to chart new and equitable directions for the teaching and learning of mathematics on a national level (Schoenfeld, 2002; Secada, 1989; Tate, 1997). The National Council of Teachers of Mathematics (NCTM) issued its standards documents (NCTM, 1989, 2000) in language that recommended a corporate move toward “equity” that was to be instantiated through “high-quality instructional programs.” In short, NCTM has largely been responsible for re-framing how we, as mathematics educators, think about our practice vis-à-vis disparate group achievement (Schoenfeld, 2002). The critique is not new; this “mathematics for all” framework, as several scholars have well argued (Allexsaht-Snider & Hart, 2001; DiME, 2007; Martin, 2003), can be thought of as a liberal but ineffective attempt to redress claims about unequal group outcomes (i.e., the racial “achievement gap”) through complete inclusion. While it is clear that the national discourse on equity in mathematics education has shifted, the NCTM’s framing of inequity as disparate achievement ultimately frames equity qua equality. The implicit logic of this approach is that if inequity is equivalent to academic disparity, then equity has been achieved when there is a consistent parity between the achievement scores of the various racial and/or ethnic groups.

Though progress toward group parity is important, there are other types of inequity that mathematics educators must attend to. Mathematics education research and practice predicated upon a “group” unit of analysis largely leaves questions about the well being of individual students along various dimensions

unaddressed. Further complicating the matter, the “mathematics for all” framing is colorblind (Bonilla-Silva, 2006; Delgado & Stefancic, 2001; Omi & Winant, 1994). The “for all” language prescribes an intervention that treats groups and individuals similarly without adequately addressing the differential realities of the racial and/or cultural experience of African Americans over time (Martin, 2003, 2009). If, as is the case, the construct of “race” is implicated by the very fact that we, as a community of mathematics educators, can predict mathematical performance by race and/or ethnicity, what are we to make of solutions that ignore race altogether? That is to say, there is some sense in which we would naturally expect an attention to race, racialization, and racism to play a role in how we address a problem that presents itself along racial lines. As such, though the increased focus on equity represented in the *Standards* documents is laudable to some extent, the documents (insofar as they promote policy and practice) are insufficient for driving an equitable approach to the teaching and learning of mathematics for African American students. For this reason, there is a much repurposing in mathematics education research needed in terms of attention paid to (a) race and racial identity as constructs of interest in studying the teaching and learning of mathematics and (b) the experiences of African American students as both racialized persons and cultural “others” in the mathematics classroom.²

These misleading doctrines of equity and parity hold premiere significance for African American male students in urban classrooms. Key reports on the academic success of African American students in California reveal that Black males are less likely to experience high school and post-secondary success as evidenced by data from the state high school exit exam, SAT scores, high school graduation rates, post-secondary enrollment, as well as college degree earning (Rosin & Wilson, 2008); Holzman (2006) reports similar trends across the United States, examining literacy and graduation rates, Advanced Placement (AP) coursework, assignment to special education services, and rates of discipline for Black males in every state. If we consider that the U.S. Census Bureau reports that more than half of African Americans (52%) live in the central city areas of the nation’s major metropolitan regions, it becomes clear that our urban school districts play a key role in influencing these inequities (McKinnon, 2003). In fact, the 2009 National Assessment of Educational Progress (NAEP) reported that students in 10 of the 18 urban districts participating in its Trial Urban District Assessment performed below their counterparts in large U.S. cities (National Center for Education Statistics, 2010).³

² See Martin (2009) for an articulate and timely framing of these new directions.

³ Among the large urban school districts mentioned are Atlanta, Baltimore, Chicago, Cleveland, Detroit, the District of Columbia, Fresno, Los Angeles, Milwaukee, and Philadelphia; the mathematics achievement scores recorded and compared are those of fourth- and eighth-graders in these districts and cities.

But even if an immediate and large-scale overhaul of the chronic political economic conditions that characterize urban communities and schools were granted (Anyon, 2005; Noguera, 2003a; 2003b, 2003c; Oakes, 2005), those who measure “gaps” could continue to expect the underperformance of male African Americans in mathematics and other disciplines to persist on the whole. On one hand, the legacy of the *education debt* (Ladson-Billings, 2006) is not so easily dismissed; on the other, urban schooling as institutional conditioning continues to be a marginalizing for male African Americans. As a result, scholars call for the development of research and teaching that reflects the unique pedagogical needs of Black males (Harper, 2010; Howard, 2008; Lynn, 2002; Noguera, 2003b). In shaping a response to these needs, attention must be paid to the “voice” of male African Americans and their narratives about (mathematics) learning. In the next section, I discuss narrative as groundwork for understanding how the CRT construct of counterstory contributes to African American education.

Counterstories as a CRT Construct: Learning from Enslaved Africans

Although opposition to the education of enslaved Africans was a characteristic position of the White governors of slavery in the American South (Anderson, 1988; Du Bois 1903/1999; Eaton, 1936), literacy was often a characteristic trait of individual leaders of various slave rebellions and revolts. Kilson (1964) argues that the leaders of what are likely the most famous uprisings of enslaved Africans in U.S. history—Gabriel Prosser (Virginia–1800), Telemaque “Denmark” Vesey (South Carolina–1821), and Nat Turner (Virginia–1831)—were all literate men. Anderson (1988) further points out that the movement among enslaved Africans toward literacy was not a phenomenon unique to a few extraordinary individuals in the antebellum South: “Despite the dangers and difficulties, thousands of slaves learned to read and write. By 1860, about 5 percent of the slaves had learned to read” (p.16). “Their ideas,” Anderson suggests, “about the meaning and purpose of education were shaped partly by the social system of slavery under which they first encountered literacy...they viewed literacy and formal education as means to liberation and freedom” (p.17). Thus, despite political opposition from the planter class, African Americans reduced illiteracy from 95 percent in 1860 to 70 percent in 1880—and further to 30 percent by 1910 (Anderson, 1988).

African American stories (including research and scholarship) about lives of individual Black folks, in the context of their respective struggles for literacy and literal freedom, provide a foundation for understanding the propagation of a de facto philosophy of education. Narrative, as it were, is clearly interwoven throughout the philosophical underpinnings of African American education. Perry (2003), for example, argues:

[African Americans] developed a philosophy of education that was passed on in oral and written narratives. Moreover, narratives were not only the vehicles for passing on this philosophy, but they also had a discursive function. They were central to identity formation of African Americans as intellectually capable people. (p. 12)

In other words, calling to mind what a good many of enslaved Africans knew (i.e., how to read), and what they knew about their “knowing” (i.e., that literacy was a tool for liberation), provide key insight into the pedagogical function of narrative in the African American community. My argument here is that the pedagogic force of slave narrative (and the subsequent philosophy of education enacted by their descendants) continues on in the CRT construct of the counterstory.

Prior to the birth of CRT, the notions of voice and narrative have been key in understanding the developing ontology of African Americans. CRT scholarship indeed relies heavily on the inherent pedagogies in the storytelling of African Americans and others (Delgado, 1989). While counterstories are key to pursuing racial justice in legal studies (Bell, 1987, 1992; Crenshaw, Gotanda, Peller, & Thomas, 1995), they are also found in CRT approaches to pursuing racial justice in education (DeCuir & Dixon, 2004; Dixon & Rousseau, 2005, 2006; Ladson-Billings, 1998; Ladson-Billings & Tate, 1995; Solórzano & Yosso, 2001, 2002). Solórzano and Yosso (2002) argue that there are three general forms of counterstory-telling—those that are (a) our own stories or narratives told in first-person voice (see Douglass, 1845/1997; Knight, Norton, Bentley, & Dixon, 2004; Reese, 2006), (b) other people’s stories or narratives told in third-person (see Decuir-Gunby, 2006), and (c) composite stories or narratives constructed through the use of various forms of data (see Bell, 1987, 1992; Dixon, 2006; DuBois, 1911/2004; Rousseau & Dixon, 2006; Solórzano & Yosso, 2002). Solórzano and Yosso (2001) posit that counterstories serve at least four theoretical, methodological, and pedagogical functions:

1. Counterstories build community among the marginalized by personalizing educational theory and practice.
2. Counterstories provide a context within which to challenge and transform the hegemonic wisdoms of those at society’s center.
3. Counterstories open new realities to marginalized peoples by helping them envision possible lives.
4. Counterstories teach marginalized people to actualize those new possibilities through synthesizing elements of stories with current realities, thereby producing richer actual lives.

Delgado (1989) and Solórzano and Yosso (2001) provide excellent overviews of the ways in which counterstories are used, including moving examples. Rather than rehash what has been previously documented about the *methodological* uses

of counterstory in educational and/or critical legal research and practice, here I present a different discussion that focuses on CRT's *pedagogical* dimensions.⁴ Specifically, I offer an organizing conceptual frame for thinking about the pedagogical intentions and outcomes in counterstory-telling, as well as an operational definition of counterstory-telling that can be used when analyzing narrative.

Counterstory-Telling as a Dialectical Synthesis

Counterstory-telling involves the production and reproduction of local (individual) narratives to counter the apparent and accepted wisdom of master- or meta-narratives (also called “majoritarian” stories; see Love [2004] and Solórzano & Yosso [2002]). In Figure 1, I illustrate that in counterstory-telling a dialectical relationship exists between dominant narratives (expressions of White supremacist ideology) and African American narratives (reflective of a presuppositional belief in *liberation as education*, a tacit African American philosophy of education). That said, however, not all narration is intended to counter or challenge dominant narrative.

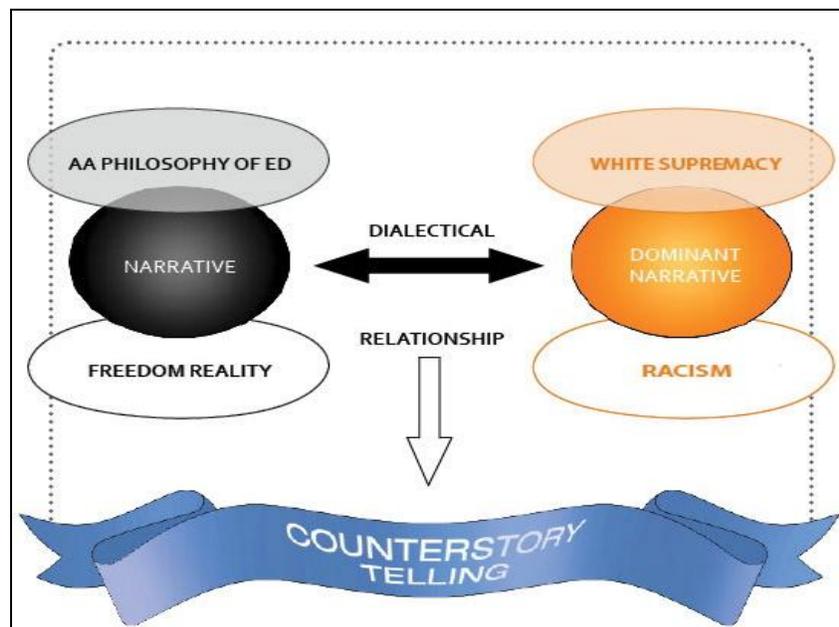


Figure 1. Counterstory-telling as a synthesis of competing narratives.

⁴ Rather than making any precise epistemological claims about the difference between method and pedagogy, I am arguing here that the aspects of teaching and learning that reside in the act of counterstory-telling are what make them methodologically useful to CRT scholars—hence the helpfulness of shifting focus.

Solórzano and Yosso (2001) contend, “a story becomes a counter-story when it begins to incorporate the five elements of critical race theory” (p. 39). Conceptually, this distinguishes counter-story as a unique class of stories that actively engages the central tenets of CRT in the act of storytelling. This engagement, however, does not fully capture the full force of these stories. To better appreciate the pedagogical moment bound in the act of counterstory-telling, as well as to provide researchers with a more applicable construct, here I provide an operationalization that can be used to further distinguish counterstory-telling from straightforward narration. As such, I claim that a narrative constitutes a counter-story when it satisfies three key criteria: (a) contains a kernel or representation of the dominant narrative such that it communicates a clear understanding of that dominant narrative and its implications to the communicant; (b) provides the communicant (in the form of a competing narrative that is grounded in a “freedom reality”) reasonable and sufficient grounds for contradicting the dominant narrative; and (c) allows the communicant to access the larger freedom reality toward which the competing narrative pushes.

In this dialectical relationship, narratives that assert the ex-slave and his or her descendants as self-motivated persons who are organized around drives for literacy and education, for example, are antithetical to dominant narratives that position African Americans on the margins of schooling as unintelligent and incapable underachievers who generally hold negative dispositions toward education and are relatively unmotivated to succeed. As illustrated in Figure 1, the narrative and dominant narrative are in tension with one another because they are expressions of ideologies that are themselves in contention with one another (African American philosophy of education and White supremacist ideology). Those tensions find synthesis in the pedagogical moment when the communicant, through hearing the counternarrative, understands the freedom reality. By freedom reality, I mean an acknowledgment of and striving toward freedom and self-determination as the natural state of the African. This acknowledgment stands in sharp contrast to the unnatural state of being African in America—a being ordered by and subjugated through racism (i.e., racial prejudice combined with institutional power).

Let us consider an example of how African American narrative functions as counterstory. Frederick Douglass published his *Narrative of the Life of Frederick Douglass: An American Slave* in 1845. This text provides what is one of the classic depictions of awakening the slave experiences concerning bondage and liberation. Douglass (1845/1997) recounts:

[Mrs. Auld] assisted me in learning to spell words of three or four letters. Just at this point of my progress, Mr. Auld found out what was going on, and at once forbade Mrs. Auld to instruct me further, telling her, among other things, that it was unlawful, as well as unsafe to teach a slave to read. To use his own words, further, he said, “If you give a nigger an inch, he will take an ell. A nigger should know nothing but

to obey his master—to do as he is told to do. Learning would *spoil* the best nigger in the world...if you teach that nigger (speaking of myself) how to read, there would be no keeping him at all”...These words sank deep into my heart, stirred up sentiments within that lay slumbering, and called into existence an entirely new train of thought. It was a new and special revelation, explaining dark and mysterious things, with which my youthful understanding had struggled, but struggled in vain. I now understood what had been to me a most perplexing difficulty—to wit, the white man’s power to enslave the black man...From that moment, I understood the pathway from slavery to freedom. (p.33)

In this passage, we observe Douglass’s evolving understanding of the role illiteracy played in perpetuating the bondage of Africans in America and the consciousness that emerged from witnessing the slave master’s reaction to the prospect of his literacy. This experience is of particular interest because not only does Douglass, herein, conceive of education as a means to a liberatory end but also his narrative quite clearly demonstrates the satisfaction of the key criteria by which we may establish its constitution as counterstory.

The story identifies the dominant narrative. First, embedded in Douglass’s narration is an expression of the dominant narrative. It is communicated in the sharp rebuke given to Mrs. Auld by her husband. Mr. Auld expresses several key beliefs about Douglass’s illiteracy, which reflects a White supremacist ideology. Specifically, Mr. Auld argues: *A nigger should know nothing but to obey his master—to do as he is told to do. Learning would spoil the best nigger in the world.* This statement is a representation of dominant narrative as it asserts several key understandings—primarily, it asserts (a) Frederick Douglass’s ontological status as *nigger* and *slave*; it also asserts (b) that knowing *how to* and that *to obey* one’s master is necessary and sufficient knowledge for existence as nigger; and finally, (c) that Douglass’s existence as anything other than slave would be a *spoiled* or *ruined* version of his ultimate purpose (i.e., an undesirable corruption of his principal form). Implicit in Mr. Auld’s role as communicator of this dominant narrative is his positioning as possessor and distributor of knowledge—the one who ultimately knows.

The story contradicts the dominant narrative. Second, and fortunately for Douglass, inherent in Mr. Auld’s rebuke is the pretext for the competing narrative forming the basis for Douglass’s counterstory. Auld claims: *Learning would spoil the best nigger in the world...if you teach that nigger (speaking of myself) how to read, there would be no keeping him at all.* In this portion of Auld’s statement, we read several competing assertions: (a) the thoughts Douglass has experienced as a result of his interactions with Mrs. Auld have to do with learning—which is fundamentally different in process and substance than possessing the knowledge required to be a nigger; (b) learning fundamentally alters one’s perceived existence as nigger from the perspective of a slave master; and (c) that Douglass’s enslavement is in some important sense contingent upon his illiteracy.

The story frames access to freedom. Third, and the final criterion, there is in this narrative a portal by which the communicant can access the larger freedom reality toward which the competing narrative points. Douglass, in reflecting on the situation, relates the following: *I now understood...the white man's power to enslave the black man... From that moment, I understood the pathway from slavery to freedom.* Here, we are able to envision the “promised land,” as it were, through the eyes of the subjugated African. We gain access to the broader reality where the African is free to self-determine, free to become—simply free. As Douglass knows the pathway from slavery to freedom, we too (through his narrative) understand and know it.

As such, the narrative presented by Douglass constitutes a counterstory that he tells through oral presentation and through this written text. Douglass engages in counterstory-telling as a critical pedagogical act—the relating of a narrative to an audience as a means to destroy internalized and actualized White supremacist ideologies. Therein lies the dialectical synthesis: In relating his narrative, Douglass assumes the role of critical pedagogue and liberator, moving ahead with the business of abolishing the racist institution of slavery.

Though the construct has been formulated and refined over the last 2 decades, counterstories have deep pedagogical roots. While it may seem anachronistic to characterize slave narrative as counterstory, a close reading of such narrative provides important insight into the purpose and intent of these kinds of stories. In the first half of this article, I have attempted to demonstrate the structural and pedagogical connections that help us understand why and how some narratives constitute counterstory. In the second half of the article, I intend to show what relevance this particular take on counterstory has for developing opportunities for engaging in critical cultural activity in urban mathematics classrooms.

Urban Mathematics Education and Mathematical Counterstory

In the summer of 2008, I began work with seven high school-aged Black male youth from a number of high schools across South Los Angeles on a participatory action research (PAR) project (McIntyre, 2000) exploring the incarceration and university attendance rates of 18–34 year old male African Americans. The young men and I formed a research team that examined the narratives about incarceration and schooling embedded in quantitative data from California state prisons and state universities, and in qualitative data collected from Black male interviewees across South Los Angeles. Their research project became the subject of critical ethnographic analysis (Terry, 2009) and of discussion of the role that participatory action research can play in the development of critical mathematics literacy (Terry, 2010a). Here, I explore data from this study to shed light on the ways in which counterstories can play out in mathematical contexts for urban stu-

dents. In so doing, I hope to highlight the pedagogical force of these mathematical counterstories and the possibility they offer for shaping the mathematics experiences of male African Americans in urban classrooms.

Envisioning Possibility for Mathematical Counterstories

The research team had a variety of compelling interests that drove us, as co-researchers, to “look for mathematics” in interesting and engaging places. Prior to our research project, we undertook a number of data analysis exercises as preparation; we “mathematized” situations that struck us as having significant implications for the quality of life of African American men. For example, the team explored data regarding firearm-related homicides from across the United States. These data allowed us to ponder the impact that geographic location has on determining whether Black men are subject to increased risk of gun murder. When we examined these data against the backdrop of the relative distribution of African American population (in major urban areas), the notion of Black men as “endangered” began to make some sense. A significant moment in our preparation came as we shifted our attention to discussing the murder rate at home in Los Angeles. While these young men understood firearm-related homicide as a regular occurrence in South Los Angeles communities (read: *Black-on-Black* crime), they also firmly believed that police officers frequently used firearms to “justifiably” kill young Black males. In fact, through televised community protest, the young men had become aware of the firearm-related deaths of three male African Americans at the hands of the Inglewood Police Department at the time of the project (Bloomekatz, 2009). As such, the young men had become very interested in discussing how African Americans are policed—particularly in South Los Angeles. The *Daily Breeze* printed an article titled “Big Drop in L.A. Killings” (Watkins, 2008). In that article, the journalist reported the “success” that the Los Angeles Police Department (LAPD) was experiencing in lowering crime rates and homicide through increased police presence, a presence that was subsequently being funded by increased trash collection fees. The text quickly consumed our interest.

In addition to the text of the article, the journalist provided a URL to an online statistical crime report produced by the LAPD that offered various graphical organizers in support of the narrative on lower crime rates (Watkins, 2008). The first page showed that Los Angeles had fewer homicides in July of 2008 than in any other July ranging back to 1969 (presented in histograms) and that the 18 homicides in July of 2008 were the lowest of any month in any year since March 1970 (see Figure 2).⁵ Our team confirmed the statistical reporting by examining

⁵ Figures 2 and 3 reprinted with permission of the Los Angeles Police Department. Tables originally appeared in the report *State of the City: Crime Snapshot*, retrieved from http://www.lapdonline.org/crime_snapshot.

the bar graphs presented. The second page of the LAPD statistical report had a number of graphs and tables focusing on various aspects of the homicide rate (gang homicides, shooting victims, homicide clearance rates, and unemployment). In the bottom left corner of the page, we saw a table titled “Historical Data.” The table showed the numbers of police officers and city population for 1970 and 2008 (see Figure 3).

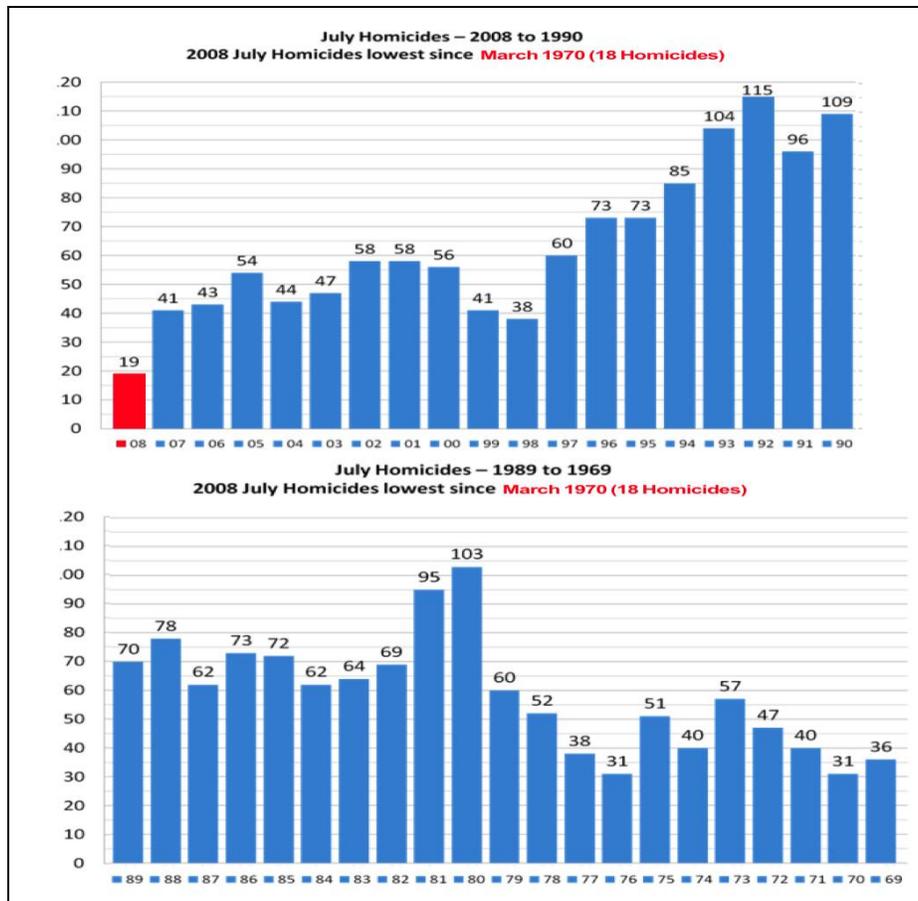


Figure 2. July homicides in Los Angeles, 1969–2008.

| HISTORICAL DATA | | | |
|-----------------|--------------------------|-----------------|------------|
| | CHIEFS | NO. OF OFFICERS | POPULATION |
| 1970 | Chief Edward M. Davis | 6,806 | 2,949,500 |
| 2008 | Chief William J. Bratton | 9,729 | 4,220,260 |

Figure 3. Historical data on police force and population in Los Angeles.

I saw here a chance to problematize the LAPD's narrative using these data. I invited students to take these numbers into further consideration by calculating the *person-to-cop* ratios for these 2 years. In my mind, if students could show that the respective person-to-cop ratios were disproportional (i.e., that the 2008 person-to-cop ratio was *less* than the 1970 ratio), then we could use this as evidence to *counter the story* being constructed by the LAPD brass. Maybe the ratio of police officers to Angelenos was not, in fact, responsible for lower crime rates—and urban Angelenos were experiencing declines in crime for a heretofore undiscovered reason. Perhaps the dropping rates were attributable to increased community organization and activism, to growth in local summer programs, to increased street- and community-level gang intervention efforts, or some other reasonable combination of factors. And, if that were the case, perhaps we were witnessing the construction of a problematic (dominant) narrative intended to support the increased militarization of South Los Angeles. The student researchers and I were surprised, however, by the results of our calculations (see Figure 4):

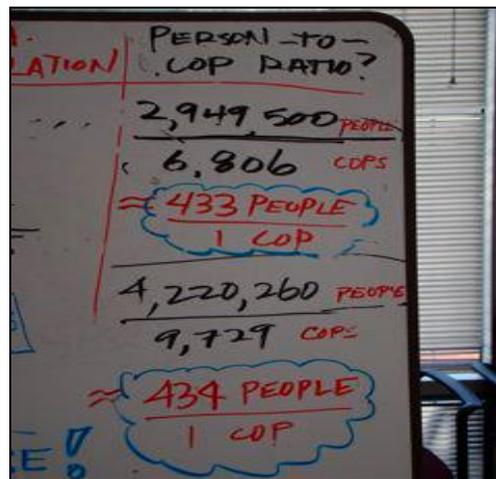


Figure 4. In-class calculations of person-to-cop ratios.

La Mont Terry (LT): It's the same [ratio]?

Kell: Yeah, but...yeah, definitely.

Paris: They 'turkey'-ed it! They jiggled it all over.

Kell: No, [I swear] on everything! Watch! Redd got the same answer.

Redd: Sure do!

I was not prepared to see this result. Neither were the students. Paris, in fact, believed that his friends had finagled the numbers a bit—intentionally stretching their calculations to make the ratios equivalent. However, it was clear that Kell

and Redd had honestly arrived at the same ratio. After confirming the ratio with others, and to make sense of the result, we continued our conversation:

LT: Those [ratios] are really, really, really close—almost exactly the same. So, remember what the LAPD chief said: What’s the difference? Why is there less crime? (Quoting Chief Bratton in the article) *C-O-P-S. Cops!* OK, you tell me. You look at those numbers. Are there more cops?

Geronimo: Yes.

LT: Yes, there are more cops, aren’t there?

Redd: Yeah.

LT: But, for every one cop, does that cop have to police more or less people?

DeForest: More.

Geronimo: More.

LT: Is it really a difference though?

Redd: No. That’s what I saw.

Geronimo: So what [the chief] said is false!

LT: (to Redd) So tell me what you saw.

Redd: Because you see how they have them officers, it was like 433 [people] for every cop. And now that they have [more cops], it’s still almost exactly the same [ratio].

LT: It’s the same!

Redd: So they doing all that charging and extra taxes on trash pick-up for basically nothing.

LT: (explaining) So they’re saying, “Look we got more cops!” Yeah, we got more cops, but guess what: There are more people too! Just cuz you have “more cops” doesn’t mean they’re gonna make more difference if you have more people to police, right? ...So what does that mean?

Geronimo: That mean, probably we changed...uh...

LT: Well, here’s a question to ask—if there are the same number of people to cops, the same ratio of people-to-cops in these 2 years: Is it really the number of cops that made a difference? What made the difference?

The people-to-cop ratios turn out to be fairly equal (433:1 and 434:1) and, therefore, did not quite play the role in contradicting the LAPD narrative that I suspected they might. However, in discovering the approximate equivalency of these ratios, the young men picked up on a hint of disguise in the LAPD’s narrative. In the passage above, Geronimo claims the police chief has lied. Redd concludes that the trash fee hikes are “for basically nothing.” The students had been told a story about an under-policed city and a dwindling crime rate. It became clear to them, however, that Police Chief Bratton, in cooperation with Mayor Villaraigosa, had authorized the use of these statistics as a pretext for rationalizing the LAPD policy of “over-policing” local low-income Communities of Color: East L.A., South Central, and South Los Angeles more broadly. The implicit logic of these officials: *If we can achieve parity with historic lows in homicide rates by achieving this (433:1) person-to-cop ratio, then hiring even more police officers should bring us to new historic lows in homicides.* In so doing, the LAPD narra-

tive established the hike in trash fees as a crucial funding source for hiring these extra police while simultaneously providing the citizenry with a narrative that conveniently frames its compelling interest in accepting the higher municipal fee. It is clear that the police department did not need to create very sophisticated graphical representations in order to convince the public that their policies are effective and well-founded. As a team of critical mathematics researchers, however, we hoped to create a counternarrative that could contradict the stories offered by L.A. city officials. Though we were not quite able to find the contradiction we had hoped for, it was clear that we had cast some level of doubt on whether the story city officials were telling was as “clean-cut” and truthful as they would like the voting public to believe. This moment in our research represented an important point in our orientation to data; the high school-aged Black males understood that mathematics is often used to tell stories, and some (often?) times in subjective, possibly disingenuous, ways. If that was the case, they now knew that they too could use mathematics to confirm and/or disconfirm the stories that people tell. Therein was our initial experience of mathematical counterstory.

Mathematical Counterstory in University and Prison Data

As we, the research team, transitioned into the formal research project exploring the causes of the disproportionate incarceration of Black men in state prisons and their underrepresentation in state universities, we collected and analyzed data accordingly (Terry, 2010a). The California state prison and university data for 18–34 year old Black men were available in disaggregated subgroups for the years 2000 through 2007. We were operating under the common assumption that more male African Americans were in prison than in the California state university system. This assumption was consistently resonant in the interviews that we conducted with African American men across South Los Angeles (i.e., every one of the Black men interviewed *readily* accepted this proposition and had well-articulated explanations for why it was the case). And the assumption seemed mostly correct—with one small exception. When comparing the state prison and state university data, we found that this assumption held true in every case except one—the 18–24 year old subgroup.

Unlike the LAPD narrative that revolved around the manipulation of person-to-cop ratios, these data struck the team as standing in clear contradiction to the popular understanding regarding the incarceration of young Black men. With the exception of the year 2000, 18–24 year old students outnumbered their prison counterparts in California state universities. There were mixed emotions about this finding. On one hand, the young men were disappointed that they had accepted an unchecked assumption about the homogeneity of these subgroups. Clearly, the data were nuanced. On the other hand, within the youngest subgroup, an interesting (and contrasting) trend could be observed. As such, perhaps this ob-

servation could serve as the basis of a new narrative about the improving academic achievement of African American men. In fact, according to the criteria for operationalizing counterstory-telling presented earlier in this article, these quantitative data did position the research team to construct a mathematical counterstory. Let us examine each criterion individually.

The story identifies the dominant narrative. To show the possibility for mathematical counterstory, we must clearly identify the relevant dominant narrative. In Table 1, the disaggregated numbers of male African Americans in California state universities and prisons are organized according to the 18–24, 25–29 and 30–34 year age groups. Examining the net difference between the total numbers of Black males in both systems reveals a severe disparity between those incarcerated and those attending university. Setting aside important caveats about how the PAR team operationalized and measured these variables (Terry, 2010a), it is clear that these data harbor what might commonly be understood to be the common sense understanding (read: dominant narrative) concerning Black males and incarceration.

Table 1
Net Difference Between Black Males in California State Universities and Prisons

| Year | California State Universities | | | | California State Prisons | | | | Net Dif. |
|------|-------------------------------|------|-----|-------|--------------------------|------|------|-------|----------|
| | A | B | C | Total | A | B | C | Total | |
| 2007 | 7845 | 1303 | 573 | 9721 | 5523 | 6642 | 6130 | 18295 | -8574 |
| 2006 | 7262 | 1303 | 563 | 9128 | 5578 | 6814 | 6251 | 18643 | -9515 |
| 2005 | 6791 | 1321 | 565 | 8677 | 5469 | 6595 | 6237 | 18301 | -9624 |
| 2004 | 6365 | 1219 | 582 | 8166 | 5539 | 6461 | 6461 | 18461 | -10295 |
| 2003 | 6056 | 1177 | 575 | 7808 | 5522 | 6488 | 6814 | 18824 | -11016 |
| 2002 | 6158 | 1254 | 631 | 8043 | 5592 | 6515 | 7285 | 19392 | -11349 |
| 2001 | 5967 | 1192 | 682 | 7841 | 5659 | 6493 | 7553 | 19705 | -11864 |
| 2000 | 5606 | 1229 | 650 | 7485 | 5936 | 6843 | 8126 | 20905 | -13420 |

Note: A = 18–24 year-old age group; B = 25–29 year-old age group; C = 30–34 year-old age group.

On average, for every male African American between the ages of 18–34 attending a California state university between 2000 and 2007, more than two are incarcerated in a California state prison. These data intimate the narrative that many, including the African American men interviewed by the research team, are familiar with. Data like these are commonly used to forward deficit claims about the status of male African Americans in U.S. society (Reese, 2006). Whether one interprets these data as evidence of the depravity and criminal degradation of the Black male or, in turn, his criminalization within an over-policed society, there lies an implicit statement about prisons—they “lock-up” Black men. Further, when compared to the relative numbers of those enrolled in corresponding univer-

sities, these data seem to shepherd us toward an intuitive understanding that *more Black men are failing in their roles as citizens than not*. Herein lies the representation of the dominant narrative in the data. This is the aspect of the data upon which the counterstory turns.

The story contradicts the dominant narrative. A second aspect of establishing counterstory is locating a critical pedagogical force with which to contradict the dominant narrative. Here, we search for evidence of a competing narrative, and find it as we look specifically at the case of the 18–24 year old African American men (see Figure 5).

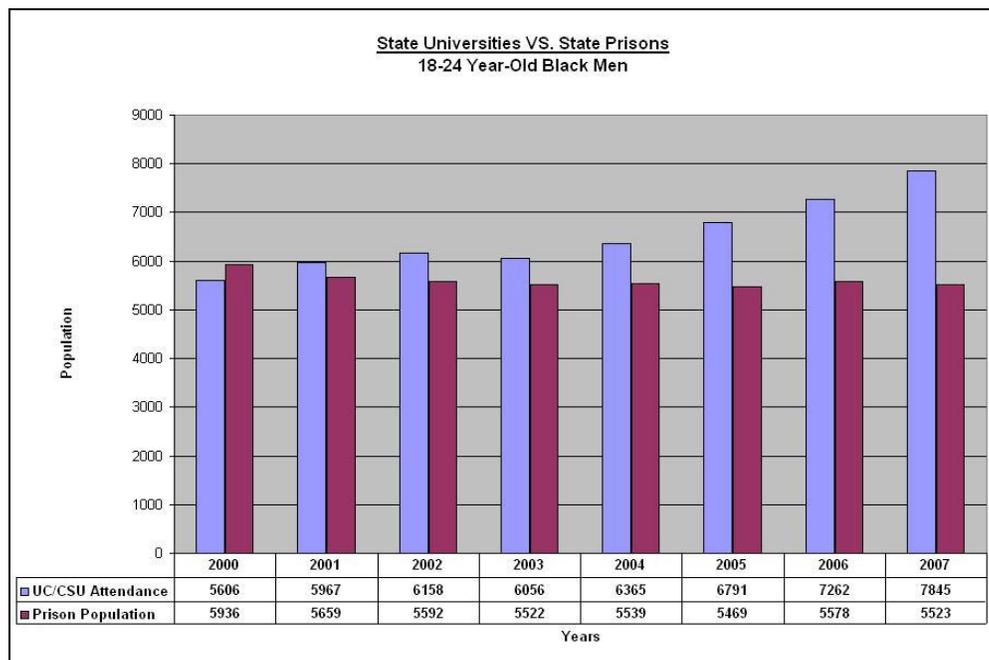


Figure 5. More 18–24 year-old Black men in state universities than prisons.

In this bar graph, the PAR team discovered that, with the exception of the 2000 data, there were more 18–24 year old Black men enrolled in California state universities than incarcerated in California state prisons. Contrary to the trend observed in the broader sample that show twice as many Black males incarcerated as attending university, here students outnumber prisoners. Not only are there more students than prisoners in this subgroup from 2001 to 2007 but also there is a widening gap in these numbers due to *both* increases in the numbers of 18–24 year old Black men enrolled in California state universities and an overall decrease in the respective number of prisoners. As such, while the dominant narrative might suggest that more African American males are failing than succeeding in their roles as citizens, a competing narrative might suggest that young Black men are

actually reversing this trend.⁶ Rather than being forced to take a deficit perspective toward African American men in society, we may very well assert the agency of young Black men in bucking these institutional trends.

The story frames access to freedom. A final step to establishing a counterstory lies in being able to show how the data can lead one to a larger freedom reality; that is, a new understanding of one's position in society. University and prison, as institutions, have come to represent the very best and very worst of the African American socioeconomic experience insofar as they can be understood to be embodiments of success and failure. The data can be used to create space for a pedagogic moment of self-determination and self-realization for young Black men. Rather than allowing the overrepresentation of African American men in the prison system to be the defining mental image, the competing narrative shows 18–24 year old Black men attending California state universities at greater rates than their counterparts are being incarcerated, thereby allowing African American men to envision and understand a different pathway and reality. The competing narrative suggests to young Black men that they can be part of a growing trend of young African American men who are succeeding in California state universities—while also staying out of prisons.

Counterstory-telling as dialectical synthesis. While the key elements of counterstory are present in the data, the pedagogical force of the counterstory is limited without an actual “telling” of the story. Part of the difficulty in translating our inherent understandings of counterstory to mathematical contexts lies in knowing that mathematical data do not inherently constitute stories. The stories, in fact, are actualized through our interpretations of data and in the subsequent communication of those interpretations. In the present study, the high school-aged male Black youth on the PAR team “told” the mathematical counterstory within the context of the short film the team created.⁷ The mathematical counterstory represented in this film is a blending of all three types of counterstories discussed in Solórzano and Yosso (2002); it incorporates the autobiographical experiences of the students, as well as qualitative and quantitative data collected during the PAR project. Among other things, mathematical counterstory-telling allowed these students to act upon their world through the sharing of their data, analysis, and conclusions in a pedagogically-powerful way. Though not explored here, the telling of the mathematics counterstory had a powerful impact on the mathematics, racial, social activist identities of the students (Terry, 2009). This telling,

⁶ It is also important to note that, while Black males ages 25 and older are enrolled in undergraduate and graduate programs, 18–24 is a more likely college-going age—thereby accounting for disproportionate population of prisoners in 25–34 year olds. Further, this would also likely be the case for other racial and/or ethnic subgroups.

⁷ Film available at the following URL: http://scholar.oxy.edu/edu_faculty/1/.

however, insofar as it is embodied within the text of the film, becomes an important opportunity for the critical examination and re-reading of the various narratives involved here by the students themselves, as well as the film's past, present, and future audiences (both local and national) (Franke, Spencer, & Terry, 2009; Terry, 2009; 2010b).

Discussion

In this article, I have asked the reader to consider the value of importing the CRT construct of counterstory into the mathematics education of urban African American students. Young Black men, in particular, rank among the highest casualties of our urban schooling efforts (Garibaldi, 1992; Howard, 2008; Jackson & Moore, III, 2006; Noguera, 2003b); this is no less true in their experience of mathematics classrooms (Davis & Martin, 2008; Stinson, 2004, 2006; Tate, 1997). In the seemingly unending hustle to invent interventions on behalf of these students (i.e., to close the achievement gap), teachers and mathematics educators rarely pause to ask questions about the wholesale impact of their efforts on non-academic outcomes for African American students. As a result, I believe we, as a community of mathematics educators, miss key opportunities to re-orient disaffected and marginalized students to the utility of mathematics. Mathematics counterstory provides mathematics educators with a unique opportunity to redress this missed opportunity.

What lies at the heart of movements like ethnomathematics (Anderson, 1990; Brown, 2008; Eglash, 1997; Powell & Frankenstein, 1997; Powell & Temple, 2001) and critical mathematics literacy (Frankenstein, 1990; Gutstein, 2006; Gutstein & Peterson, 2005) is a fundamental acknowledgment that mathematics is principally a cultural activity rooted in the lives and experiences of particular people groups. Whether discussing the historic tasks of constructing Egyptian and pre-Columbian pyramidal structures, or contemporary efforts to model the biological growth of HIV and infection rates in the African American community, the mathematical *content* and *process* (NCTM, 2000) emerge organically from our needs as people and communities—not just as synthetic requirements of our school work. The pedagogical significance of this acknowledgement is that it allows teachers and students of mathematics to reshape their perspectives about school mathematics in such a way that repositions mathematics as a tool to engage and act upon the world around them. My experiences as a mathematics educator lead me to believe that it is critical for young African American men in urban classrooms to re-experience mathematics in this way—that is, mathematics as a basic tool for acting upon the world—rather than as a collection of facts and skills that are taught strictly as test content for testing's sake (Davis & Martin, 2008; Walker, 2009).

The ability to understand mathematics content and use mathematics processes in meaningful ways provides youth in urban classrooms with the inherent motivation to refine their existing set of mathematical tools, as well as to acquire more sophisticated ones through advanced curricula. The potential benefit of this approach is manifold: students see mathematics courses as means to developing enduring understanding and relevant skill—not simply to learning “harder” mathematics; students develop persistence in their course-taking patterns as they subsequently reinterpret the purpose of mathematics class; and students are better positioned to make sense of the connections between coursework and content vis-à-vis the opportunity to apply mathematical knowledge in both traditional curricular and critical contexts.

In the present study, the high school-aged Black males encountered counterstory as a tool for exploring and making sense of contextualized data. Because data analysis, graphical representation, and mathematical modeling in general are literacies emphasized in the NCTM content and process standards, as well as throughout state K–12 mathematics standards, teachers can find multiple opportunities to establish points of contact between students’ critical interests and curricular foci; this holds as true in the elementary grades as it does in advanced mathematics courses (Gutstein, 2006; Tan & Min, 2003). While it is dangerous to assume that all male African Americans experience the world in the exact same way vis-à-vis their multiple identities, mathematics educators should recognize that meaning and relevance provide important internal motivations to engage with mathematical content and process; this is particularly important in urban classrooms, where many of the intrinsic motivations that are assumed to be a part of schooling (such as maintaining grade-point average; earning one’s diploma; and/or participation in school-based, co-curricular activity) fail to hold significance. Teachers in general, however, are becoming increasingly aware of students’ desires to critically interrogate their environments (Duncan-Andrade, 2005, 2007; Morrell, 2004, 2008; Rogers, Morrell, & Enyedy, 2007; Tan, 2003). With that said, it is incumbent upon mathematics educators to create the pedagogical and curricular spaces for their students to engage in mathematics processes through critical lenses like that which the mathematics counterstory represents.

As mathematics educators adopt increasingly critical pedagogical perspectives on mathematics content and processes, they open the door for low-performing male African Americans (as well as other marginalized groups) to self-identify as doers of mathematics. While this in no way suggests that Black males fail to identify as doers of mathematics as a general rule (Clark, Johnson, & Chazan, 2009; Martin, 2000; Stinson, 2009), critical takes on mathematics instruction do allow for a broader participation structure in the mathematics classroom (Civil & Planas, 2004; Franke, Kazemi, & Battey, 2007), thereby creating vital support for mathematics identity development from sociocultural perspec-

tives (Nasir & Hand, 2006). This broader participation is particularly true as male African Americans develop more transformative forms of resistance through the content and process involved with constructing and telling mathematical counterstories (Solórzano & Delgado Bernal, 2001).

Conclusion

Here, I have offered a pedagogically grounded operationalization of the CRT construct of counterstory-telling in an attempt to argue its usefulness to urban mathematics education. Enhancing the current conceptions of counterstories as useful manifestations of student voice from within the margins of mathematics schooling experiences (Berry, Thunder, & McClain, 2011; Stinson, 2009), I argue here for the potential for content- and process-based mathematical counterstories to provide an increased degree of relief in illustrating what role CRT can play in urban mathematics education. The ethnographic data presented here suggest that there are powerful ways whereby mathematics educators can re-frame traditional math literacies in critical contexts in order to create broader opportunities for participation and inclusion of African American students in urban mathematics classrooms. This pedagogical operationalization of counterstory should be helpful to educators reflecting on how to develop more nuanced understandings of content-area instruction. Moreover, I also believe that educational researchers in general may find this operationalization useful in their work on counterstory insofar as it attempts to identify basic pedagogical elements of counterstory as viewed through an African American philosophy of education.

Furthermore, the ideas presented are implicit encouragement for researchers and practitioners in mathematics education to continue to thoughtfully consider the equity/equality distinction as it plays out in their work. In short, equality is an equity-driven carriage. In order to meet the deep and evolving pedagogical needs of low-performing Black males in urban schools, we must be free to think outside of the box and beyond the equality rhetoric that hinders our policy, practice, and scholarship. The ever-present gaps in Black male achievement are grounded in broader socioeconomic, political, and racial contexts that are firm (Bell, 1992; Ladson-Billings, 2006). While this does not mean the abandonment of our commitments to improving test scores, we must not allow equalizing scores, as a goal, to interfere with the development of realistic positions that honor the differential realities of Black males in our approaches. In this work, I allow the emic perspectives of the Black male participants (as researchers and doers of mathematics) to re-write why and how mathematics is important. This attention to the individual is an important aspect of the scaffolding that will allow us to build toward improved academic achievement for Black males in urban classrooms.

Tate (2008) argues that a major focus in urban mathematics education scholarship must be to build and evaluate (and I would add, contest) theory. While I think there is a great deal of theoretical and practical value in the particular operationalization of counterstory presented in this article, it is clear that this particular pedagogical approach to the teaching and learning of mathematics would benefit from exploration in future studies. Its present application is limited to a very small and particular group of low-performing African American male students in urban Los Angeles; a greater understanding of mathematical counterstory and its instructional possibilities would undoubtedly emerge from further application in a range of diverse settings—perhaps most important of all, schools. This study was conducted during traditional out-of-school months in a non-school space. As teachers and mathematics educators explore the notion of mathematical counterstory-telling in classrooms and other non-traditional academic settings like charter schools, themed-academies, and single-sex classrooms, the implications for curriculum, instruction, and assessment will be both contextualized with respect to the various structures of schooling and limitless in scope. There is much to be learned about the impact of this pedagogical approach on a number of key factors such as student identities, mathematics course-taking patterns, student understanding of the discipline as a whole, and, ultimately, academic performance.

Clearly, there is no essential Black experience. Not only are all Black males not “urban” but also not all Black males experience urban space in the same ways. Further, there really are no silver bullets in terms of intervening in the mathematics achievement of male African Americans. With that said, if anything in this conversation is either universal or essential, it is the need of students in urban settings to be able to read and reflect upon their worlds through the lens of mathematics. If mathematics educators are willing and prepared to step away from traditional approaches to curriculum and instruction, we have reason to believe that those students who are regularly marginalized within our traditional approaches to teaching and learning mathematics might respond—both favorably and critically.

Acknowledgments

This article is based upon work supported by the National Science Foundation under NSF Grant No. 0119732. Any opinions, findings, and conclusions or recommendations expressed in this article are those of the author and do not necessarily reflect the views of the National Science Foundation. This article is based on data from the author’s doctoral dissertation. The author wishes to express his gratitude to Occidental College graduate student Lindsey Fuller and undergraduate students Asha Canady and Kamil Lewis for their inspiring participation in conversations about the ideas in earlier versions of this article—as well as to the anonymous reviewers at *JUME* for their helpful comments.

References

- Allexsaht-Snider, M., & Hart, L. (2001). Mathematics for all: How do we get there? *Theory Into Practice*, 40, 93–101.
- Anderson, J. (1988). *The education of Blacks in the South, 1860–1935*. Chapel Hill, NC: The University of North Carolina Press.
- Anderson, S. (1990). Worldmath curriculum: Fighting Eurocentrism in mathematics. *The Journal of Negro Education*, 59, 348–359.
- Anyon, J. (2005). *Radical possibilities: Public policy, urban education, and a new social movement*. New York: Routledge.
- Bell, D. (1987). *And we are not saved: The elusive quest for racial justice*. New York: Basic Books.
- Bell, D. (1992). *Faces at the bottom of the well: The permanence of racism*. New York: Basic Books.
- Berry III, R., Thunder, K., & McClain, O. (2011). Counter narratives: Examining the mathematics and racial identities of Black boys who are successful with school mathematics. *Journal of African American Males in Education*, 2(1), 10–23.
- Bloomekatz, A. (2009, March 12). Justice Department investigating Inglewood police shootings. *Los Angeles Times*. Retrieved from <http://latimesblogs.latimes.com/lanow/2009/03/the-inglewood-p.html>.
- Bonilla-Silva, E. (2006). *Racism without racists: Color-blind racism and the persistence of racial inequality in the United States*. (2nd ed.). New York: Rowman & Littlefield.
- Brown, K. (2008). *Culture, identity and mathematics: Creating learning spaces for African American males* (Unpublished doctoral dissertation). University of California, Los Angeles.
- Civil, M., & Planas, N. (2004). Participation in the mathematics classroom: Does every student have a voice? *For the Learning of Mathematics*, 24(1), 8–14.
- Clark, L., Johnson, W., & Chazan, D. (2009). Researching African American mathematics teachers of African American students: Conceptual and methodological considerations. In D. Martin (Ed.), *Mathematics teaching, learning, and liberation in the lives of Black children* (pp. 39–62). New York: Routledge.
- Crenshaw, K., Gotanda, N., Peller, G., & Thomas, K. (Eds.) (1995). *Critical Race Theory: The key writings that formed the movement*. New York: The New Press.
- Davis, J., & Martin, D. (2008). Racism, assessment and instructional practices: Implications for mathematics teachers of African American students. *Journal of Urban Math Education*, 1(1), 10–34. Retrieved from <http://ed-osprey.gsu.edu/ojs/index.php/JUME/article/view/14/8>.
- DeCuir, J., & Dixson, A. (2004). So when it comes out, they aren't that surprised that it is there: Using critical race theory as a tool of analysis of race and racism in education. *Educational Researcher*, 33(5), 26–31.
- DeCuir-Gunby, J. (2006). "Proving your skin is white, you can have everything": Race, racial identity, and property rights in whiteness in the Supreme Court case of Josephine DeCuir. In A. Dixson & C. Rousseau (Eds.), *Critical race theory in education: All God's children got a song* (89–111). New York: Routledge.
- Delgado, R. (1989). Storytelling for oppositionists and others: A plea for narrative. *Michigan Law Review*, 87, 2411–2441.
- Delgado, R., & Stefancic, J. (2001). *Critical race theory: An introduction*. New York: New York University Press.
- Dixson, A. (2006). The fire this time: Jazz, research, and critical race theory. In A. Dixson & C. Rousseau (Eds.), *Critical race theory in education: All God's children got a song* (213–230). New York: Routledge.

- Dixson, A., & Rousseau, C. (2006). And we are still not saved: Critical race theory in education ten years later. In A. Dixson & C. Rousseau (Eds.), *Critical race theory in education; All God's children got a song* (pp. 31–54). New York: Routledge.
- Dixson, A. & Rousseau, C. (Eds.). (2006). *Critical race theory in education: All God's children got a song*. New York: Routledge.
- Diversity in Mathematics Education (DiME) Center for Teaching and Learning (2007). Culture, race, power, and mathematics education. In F. K. Lester (Ed.), *Second handbook of research on mathematics teaching and learning* (pp. 405–433). Charlotte, NC: Information Age.
- Douglass, F. (1997). *Narrative of the life of Frederick Douglass: An American slave*. New York: Dell. (Original work published 1845)
- Du Bois, W. E. B. (1999). *The souls of Black folk*. New York: W. W. Norton & Company. (Original work published 1903)
- Du Bois, W. E. B. (2004). *The quest of the silver fleece*. New York: Harlem Moon. (Original work published 1911)
- Duncan-Andrade, J. (2005). Developing social justice educators. *Educational Leadership*, 62(6), 70–73.
- Duncan-Andrade, J. (2007). Gangstas, wankstas, and ridas: Defining, developing, and supporting effective teachers in urban schools. *International Journal of Qualitative Studies in Education*, 20, 617–638.
- Eaton, C. (1936). A dangerous pamphlet in the Old South. *The Journal of Southern History*, 2, 323–334.
- Eglash, R. (1997). When math worlds collide: Intention and invention in Ethnomathematics. *Science, Technology and Human Values*, 22(1), 79–97.
- Franke, M., Kazemi, E., & Battey, D. (2007). Mathematics teaching and classroom practice. In F. K. Lester (Ed.), *Second handbook of research on mathematics teaching and learning* (225–256). Charlotte, NC: Information Age.
- Franke, M. L., Spencer, J., & Terry, C. L. (2009, April). *Narratives from the field: Alternative spaces for the mathematics education of Black males*. In M. Franke (Chair), *Identity, equity, and professional development: Supporting learning*, invited plenary session at the Research Pre-session of the National Council of Teachers of Mathematics, Washington, DC.
- Frankenstein, M. (1990). Incorporating race, gender, and class issues into a critical mathematical literacy curriculum. *The Journal of Negro Education*, 59, 336–347.
- Freire, P. (2000). *Pedagogy of the Oppressed* (30th ann. ed.). New York: Continuum. (Original work published 1970)
- Freire, P., & Macedo, D. (1987). *Literacy: Reading the word and the world*. Westport, CT: Bergin & Garvey.
- Garibaldi, A. (1992). Educating and motivating African American males to succeed. *Journal of Negro Education*, 61, 4–11.
- Gutstein, E. (2006). *Reading and writing the world with mathematics: Toward a pedagogy for social justice*. New York: Routledge.
- Gutstein, E., & Peterson, B. (2005). *Rethinking mathematics: Teaching social justice by the numbers*. Milwaukee, WI: Rethinking Schools.
- Harper, S. (2010). In his name: Rigor and relevance in research on African American males in education. *Journal of African American Males in Education*, 1(1), 1–6.
- Howard, T. (2008). Who really cares? The disenfranchisement of African American males in preK–12 schools: A critical race theory perspective. *Teachers College Record*, 110, 954–985.

- Holzman, M. (2006). *Public education and black male students: The 2006 state report card*. Schott Educational Inequity Index, Cambridge, MA; The Schott Foundation for Public Education. Retrieved from http://www.schottfoundation.org/publications/Schott_06_report_final.pdf.
- Jackson, J., & Moore, J., III. (2006). African American males in education: Endangered or ignored? *Teachers College Record*, 108, 201–205.
- Kilson, M. (1964). Towards freedom: An analysis of slave revolts in the United States. *Phylon*, 25(2), 175–187.
- Knight, M. G., Norton, N. E. L., Bentley, C. C., & Dixon, I. R. (2004). The power of Black and Latina/o counterstories: Urban families and college-going processes. *Anthropology and Education*, 35, 99–120.
- Ladson-Billings, G. (1998). Just what is critical race theory and what's it doing in a nice field like education? *International Journal of Qualitative Studies in Education*, 11, 7–24.
- Ladson-Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher*, 35(7), 3–12.
- Ladson-Billings, G., & Tate, W. (1995). Toward a critical race theory of education. *Teachers College Record*, 97, 47–68.
- Love, B. (2004). Brown plus 50 counter-storytelling: A critical race theory analysis of the “Majoritarian Achievement Gap” story. *Equity & Excellence in Education*, 37, 227–246.
- Lynn, M. (2002). Critical race theory and the perspectives of Black men teachers in the Los Angeles public schools. *Equity & Excellence in Education*, 35, 87–92.
- Martin, D. (2000). *Mathematics success and failure among African-American youth: The roles of sociohistorical context, community forces, school influence, and individual agency*. Mahwah, NJ: Erlbaum.
- Martin, D. (2003). Hidden assumptions and unaddressed questions in *Mathematics for All* rhetoric. *The Mathematics Educator*, 13(2), 7–21.
- Martin, D.. (Ed.) (2009). *Mathematics teaching, learning, and liberation in the lives of Black children*. New York: Routledge.
- McIntyre, A. (2000). Constructing meaning about violence, school, and community: Participatory action research with urban youth. *The Urban Review*, 32, 123–154.
- McKinnon, J. (2003). *The black population in the United States: March 2002*. U.S. Census Bureau, Current Population Reports, Series P20-541. Washington, DC. Retrieved from <http://www.census.gov/prod/2003pubs/p20-541.pdf>.
- Morrell, E. (2004). *Becoming critical researchers: Literacy and empowerment for urban youth*. New York: Peter Lang.
- Morrell, E. (2008). *Critical literacies and urban youth: Pedagogies of access, dissent and liberation*. New York: Routledge.
- Moses, R., & Cobb, C. (2001). *Radical equations: Civil rights from Mississippi to the Algebra Project*. Boston: Beacon Press.
- Nasir, N., & Hand, V. (2006). Exploring sociocultural perspectives on race, culture, and learning. *Review of Educational Research*, 76, 449–475.
- National Center for Education Statistics (2010). *The nation's report card: Mathematics 2009 trial urban district assessment* (NCES Report 2010-452). Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010452rev>.
- National Council of Teachers of Mathematics. (1989). *Curriculum and evaluation standards for school mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- Noguera, P. (2003a). *City schools and the American dream: Reclaiming the promise of public education*. New York: Teachers College Press.

- Noguera, P. (2003b). The trouble with Black boys: The role and influence of environmental and cultural factors on the academic performance of African American males. *Urban Education*, 38, 431–459.
- Noguera, P. (2003c). Schools, prisons, and social implications of punishment: Rethinking disciplinary practices. *Theory Into Practice*, 42, 341–350.
- Oakes, J. (2005). *Keeping track: How schools structure inequality* (2nd ed.). New Haven, CT: Yale University Press.
- Omi, M., & Winant, H. (1994). *Racial formation in the United States: From the 1960s to the 1990s* (2nd ed.). New York: Routledge.
- Perry, T. (2003). Up from the parched earth: Toward a theory of African-American achievement. In T. Perry, C. Steele, & A. G. Hilliard, *Young, gifted, and Black: Promoting high achievement among African-American students* (pp. 1–86). Boston: Beacon Press.
- Perry, T., Steele, C., & Hilliard, A., III (2003). *Young, gifted and Black: Promoting high achievement among African-American students*. Boston: Beacon Press.
- Powell, A., & Frankenstein, M. (1997). *Ethnomathematics: Challenging Eurocentrism in math education*. Albany, NY: State University of New York Press.
- Powell, A., & Temple, O. (2001). Seeding ethnomathematics with Oware: Sankofa. *Teaching Children Mathematics*, 7, 369–375.
- Reese, R. (2006). *Prison race*. Durham, NC: Carolina Academic Press.
- Rogers, J., Morrell, E., & Enyedy, N. (2007). Studying the struggle: Contexts for learning and identity development for urban youth. *American Behavioral Scientist*, 51, 419–443.
- Rosin, M., & Wilson, K. (2008). *Raising African American student achievement: California goals, local outcomes*. Mountain View, CA: EdSource.
- Rousseau, C., & Dixon, A. (2006). The first day of school: A CRT story. In A. Dixon & C. Rousseau (Eds.), *Critical race theory in education: All God's children got a song* (pp. 57–65). New York: Routledge.
- Schoenfeld, A. (2002). Making mathematics work for all children: Issues of standards, testing and equity. *Educational Researcher*, 31(1), 13–25.
- Secada, W. (1989). Agenda setting, enlightened self-interest, and equity in mathematics education. *Peabody Journal of Education*, 66(2), 22–56.
- Smith, D., & Martin, C. (1999). Mathematics. [Recorded by Mos Def.] On *Black on Both Sides* [CD] New York: Rawkus Records.
- Solórzano, D., & Delgado Bernal, D. (2001). Examining transformational resistance through a critical race and LatCrit theory framework: Chicana and Chicano students in an urban context. *Urban Education*, 36, 308–342.
- Solórzano, D., & Yosso, T. (2001). Critical race and LatCrit theory and method: Counter-storytelling. *International Journal of Qualitative Studies in Education*, 14, 471–495.
- Solórzano, D., & Yosso, T. (2002). A critical race counterstory of race, racism, and affirmative action. *Equity & Excellence in Education*, 35, 155–168.
- Stinson, D. W. (2004). Mathematics as “Gate-keeper” (?): Three theoretical perspectives that aim towards empowering all children with a key to the gate. *The Mathematics Educator*, 14(1), 8–18.
- Stinson, D. W. (2006). African American male adolescents, schooling (and mathematics): Deficiency, rejection, and achievement. *Review of Educational Research*, 76, 477–506.
- Stinson, D. W. (2009). Negotiating sociocultural discourses: The counter-storytelling of academically and mathematically successful African American male students. In D. Martin (Ed.), *Mathematics teaching, learning, and liberation in the lives of Black children* (pp. 265–288). New York: Routledge.

- Tan, L. (2003). Implementing a social justice curriculum in an inner city school. *Teaching to Change L.A. Report Card Series*. Retrieved from <http://www.tcla.gseis.ucla.edu/reportcard/features/5-6/curriculum.html>.
- Tan, L., & Min, V. (2003). No more guns: 99th Street students boycott the ice cream truck. *Teaching to Change L.A. Report Card Series*. Retrieved from <http://www.tcla.gseis.ucla.edu/reportcard/features/5-6/toyguns.html>.
- Tate, W. F. (1997). Race, SES, gender, and language proficiency trends in mathematics achievement: An update. *Journal for Research in Mathematics Education*, 28, 652–680.
- Tate, W. F. (2008) Putting the “urban” in mathematics education scholarship. *Journal of Urban Mathematics Education*, 1(1), 5–9.
Retrieved from <http://ed-osprey.gsu.edu/ojs/index.php/JUME/article/view/19/2>.
- Terry, C. L. (2009). *An exploration of the impact of critical math literacies and alternative learning spaces on the identity development of high school aged Black males in South Los Angeles* (Unpublished doctoral dissertation). University of California, Los Angeles.
- Terry, C. L. (2010a). Prisons, pipelines, and the President: Developing critical math literacy through participatory action research. *Journal of African American Males in Education*, 1(2), 73–104.
- Terry, C. L. (2010b). *Prisons, pipelines, and President Obama: Mathematical counterstory-telling as a critical race pedagogic act among hs-aged Black males*. Invited lecture delivered at the University of Illinois-Chicago: Science and Mathematics Education Colloquium Series, Chicago, IL.
- Wacquant, L. (2002). Form slavery to mass incarceration: Rethinking the “race question” in the U.S. *New Left Review*, 13, 41–60.
- Walker, E. (2009). More than test scores: How teachers’ classroom practice contributes to and what student work reveals about Black students’ mathematics performance and understanding. In D. Martin (Ed.), *Mathematics teaching, learning, and liberation in the lives of Black children* (pp. 145–171). New York: Routledge.
- Watkins, T. (2008, August 6). Big drop in L.A. killings. *Daily Breeze*, pp. A6, A14.
- Woodson, C. (1969). *The mis-education of the Negro*. Washington, DC: The Associated Publishers. (Original work published 1933)